

Supplementary Information

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A) Sequence elements and representations of a typical H-type RNA pseudoknot

A typical H-type RNA pseudoknot contains two helical stems: stem 1 (S1) & stem 2 (S2), and two or three loops: loop 1 (L1), loop 2 (L2), and loop 3 (L3), with L3 being optional.

S1 is formed by pairing of the complementary sequences S1-5' and S1-3', while S2 is formed by pairing of the complementary sequences S2-5' and S2-3'. The arrangement of the sequence elements for forming a H-type pseudoknots in a primary RNA sequence is shown in panel A of Figure 1. To form a pseudoknot, S1 and S2 have to form simultaneously. There are two major different ways to draw the secondary structure of a H-type pseudoknot, as illustrated in panels B and C of Figure 1. In the absence of a L3, S1 and S2 can stack co-axially to form a quasi-continuous helix, with L1 crossing the major groove of S1, and L2 crossing the minor groove of S1. L1 and L2 locate on the same side of the helix. The representation in panel C is used to draw representative pseudoknots in the manuscript. However, this way of drawing pseudoknot is not suitable for generating outputs by the pseudoknot-detecting computer program.

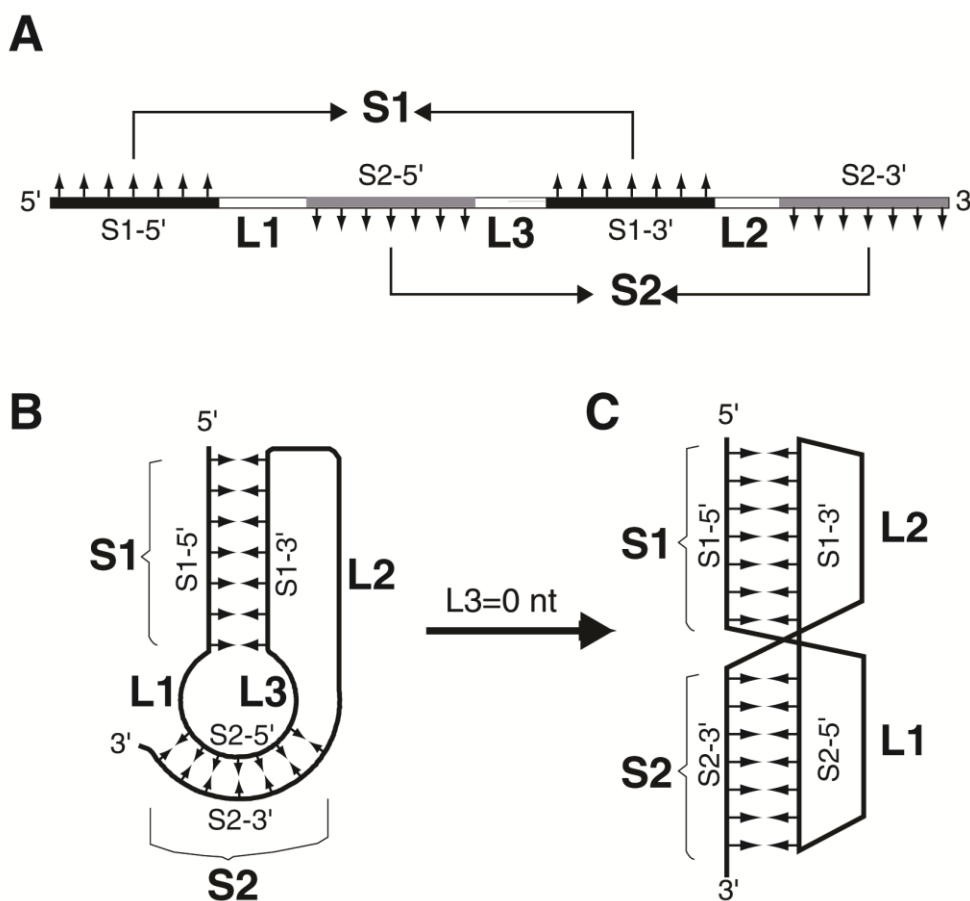


Figure 1: Sequence elements and representations of a typical H-type RNA pseudoknot. Abbreviations used are: S1, stem1; S2, stem2; S1-5' and S1-3', the 5' and 3' strands of stem1; S2-5' and S2-3', the 5' and 3' strands of stem2; L1, loop1; L2, loop2; L3, loop3. **A:** linear sequential arrangement of the pseudoknot-forming sequence elements.

Complementary strands forming S1 and S2 are painted black and gray respectively. Small arrows indicated the complementarities of the strands. A pseudoknot requires that both S1 and S2 can form simultaneously. **B:** Schematic representation of folded pseudoknots with a non-zero L3. **C:** with the absence of L3, S1 and S2 can stack coaxially to form a quasi-continuous double helix. L1 and L2 are located on the same side of the molecule, with L1 crossing the major groove of S2 and L2 crossing the minor groove of S1.

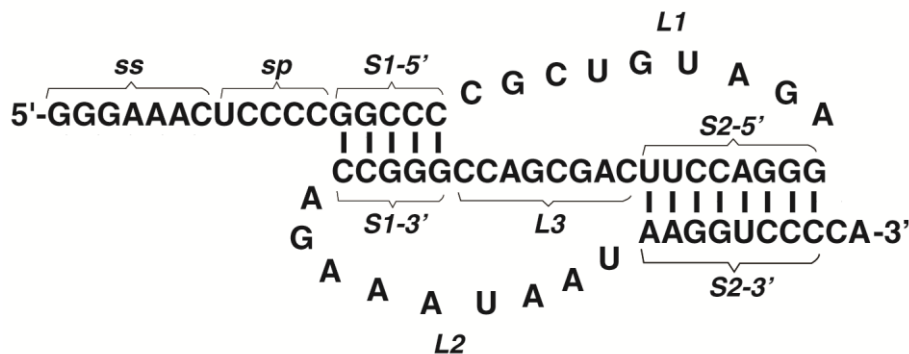


Figure 2: A computer-friendly way of drawing the secondary structure of a typical H-type pseudoknot. The slippery sequence (ss) and the spacer region (sp) preceding the frameshift-stimulating pseudoknot are also included.

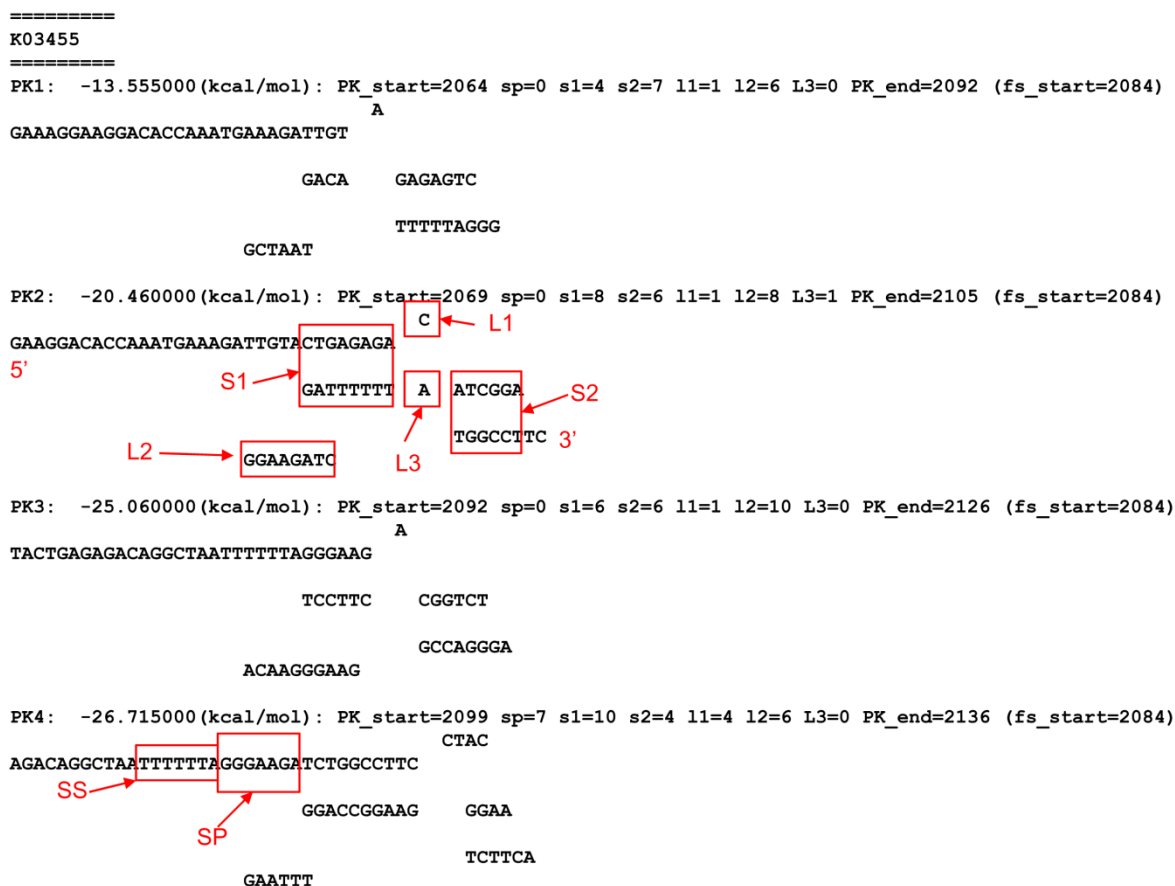


Figure 3: The computer-generated output for the four detected pseudoknots (PK1-PK4) at the *gag-pol* junction of the reference strain (HXB2) of HIV-1 (GenBank accession No. K03455). The free energy (ΔG_{37}°) values for the two stems S1 and S2 are calculated and indicated. The output also indicates the starting/ending positions of the pseudoknot-forming sequence, the number of nucleotides in the spacer region (sp), and stems/loops of the pseudoknot. Note that when the slippery sequence (TTTTTTA) part of the pseudoknot-forming sequence (in PK1 and PK2), sp is meaningless (indicated as 0).

To conveniently show the sequence elements and base-pairing scheme of a detected pseudoknot, the representation in panel B of Figure 1 is adopted by the pseudoknot-detecting computer program, but with both stems S1 and S2 drawn horizontally. Figure 2 shows a graphic representation of a real case of frameshift-stimulating pseudoknot, including the 5'-slippery sequence and spacer region.

In a computer-generated output (Figure 3), the sequence elements of the detected pseudoknot and a sequence of 25 nt preceding the pseudoknot are shown in five lines. The first line is for L1. The second line is for S1-5' plus the preceding sequence (which may contain the slippery sequence and spacer region). The third line is for S1-3', L3, and S2-5' (L3 may be absent). Note that the 5' → 3' orientation of the sequence in the third line runs from the right to the left, which is opposite to the sequences in all the other lines. The fourth line is for S2-3' plus 2nt 3'- to the pseudoknot. The last line is for L2.

For many strains, PK4 has an alternative potential structure, which is shown as PK4B.

B) Putative pseudoknots at the *gag-pol* junction of 4272 different strains of HIV-1

1. 4026 strains (94.44%) have all four pseudoknots PK1, PK2, PK3, and PK4

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=====
(1) A04321
=====
PK1:  -13.555000(kcal/mol): PK_start=1610 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1638
(fs_start=1630)
                                     A
GAAAGGAAGGACACCAAATGAAAGATTGT

                                     GACA   GAGAGTC

                                     TTTTTAGGG
GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1615 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1651
(fs_start=1630)
                                     C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA

                                     GATTTTTT  A  ATCGGA

                                     TGGCCTTC
GGAAGATC

PK3:  -25.060000(kcal/mol): PK_start=1638 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1672
(fs_start=1630)
                                     A

```

TACTGAGAGACAGGCTAATTTTTTAGGGAAG

TCCTTC CGGTCT

GCCAGGGA

ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1645 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1682 (fs_start=1630)

CTAC

AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC

GGACCGGAAG GGAA

TCTTCA

GAATTT

=====
(2) A07108
=====

PK1: -10.630000(kcal/mol): PK_start=1602 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1640 (fs_start=1633)

C

TTGGAGATGTGAAAGGAAGGACACCAA

GTT AGAAAAT

TTTTTTAGG

CACTGAGAGACAGGCTAA

PK2: -21.940000(kcal/mol): PK_start=1618 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1655 (fs_start=1633)

C

GAAGGACACCAACTAAAAGATTGCACTGAGAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAGAAT

PK3: -17.120000(kcal/mol): PK_start=1641 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1675 (fs_start=1633)

AA

CACTGAGAGACAGGCTAATTTTTTAGGGAG

CCTTC CGGTTT

GCCGGGGA

CACAAGGGAAG

PK4: -19.745000(kcal/mol): PK_start=1648 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1685 (fs_start=1633)

TCCCACAA

AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT

GGGCCGGA AGGG

TCTCCA

GAACTT

=====
(3) A07116
=====

PK1: -15.100000(kcal/mol): PK_start=1642 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1670
(fs_start=1662)

CA
GGAAGGAAGGACACCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1647 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1684
(fs_start=1662)

C
GAAGGACACCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1670 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1704
(fs_start=1662)

AAA
CACTGAGAGACAGGCTAATTTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGA

PK4: -25.490000(kcal/mol): PK_start=1677 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1714
(fs_start=1662)

CCAC
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(4) A07867
=====

PK1: -13.555000(kcal/mol): PK_start=1610 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1638
(fs_start=1630)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1615 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1651
(fs_start=1630)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1638 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1672 (fs_start=1630)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1645 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1682 (fs_start=1630)

CTAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(5) A14116

PK1: -10.630000(kcal/mol): PK_start=1602 sp=0 s1=3 s2=7 l1=1 l2=18 l3=0 PK_end=1640 (fs_start=1633)

C
TTGGAGATGTGGAAGGAAGGACACCAA
GTT AGAAAAT
TTTTTTAGG
CACTGAGAGACAGGCTAA

PK2: -21.940000(kcal/mol): PK_start=1618 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1655 (fs_start=1633)

C
GAAGGACACCAACTAAAAGATTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAGAAT

PK3: -17.120000(kcal/mol): PK_start=1641 sp=0 s1=5 s2=6 l1=2 l2=11 l3=0 PK_end=1675 (fs_start=1633)

AA
CACTGAGAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTTT
GCCGGGGA
CACAAAGGGAAG

PK4: -19.745000(kcal/mol): PK_start=1648 sp=7 s1=8 s2=4 l1=8 l2=6 l3=0 PK_end=1685 (fs_start=1633)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
GGGCCGGA AGGG
TCTCCA
GAACTT

=====

(6) A34828

=====

PK1: -10.640000(kcal/mol): PK_start=1591 sp=0 s1=3 s2=7 l1=1 l2=18 l3=0 PK_end=1629
(fs_start=1622)

A

TTGGAAATGCGGAAGGAAGGACACCAA

GTT AGAAAGT

TTTTTTAGG

CACTGAAAGACAGGCTAA

PK2: -21.980000(kcal/mol): PK_start=1607 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1644
(fs_start=1622)

C

GAAGGACACCAAATGAAAGATTGCACTGAAAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAGAT

PK3: -20.860000(kcal/mol): PK_start=1630 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1664
(fs_start=1622)

A

CACTGAAAGACAGGCTAATTTTTTAGGGAAG

CCCTTC CGGTTT

GCCGGGA

ACAAGGAAG

PK4: -21.465000(kcal/mol): PK_start=1637 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1674
(fs_start=1622)

CCAC

AGACAGGCTAATTTTTTAGGGAAGATTGGCCTTC

GGCCGGAAG GGAA

TCTTCA

GAATTT

=====

(7) AB023804

=====

PK1: -14.985000(kcal/mol): PK_start=2049 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=2077
(fs_start=2069)

A

GAAAGGAAGGACACCAAATGAAAGACTGT

GACG GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.330000(kcal/mol): PK_start=2054 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=2091
(fs_start=2069)

C

GAAGGACACCAAATGAAAGACTGTACTGAGAGG

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAAT

PK3: -23.745000(kcal/mol): PK_start=2077 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2111
(fs_start=2069)

AAA

TACTGAGAGGCAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT

AGGCCAGGGA

ACAAGGGG

PK4: -23.985000(kcal/mol): PK_start=2084 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=2122
(fs_start=2069)

TCCCACAA

AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG

CTCCAG

GAATTTTC

PK4B: -26.865000(kcal/mol): PK_start=2084 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2147
(fs_start=2069)

TCCCACAA

AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG

CCCCAC

GAATTTCTCCAGAGCAGACCGGAGCCAACAG

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(8) AB032740

=====

PK1: -15.100000(kcal/mol): PK_start=2027 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2055
(fs_start=2047)

CA

GGAAGGAAGGACATCAAATGAAAGACTG

GAC AGAGAGTC

TTTTTTAGGG

GCTAA

PK2: -21.940000(kcal/mol): PK_start=2032 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2069
(fs_start=2047)

C

GAAGGACATCAAATGAAAGACTGCACTGAGAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAAT

PK3: -18.565000(kcal/mol): PK_start=2056 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2089
(fs_start=2047)

AAA

ACTGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT

AGGCCGGGAA

AACAAAGGGA

PK4: -21.195000(kcal/mol): PK_start=2062 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2099
(fs_start=2047)

TCCAACA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGGCCGGA AGGGA

TTCCTCA

AAATT

=====
(9) AB032741
=====

PK1: -15.100000(kcal/mol): PK_start=2027 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2055
(fs_start=2047)

CA

GGAAGGAAGGACATCAAATGAAAGACTG

GAC AGAGAGTC

TTTTTTAGGG

GCTAA

PK2: -21.940000(kcal/mol): PK_start=2032 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2069
(fs_start=2047)

C

GAAGGACATCAAATGAAAGACTGCACTGAGAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=2056 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2089
(fs_start=2047)

AAA

ACTGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT

AGGCCGGGAA

AACAAAGGGA

PK4: -21.195000(kcal/mol): PK_start=2062 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2099
(fs_start=2047)

TCCAACA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGGCCGGA AGGGA

TTCCTCA

AAATT

=====
(10) AB049811
=====

PK1: -15.625000(kcal/mol): PK_start=2060 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2088
(fs_start=2080)

A

GAAAGGAAGGACACCAAATGAAAGACTGT

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          GACA    GAAAGTC
                TTTTATAGGG
    GCTAAT
PK2:  -21.980000(kcal/mol): PK_start=2065 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2102
(fs_start=2080)
                C
GAAGGACACCAAATGAAAGACTGTACTGAAAGA
                GATTTTTT    AATCGGA
                TTGGCCTTC
    GGAAAAT
PK3:  -20.285000(kcal/mol): PK_start=2089 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2122
(fs_start=2080)
                AAA
ACTGAAAGACAGGCTAATTTTTATAGGGA
                CCT    TCCGGTTT
                AGGCCAGGAA
    AGCAAAGGG
PK4:  -21.815000(kcal/mol): PK_start=2095 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=2132
(fs_start=2080)
                TCCAGCAA
AGACAGGCTAATTTTTATAGGAAAATTTGGCCT
                GGACCGGA    GGG
                TCCTCA
    AAATTT
=====
(11) AB052867
=====
PK1:  -15.585000(kcal/mol): PK_start=2077 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2105
(fs_start=2097)
                A
GGAAGGAAGGACACCAAATGAAGGACTGT
                GACA    GAGAGTC
                TTTTATAGGG
    GCTAAT
PK2:  -21.940000(kcal/mol): PK_start=2082 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2119
(fs_start=2097)
                C
GAAGGACACCAAATGAAGGACTGTACTGAGAGA
                GATTTTTT    AATCGGA
                TTGGCCTTC
    GGAAAAT
PK3:  -20.285000(kcal/mol): PK_start=2106 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2139
(fs_start=2097)
                AAA
ACTGAGAGACAGGCTAATTTTTATAGGGA

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          CCT      TCCGGTTT
                AGGCCAGGAA
AACAAAGGGA

PK4:  -22.915000(kcal/mol): PK_start=2112 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2149
(fs_start=2097)
                TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA      AGGGA
                TTCCTCA
          AAATT

PK4B:  -20.650000(kcal/mol): PK_start=2112 sp=7 s1=7 s2=4 l1=1 l2=41 L3=9 PK_end=2175
(fs_start=2097)
                T
AGACAGGCTAATTTTTTAGGGAAAATTTGGCC
                GGACCGG  AAGGGAACA  ACCT
                TGGAGA
          AAATTTTCCTCAGAGCAGGCCAGAACCAACAGCTCCACCAA

=====
(12) AB052995
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PK1:  -15.100000(kcal/mol): PK_start=2072 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2100
(fs_start=2092)
                CA
GAAAGGAAGGACATCAAATGAAAGACTG
                GAC      AGAGAGTC
                TTTTTTAGGG
          GCTAA

PK2:  -21.940000(kcal/mol): PK_start=2077 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2114
(fs_start=2092)
                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT      AATCGGA
                TTGGCCTTC
          GGAAAAT

PK3:  -18.565000(kcal/mol): PK_start=2101 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2134
(fs_start=2092)
                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                CCT      TCCGGTTT
                AGGCCGGGGA
          AACAAAGGA

PK4:  -20.745000(kcal/mol): PK_start=2107 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=2144
(fs_start=2092)
                TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

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GGGCCGGA    AGGA
              TCCTCA
GAATTT
=====
(13) AB070352
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PK1:  -15.100000(kcal/mol): PK_start=2075 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2103
(fs_start=2095)
              CA
GAAGGGAAGGACATCAAATGAAAGACTG
              GAC    AGAGAGTC
              TTTTTTAGGG
GCTAA

PK2:  -21.940000(kcal/mol): PK_start=2080 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2117
(fs_start=2095)
              C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
              GATTTTTT    AATCGGA
              TTGGCCTTC
GGAAAAT

PK3:  -18.565000(kcal/mol): PK_start=2104 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2137
(fs_start=2095)
              AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
              CCT    TCCGGTTT
              AGGCCGGGAA
AACAAGGGA

PK4:  -21.195000(kcal/mol): PK_start=2110 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2147
(fs_start=2095)
              TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
              GGGCCGGA    AGGGA
              TTCCTCA
AAATT

=====
(14) AB078005
=====
PK1:  -13.555000(kcal/mol): PK_start=2019 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2047
(fs_start=2039)
              A
GAAAGGAAGGACACCAAATGAAAGATTGT
              GACA    GAGAGTC
              TTTTTTAGGG
GCTAAT

```

PK2: -20.460000(kcal/mol): PK_start=2024 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2060
(fs_start=2039)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=2047 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=2081
(fs_start=2039)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=2054 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2091
(fs_start=2039)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(15) AB097865
=====

PK1: -13.595000(kcal/mol): PK_start=1440 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1468
(fs_start=1460)

A
GACAGGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGA
GCTAAT

PK2: -19.120000(kcal/mol): PK_start=1445 sp=0 s1=8 s2=5 l1=2 l2=8 L3=1 PK_end=1480
(fs_start=1460)

CA
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGG
TGGCCCT
GAAAAATC

PK3: -21.470000(kcal/mol): PK_start=1468 sp=0 s1=3 s2=7 l1=4 l2=10 L3=1 PK_end=1501
(fs_start=1460)

AAAA
TACTGAAAGACAGGCTAATTTTTTAGGA
CCT C CCGGTCT
GGCCAGGGA
CACAAAGGAA

PK4: -23.190000(kcal/mol): PK_start=1475 sp=7 s1=7 s2=6 l1=8 l2=4 L3=0 PK_end=1512
(fs_start=1460)

CTCCCACA
AGACAGGCTAATTTTTTTAGGAAAAATCTGGCC
GGACCGG AAGGGA
TTTCTTCA
GAAT

=====
(16) AB097866
=====

PK1: -13.555000(kcal/mol): PK_start=1379 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1407
(fs_start=1399)

A
GGAAGGAAGGACATCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1384 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1420
(fs_start=1399)

C
GAAGGACATCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1407 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1441
(fs_start=1399)

AAA
TACTGAGAGACAGGCTAATTTTTTTAGGGA
CCCT TCCGGTCT
ACGAGGGG AGGCCAGGGA

PK4: -30.660000(kcal/mol): PK_start=1414 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1451
(fs_start=1399)

CCAC
AGACAGGCTAATTTTTTTAGGAAAAATCTGGCCTTC
GGACCGGAGG GGAG
CCTCCA
GAACTT

PK4B: -30.395000(kcal/mol): PK_start=1414 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1477
(fs_start=1399)

TCCCACGA
AGACAGGCTAATTTTTTTAGGAAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAACTTCCTCCAGAACAGACCCGAGCCAACAG

=====
(17) AB097867
=====

PK1: -15.100000(kcal/mol): PK_start=1457 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1485
(fs_start=1477)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -20.460000(kcal/mol): PK_start=1462 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1498
(fs_start=1477)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGCTA

PK3: -19.505000(kcal/mol): PK_start=1486 sp=0 s1=3 s2=6 l1=5 l2=9 L3=0 PK_end=1517
(fs_start=1477)

AGCTA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGT
AGGCCGGG
GACAGAGGA

PK4: -25.635000(kcal/mol): PK_start=1494 sp=9 s1=6 s2=5 l1=7 l2=8 L3=0 PK_end=1530
(fs_start=1477)

TCCGACA
ACAGGCTAATTTTTTAGGGAAGCTATGGCCT
GCCGGA AGGAG
TCCTCAG
GGGAATTT

PK4B: -20.120000(kcal/mol): PK_start=1494 sp=9 s1=5 s2=4 l1=1 l2=43 L3=9 PK_end=1555
(fs_start=1477)

T
ACAGGCTAATTTTTTAGGGAAGCTATGGCC
GCCGG AAGGAGACA GCCT
CGGAAG
GGGAATTTTCCTCAGAGCAGACCAGAGCCAACAGCCCCACCAG

=====
(18) AB097868
=====

PK1: -15.025000(kcal/mol): PK_start=2066 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2094
(fs_start=2086)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAAAGTC


```

                TTTTtaggg
          GCTAAT
PK2:  -20.370000(kcal/mol): PK_start=2071 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2108
(fs_start=2086)
                C
GAAGGACACCAAATGAAAGACTGTACTGAAAGG
                GATTTTTT   AATCGGA
                TTGGCCTTC
          GGAAAAT
PK3:  -22.025000(kcal/mol): PK_start=2094 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2128
(fs_start=2086)
                AAA
TACTGAAAGGCAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTTT
                AGGCCGGGGA
          ACAAGGGG
PK4:  -22.265000(kcal/mol): PK_start=2101 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=2139
(fs_start=2086)
                TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGGCCGGA   GGGG
                CTCCAG
          GAATTTT
PK4B:  -25.145000(kcal/mol): PK_start=2101 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2164
(fs_start=2086)
                TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGGCCGGA   GGGG
                CCCCAC
          GAATTTCTCCAGAGCAGACCAGAGCCAACAG

=====
(19) AB097869
=====
PK1:  -13.555000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2092
(fs_start=2084)
                A
GAAAGGAAGGGCATCAAATGAAAGATTGT
                GACA   GAGAGTC
                TTTTtaggg
          GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2105
(fs_start=2084)
                C
GAAGGGCATCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT   A   ATCGGA

```

TGGCCTTC

GGAAGATC

PK3: -21.780000(kcal/mol): PK_start=2092 sp=0 s1=5 s2=4 l1=5 l2=9 L3=0 PK_end=2123
(fs_start=2084)

GATCT

TACTGAGAGACAGGCTAATTTTTTAGGGAA

CCCTT CCGG

GGCCCG

ACAAGGGAA

PK4: -23.300000(kcal/mol): PK_start=2102 sp=10 s1=7 s2=4 l1=4 l2=9 L3=0 PK_end=2136
(fs_start=2084)

CCAC

CAGGCTAATTTTTTAGGGAAAGATCTGGCCTTC

CCGGAAG GGAA

CCTTCA

CGGGAATTT

=====
(20) AB097870
=====

PK1: -15.585000(kcal/mol): PK_start=1451 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1479
(fs_start=1471)

A

GAAAGGAAGGACACCAAATGAAAGACTGT

GACA GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1456 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1492
(fs_start=1471)

C

GAAGGACACCAAATGAAAGACTGTACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1479 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1513
(fs_start=1471)

AAA

TACTGAGAGACAGGCTAATTTTTTAGGGAA

CCCT TCCGGTCT

AGGCCAGGGA

ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1486 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1523
(fs_start=1471)

CCAC

AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAAG GGAA

```

                                TCTTCA
                                GAATTT

=====
(21) AB097872
=====
PK1:  -15.100000(kcal/mol): PK_start=2075 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2103
(fs_start=2095)
                                CA
GGAAGGAAGGACATCAAATGAAAGACTG
                                GAC   AGAGAGTC
                                TTTTTTAGGG
                                GCTAA

PK2:  -21.940000(kcal/mol): PK_start=2080 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2117
(fs_start=2095)
                                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                                GATTTTTT   AATCGGA
                                TTGGCCTTC
                                GGAAAAT

PK3:  -18.565000(kcal/mol): PK_start=2104 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2137
(fs_start=2095)
                                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCT   TCCGGTTT
                                AGGCCGGGGA
                                AACAAAGGA

PK4:  -20.745000(kcal/mol): PK_start=2110 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=2147
(fs_start=2095)
                                TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                                GGGCCGGA   AGGA
                                TCCTCA
                                GAATTT

=====
(22) AB097873
=====
PK1:  -10.425000(kcal/mol): PK_start=1442 sp=0 s1=4 s2=6 l1=2 l2=5 L3=0 PK_end=1468
(fs_start=1462)
                                AC
GAAAGGAAGGACACCAAATGAAAGATTGT
                                GACA   GAGAGA
                                TTTTTTAG
                                GCTAA

PK2:  -17.180000(kcal/mol): PK_start=1449 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=1483
(fs_start=1462)
                                C
AGGACACCAAATGAAAGATTGTACAGAGAGA

```

```

TTTTTT A ATCGGA
                TGGCCTTC
AGGGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1470 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1504
(fs_start=1462)
                AAA
TACAGAGAGACAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTCT
                AGGCCAGGGA
ACAAGGGA
PK4:  -29.020000(kcal/mol): PK_start=1477 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1514
(fs_start=1462)
                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                GGACCGGAAG   GGAA
                CCTTCA
GAATTT
=====
(23) AB098330
=====
PK1:  -15.140000(kcal/mol): PK_start=2042 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2070
(fs_start=2062)
                CA
GGAAGGAGGGACACCAAATGAAAGACTG
                GAC   AGAAAGTC
                TTTTTTAGGG
GCTAA
PK2:  -21.980000(kcal/mol): PK_start=2047 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2084
(fs_start=2062)
                C
GAGGGACACCAAATGAAAGACTGCACTGAAAGA
                GATTTTTT   AATCGGA
                TTGGCCTTC
GGAAAAT
PK3:  -20.285000(kcal/mol): PK_start=2071 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2104
(fs_start=2062)
                AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
                CCT   TCCGGTTT
                AGGCCAGGAA
AGCAAGGGG
PK4:  -26.865000(kcal/mol): PK_start=2077 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2140
(fs_start=2062)
                TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

```

GGACCGGA GGGG
CCCCAC
AAATTTTCCACAGAGCAGACCGGAGCCAACAG

=====
(24) AB098331
=====

PK1: -15.140000(kcal/mol): PK_start=2042 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2070
(fs_start=2062)

CA
GGAAGGAGGGACACCAAATGAAAGACTG

GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -21.980000(kcal/mol): PK_start=2047 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2084
(fs_start=2062)

C
GAGGGACACCAAATGAAAGACTGCACTGAAAGA

GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=2071 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2104
(fs_start=2062)

AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT
AGGCCAGGAA
AGCAAGGGG

PK4: -26.865000(kcal/mol): PK_start=2077 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2140
(fs_start=2062)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG
CCCCAC
AAATTTTCCACAGAGCAGACCGGAGCCAACAG

=====
(25) AB098332
=====

PK1: -13.345000(kcal/mol): PK_start=2057 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=2084
(fs_start=2076)

A
GAAGGAGGGGCACCAAATGAAAGAATGT

ACA GAAAGTC
TTTTTAGGG
GGCTAAT

PK2: -20.50000(kcal/mol): PK_start=2061 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2097
(fs_start=2076)

C
GAGGGGCACCAAATGAAAGAATGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -23.815000(kcal/mol): PK_start=2085 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2118
(fs_start=2076)

AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTCT
AGGCCAGGAA
AGCAAGGGG

PK4: -28.605000(kcal/mol): PK_start=2091 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2128
(fs_start=2076)

TCCAGCA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGGA
TCCCTCA
AAATT

PK4B: -30.395000(kcal/mol): PK_start=2091 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2154
(fs_start=2076)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTCCCTCAGAGCAGACCGGAGCCAACAG

=====
(26) AB098333
=====

PK1: -13.345000(kcal/mol): PK_start=2057 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=2084
(fs_start=2076)

A
GAAGGAGGGGCACCAAATGAAAGAATGT
ACA GAAAGTC
TTTTTAGGG
GGCTAAT

PK2: -20.500000(kcal/mol): PK_start=2061 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2097
(fs_start=2076)

C
GAGGGGCACCAAATGAAAGAATGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -23.815000(kcal/mol): PK_start=2085 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2118
(fs_start=2076)

AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTCT
AGGCCAGGAA
AGCAAGGGG

PK4: -28.605000(kcal/mol): PK_start=2091 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2128
(fs_start=2076)

TCCAGCA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGGA
TCCCTCA
AAATT

PK4B: -30.395000(kcal/mol): PK_start=2091 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2154
(fs_start=2076)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTCCCTCAGAGCAGACCGGAGCCAACAG

=====
(27) AB220944
=====

PK1: -15.100000(kcal/mol): PK_start=2075 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2103
(fs_start=2095)

CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=2080 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2117
(fs_start=2095)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=2104 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2137
(fs_start=2095)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGGA
AACAAAGGA

PK4: -20.745000(kcal/mol): PK_start=2110 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=2147
(fs_start=2095)

```

                                TCCAACAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
                                GGGCCGGA   AGGA
                                TCCTCA
                                GAATTT
```

=====

(28) AB220945

=====

PK1: -15.100000(kcal/mol): PK_start=2075 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2103
(fs_start=2095)

```

                                CA
GGAAGGAAGGACATCAAATGAAAGACTG
                                GAC   AGAGAGTC
                                TTTTTTAGGG
                                GCTAA
```

PK2: -21.940000(kcal/mol): PK_start=2080 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2117
(fs_start=2095)

```

                                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                                GATTTTTT   AATCGGA
                                TTGGCCTTC
                                GGAAAAT
```

PK3: -20.285000(kcal/mol): PK_start=2104 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2137
(fs_start=2095)

```

                                AAA
ACTGAGAGACAGGCTAATTTTTTTAGGGA
                                CCT   TCCGGTTT
                                AGGCCAGGGA
                                AACAAGGGA
```

PK4: -22.915000(kcal/mol): PK_start=2110 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2147
(fs_start=2095)

```

                                TCCAACA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
                                GGACCGGA   AGGGA
                                TTCCTCA
                                GAATT
```

=====

(29) AB220946

=====

PK1: -15.100000(kcal/mol): PK_start=2073 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2101
(fs_start=2093)

```

                                CA
GGAAGGAAGGACATCAAATGAAAGACTG
                                GAC   AGAGAGTC
```



```

                TTTTTTAGGG
          GCTAA
PK2:  -21.940000(kcal/mol): PK_start=2078 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2115
(fs_start=2093)
                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT   AATCGGA
                TTGGCCTTC
          GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=2102 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2135
(fs_start=2093)
                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                CCT   TCCGGTTT
                AGGCCAGGGA
          AACAAGGGA

PK4:  -22.915000(kcal/mol): PK_start=2108 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2145
(fs_start=2093)
                TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA   AGGGA
                TTCCTCA
          GAATT

=====
(30) AB220947
=====
PK1:  -15.100000(kcal/mol): PK_start=2075 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2103
(fs_start=2095)
                CA
GAAAGGAAGGACATCAAATGAAAGACTG
                GAC   AGAGAGTC
                TTTTTTAGGG
          GCTAA

PK2:  -21.940000(kcal/mol): PK_start=2080 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2117
(fs_start=2095)
                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT   AATCGGA
                TTGGCCTTC
          GGAAAAT

PK3:  -18.565000(kcal/mol): PK_start=2104 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2137
(fs_start=2095)
                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                CCT   TCCGGTTT

```

AGGCCGGGGA
AACAAAGGA
PK4: -18.790000(kcal/mol): PK_start=2110 sp=7 s1=7 s2=4 l1=10 l2=4 L3=0 PK_end=2145
(fs_start=2095)

TTCCAACAAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCC
GGGCCGG AAGG
TTCCCT
GAAT

=====
(31) AB220948
=====

PK1: -15.100000(kcal/mol): PK_start=2074 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2102
(fs_start=2094)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=2079 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2116
(fs_start=2094)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=2103 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2136
(fs_start=2094)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGGA
AACAAAGGA

PK4: -21.195000(kcal/mol): PK_start=2109 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2146
(fs_start=2094)

TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA AGGGA
TTCTCA
GAATT

=====
(32) AB221005
=====

PK1: -15.585000(kcal/mol): PK_start=2062 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2090
(fs_start=2082)

A
GAAAGGAAGGACACCAAATGAAAGACTGT

GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2067 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2103
(fs_start=2082)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA

GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=2090 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2124
(fs_start=2082)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT
AGGCCAGGGA
ACAAAGGA

PK4: -26.925000(kcal/mol): PK_start=2097 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2134
(fs_start=2082)

TCCCACA
AGACAGGCTAATTTTTTAGGAAAATCTGGCCT

GGACCGGA AGGAA
TCCTTCA
GAATT

=====
(33) AB221125
=====

PK1: -13.555000(kcal/mol): PK_start=2072 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2100
(fs_start=2092)

A
GAAAGGAAGGACATCAAATGAAAGATTGT

GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2077 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2113
(fs_start=2092)

C
GAAGGACATCAAATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -23.815000(kcal/mol): PK_start=2101 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2134
(fs_start=2092)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA

```

          CCT      TCCGGTCT
                AGGCCAGGGA
    AACAAGGGG

PK4:  -28.540000(kcal/mol): PK_start=2107 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2144
(fs_start=2092)
                CAAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                GGACCGGAGG      GGAA
                                CCTTCA
                GAATTT

PK4B:  -30.395000(kcal/mol): PK_start=2107 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2170
(fs_start=2092)
                TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                GGACCGGA      GGGG
                                CCCCAC
                GAATTTTCCTTCAGAGCAGACCAGAGCCAACAG

=====
(34) AB221126
=====
PK1:  -13.555000(kcal/mol): PK_start=2072 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2100
(fs_start=2092)
                A
GAAAGGAAGGACATCAAATGAAAGATTGT
                GACA      GAGAGTC
                                TTTTTAGGG
                GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=2077 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2113
(fs_start=2092)
                C
GAAGGACATCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT      A      ATCGGA
                                TGGCCTTC
                GGAAAATC

PK3:  -23.815000(kcal/mol): PK_start=2101 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2134
(fs_start=2092)
                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                CCT      TCCGGTCT
                                AGGCCAGGGA
                AACAAGGGG

PK4:  -28.540000(kcal/mol): PK_start=2107 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2144
(fs_start=2092)
                CAAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

```

GGACCGGAGG GGAA
 CCTTCA
 GAATTT

PK4B: -30.395000(kcal/mol): PK_start=2107 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2170
 (fs_start=2092)

TCCAACAA
 AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT

GGACCGGA GGGG
 CCCCAC
 GAATTTCC TTCAGAGCAGACCAGAGCCAACAG

=====
 (35) AB231893
 =====

PK1: -10.925000(kcal/mol): PK_start=2086 sp=0 s1=3 s2=7 l1=4 l2=18 L3=0 PK_end=2127
 (fs_start=2120)

CAGA
 CTGTTGGAAATGTGGAAAGGAGGGACAT

GTA AGAAAGT
 TTTTTTAGG
 CACAGAAAGACAGGCCAA

PK2: -19.480000(kcal/mol): PK_start=2107 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=2141
 (fs_start=2120)

C
 GGGACATCAGATGAAAGAATGCACAGAAAGA

TTTTTT A ACCGGA
 TGGCCTTC
 AGGGAAAATC

PK3: -23.815000(kcal/mol): PK_start=2129 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2162
 (fs_start=2120)

AAA
 ACAGAAAGACAGGCCAATTTTTTAGGGA

CCT TCCGGTCT
 AGGCCAGGGA
 AACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=2135 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2172
 (fs_start=2120)

CAAC
 AGACAGGCCAATTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAGG GGAA
 TCTTCA
 GAATTT

PK4B: -27.515000(kcal/mol): PK_start=2135 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2198
 (fs_start=2120)

TCCAACAA
 AGACAGGCCAATTTTTTAGGGAAAATCTGGCCT

GGACCGGA GGGG
CTCCAC
GAATTTTCTTCAGAACAGGCCAGGCCATCAG

=====
(36) AB231894
=====

PK1: -15.100000(kcal/mol): PK_start=2070 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2098
(fs_start=2090)

CA
GGAAGGAAGGACACCAAATGAAAGACTG

GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=2075 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2112
(fs_start=2090)

C
GAAGGACACCAAATGAAAGACTGCACTGAGAGA

GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=2098 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2132
(fs_start=2090)

AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGA

PK4: -22.915000(kcal/mol): PK_start=2105 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2142
(fs_start=2090)

TCCCACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA AGGGA
TTCCTCA
GAACT

=====
(37) AB231895
=====

PK1: -15.585000(kcal/mol): PK_start=2102 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2130
(fs_start=2122)

A
GGAAGGAAGGACACCAAATGAAAGACTGT

GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.46000(kcal/mol): PK_start=2107 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2143
(fs_start=2122)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -23.815000(kcal/mol): PK_start=2131 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2164
(fs_start=2122)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTCT
AGGCCAGGAA
AGCAAGGGG

PK4: -30.395000(kcal/mol): PK_start=2137 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=2175
(fs_start=2122)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAG
AAATTTTC

PK4B: -30.395000(kcal/mol): PK_start=2137 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2200
(fs_start=2122)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTCCCCCAGAGCAGACCGGAACCATCAG

=====
(38) AB231896
=====

PK1: -15.100000(kcal/mol): PK_start=2091 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2119
(fs_start=2111)

CA
GGAAGGAAGGACACCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=2096 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2133
(fs_start=2111)

C
GAAGGACACCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=2120 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2153
(fs_start=2111)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AACAAGGGG

PK4: -22.215000(kcal/mol): PK_start=2126 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=2163
(fs_start=2111)

CCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGAG GGGA
TCCTCA
AAATTT

PK4B: -27.345000(kcal/mol): PK_start=2126 sp=7 s1=8 s2=5 l1=7 l2=32 L3=0 PK_end=2190
(fs_start=2111)

TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGA GGGGA
CCCCTCC
AAATTTTCCTCAAAGCAGGCCGGAACCAACAG

=====
(39) AB231897

=====
PK1: -15.100000(kcal/mol): PK_start=2068 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2096
(fs_start=2088)

CA
GGAAGGAAGGACACCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=2073 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2110
(fs_start=2088)

C
GAAGGACACCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=2096 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2130
(fs_start=2088)

AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGA

PK4: -22.915000(kcal/mol): PK_start=2103 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2140
(fs_start=2088)

```

                                TCCCACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                                GGACCGGA   AGGGA
                                TTCCTCA
                                GAACT
```

=====
(40) AB231898
=====

PK1: -15.100000(kcal/mol): PK_start=2090 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2118
(fs_start=2110)

```

                                CA
GGAAGGAAGGACACCAAATGAAAGACTG
                                GAC   AGAGAGTC
                                TTTTTTAGGG
                                GCTAA
```

PK2: -21.940000(kcal/mol): PK_start=2095 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2132
(fs_start=2110)

```

                                C
GAAGGACACCAAATGAAAGACTGCACTGAGAGA
                                GATTTTTT   AATCGGA
                                TTGGCCTTC
                                GGAAAAT
```

PK3: -20.285000(kcal/mol): PK_start=2119 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2152
(fs_start=2110)

```

                                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCT   TCCGGTTT
                                AGGCCAGGAA
                                AACAAGGGG
```

PK4: -22.215000(kcal/mol): PK_start=2125 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=2162
(fs_start=2110)

```

                                CCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
                                GGACCGGAG   GGGGA
                                TCCTCA
                                AAATTT
```

PK4B: -26.865000(kcal/mol): PK_start=2125 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2188
(fs_start=2110)

```

                                TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                                GGACCGGA   GGGG
                                CCCCAC
                                AAATTTTCCTCAGAGCAGACCGGAACCATCAG
```

=====

(41) AB253421

=====

PK1: -15.140000(kcal/mol): PK_start=2075 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2103
(fs_start=2095)

CA

GAAAGGAGGGACACCAAATGAAAGACTG

GAC AGAAAGTC

TTTTTTAGGG

GCTAA

PK2: -21.980000(kcal/mol): PK_start=2080 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2117
(fs_start=2095)

C

GAGGGACACCAAATGAAAGACTGCACTGAAAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAAT

PK3: -20.285000(kcal/mol): PK_start=2104 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2137
(fs_start=2095)

AAA

ACTGAAAGACAGGCTAATTTTTTTAGGGA

CCT TCCGGTTT

AGGCCAGGAA

AGCAAGGGG

PK4: -22.215000(kcal/mol): PK_start=2110 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=2147
(fs_start=2095)

CCAGCA

AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTT

GGACCGGAG GGGG

TCCTCA

AAATTT

PK4B: -26.865000(kcal/mol): PK_start=2110 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2173
(fs_start=2095)

TCCAGCAA

AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG

CCCCAC

AAATTTTCCTCAGAGCAGACCGGAGCCATCAG

=====

(42) AB253422

=====

PK1: -15.140000(kcal/mol): PK_start=2075 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2103
(fs_start=2095)

CA

GAAAGGAGGGACACCAAATGAAAGACTG

GAC AGAAAGTC

```

                TTTTTTAGGG
      GCTAA
PK2:  -21.980000(kcal/mol): PK_start=2080 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2117
(fs_start=2095)
                C
GAGGGACACCAAATGAAAGACTGCACTGAAAGA
                GATTTTTT   AATCGGA
                TTGGCCTTC
      GGAAAAAT

PK3:  -20.285000(kcal/mol): PK_start=2104 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2137
(fs_start=2095)
                AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
                CCT   TCCGGTTT
                AGGCCAGGAA
      AGCAAGGGG

PK4:  -22.215000(kcal/mol): PK_start=2110 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=2147
(fs_start=2095)
                CCAGCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
                GGACCGGAG   GGGA
                TCCTCA
      AAATTT

PK4B:  -26.865000(kcal/mol): PK_start=2110 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2173
(fs_start=2095)
                TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA   GGGG
                CCCCAC
      AAATTTTCCTCAGAGCAGACCGGAGCCATCAG

=====
(43) AB253423
=====
PK1:  -15.100000(kcal/mol): PK_start=2076 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2104
(fs_start=2096)
                CA
GAAAGGAAGGACATCAAATGAAAGACTG
                GAC   AGAGAGTC
                TTTTTTAGGG
      GCTAA

PK2:  -21.940000(kcal/mol): PK_start=2081 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2118
(fs_start=2096)
                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT   AATCGGA

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                                TTGGCCTTC
                GGAAAAAT
PK3:  -20.285000(kcal/mol): PK_start=2105 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2138
(fs_start=2096)
                                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCT    TCCGGTTT
                                AGGCCAGGGA
                AACAAGGGA
PK4:  -22.915000(kcal/mol): PK_start=2111 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2148
(fs_start=2096)
                                TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                                GGACCGGA    AGGGA
                                TTCCTCA
                GAATT
=====
(44) AB253424
=====
PK1:  -15.100000(kcal/mol): PK_start=2074 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2102
(fs_start=2094)
                                CA
GGAAGGAGGGCCATCAAATGAAAGACTG
                                GAC    AGAGAGTC
                                TTTTTTAGGG
                GCTAA
PK2:  -21.940000(kcal/mol): PK_start=2079 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2116
(fs_start=2094)
                                C
GAGGGCCATCAAATGAAAGACTGCACTGAGAGA
                                GATTTTTT    AATCGGA
                                TTGGCCTTC
                GGAAATT
PK3:  -20.635000(kcal/mol): PK_start=2103 sp=0 s1=3 s2=9 l1=2 l2=9 L3=0 PK_end=2137
(fs_start=2094)
                                AA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCT    TCCGGTTTT
                                AGGCCGGGAAA
                AACAAGGGA
PK4:  -22.765000(kcal/mol): PK_start=2108 sp=6 s1=9 s2=5 l1=7 l2=4 L3=0 PK_end=2146
(fs_start=2094)
                                TCCAACA
GAGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                                AGGCCCGGA    AGGGA

```

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                                TTCCTCA
                                AATT
=====
(45) AB253425
=====
PK1:  -15.100000(kcal/mol): PK_start=2074 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2102
(fs_start=2094)
                                CA
GGAAGGAGGGCCATCAAATGAAAGACTG
                                GAC   AGAGAGTC
                                TTTTTTAGGG
                                GCTAA

PK2:  -21.940000(kcal/mol): PK_start=2079 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2116
(fs_start=2094)
                                C
GAGGGCCATCAAATGAAAGACTGCACTGAGAGA
                                GATTTTTT   AATCGGA
                                TTGGCCTTC
                                GGAAATT

PK3:  -20.635000(kcal/mol): PK_start=2103 sp=0 s1=3 s2=9 l1=2 l2=9 L3=0 PK_end=2137
(fs_start=2094)
                                AA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCT   TCCGGTTTT
                                AGGCCGGGAAA
                                AACAAGGGA

PK4:  -22.765000(kcal/mol): PK_start=2108 sp=6 s1=9 s2=5 l1=7 l2=4 L3=0 PK_end=2146
(fs_start=2094)
                                TCCAACA
GAGACAGGCTAATTTTTTAGGGAAATTTTGGCCT
                                AGGCCCGGA   AGGGA
                                TTCCTCA
                                AATT

=====
(46) AB253426
=====
PK1:  -10.440000(kcal/mol): PK_start=2077 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=2115
(fs_start=2108)
                                A
TTGGAATGTGGGAAGGAAGGACATCAA
                                GTT   AGAAAGT
                                TTTTTTAGG
                                CACTGAGAGACAGGCTAA

PK2:  -20.460000(kcal/mol): PK_start=2093 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2129
(fs_start=2108)
                                C
GAAGGACATCAAATGAAAGATTGCACTGAGAGA

```

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          GATTTTTT A ATCGGA
                    TGGCCTTC
    GGAAAATC
PK3:  -23.815000(kcal/mol): PK_start=2117 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2150
(fs_start=2108)
          AAA
ACTGAGAGACAGGCTAATTTTTTTAGGGA
          CCT   TCCGGTCT
                    AGGCCAGGGA
    AACAAGGGA
PK4:  -26.445000(kcal/mol): PK_start=2123 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2160
(fs_start=2108)
                    TCCAACA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT
          GGACCGGA   AGGGA
                    TTCCTCA
    GAATT
=====
(47) AB253427
=====
PK1:  -10.440000(kcal/mol): PK_start=2078 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=2116
(fs_start=2109)
          A
TTGGAAATGTGGGAAGGAAGGACATCAA
          GTT   AGAAAGT
                    TTTTTTAGG
    CACTGAGAGACAGGCTAA
PK2:  -20.460000(kcal/mol): PK_start=2094 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2130
(fs_start=2109)
          C
GAAGGACATCAAATGAAAGATTGCACTGAGAGA
          GATTTTTT A ATCGGA
                    TGGCCTTC
    GGAAAATC
PK3:  -23.815000(kcal/mol): PK_start=2118 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2151
(fs_start=2109)
          AAA
ACTGAGAGACAGGCTAATTTTTTTAGGGA
          CCT   TCCGGTCT
                    AGGCCAGGGA
    AACAAGGGA
PK4:  -26.445000(kcal/mol): PK_start=2124 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2161
(fs_start=2109)
                    TCCAACA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT

```

```

                GGACCGGA    AGGGA
                                TTCCTCA
        GAATT
=====
(48) AB253428
=====
PK1:  -13.07000(kcal/mol): PK_start=2080 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2108
(fs_start=2100)
                                CA
GAAAGGAGGGACACCAAATGAAGGATTG
                GAC    AGAGAGTC
                                TTTTTTAGGG
        GCTAA

PK2:  -21.94000(kcal/mol): PK_start=2085 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2122
(fs_start=2100)
                                C
GAGGGACACCAAATGAAGGATTGCACTGAGAGA
                GATTTTTT    AATCGGA
                                TTGGCCTTC
        GGAAAAT

PK3:  -20.28500(kcal/mol): PK_start=2109 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2142
(fs_start=2100)
                                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                CCT    TCCGGTTT
                                AGGCCAGGAA
        AGCAAAGGG

PK4:  -21.81500(kcal/mol): PK_start=2115 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=2152
(fs_start=2100)
                                TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA    GGGA
                                TCCTCA
        AAATTT

=====
(49) AB253429
=====
PK1:  -15.10000(kcal/mol): PK_start=2077 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2105
(fs_start=2097)
                                CA
GAAGGGAAGGGCACCAAATGAAGGACTG
                GAC    AGAGAGTC
                                TTTTTTAGGG
        GCTAA

```

PK2: -20.46000(kcal/mol): PK_start=2082 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2118
(fs_start=2097)

C
GAAGGGCACCAAATGAAGGACTGCACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -23.815000(kcal/mol): PK_start=2106 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2139
(fs_start=2097)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTCT
AGGCCAGGAA
AGCAAAGGG

PK4: -25.345000(kcal/mol): PK_start=2112 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=2149
(fs_start=2097)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGG
TCCTCA
AAATTT

=====
(50) AB253430
=====

PK1: -15.140000(kcal/mol): PK_start=2062 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2090
(fs_start=2082)

CA
GAAAAGAAGGACACCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -21.980000(kcal/mol): PK_start=2067 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2104
(fs_start=2082)

C
GAAGGACACCAAATGAAAGACTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=2090 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2124
(fs_start=2082)

AAA
CACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGAA
ACAAGGGG

PK4: -25.01000(kcal/mol): PK_start=2097 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=2134
(fs_start=2082)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
AAATTT

PK4B: -26.865000(kcal/mol): PK_start=2097 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=2160
(fs_start=2082)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(51) AB253431
=====

PK1: -15.140000(kcal/mol): PK_start=2062 sp=0 s1=3 s2=8 l1=2 l2=5 l3=0 PK_end=2090
(fs_start=2082)

CA
GAAAAGAAGGACACCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -21.980000(kcal/mol): PK_start=2067 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=2104
(fs_start=2082)

C
GAAGGACACCAAATGAAAGACTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=2090 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=2124
(fs_start=2082)

AAA
CACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGAA
ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=2097 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=2134
(fs_start=2082)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
AAATTT

PK4B: -26.865000(kcal/mol): PK_start=2097 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2160
(fs_start=2082)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTTCCTTCAGAGCAGACCAGAGCCAACAG

=====
(52) AB253432
=====

PK1: -15.585000(kcal/mol): PK_start=2062 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2090
(fs_start=2082)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2067 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2103
(fs_start=2082)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=2090 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2124
(fs_start=2082)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAAGGA

PK4: -26.925000(kcal/mol): PK_start=2097 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2134
(fs_start=2082)

TCCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA AGGAA
TCCTTCA
GAATT

=====
(53) AB253635
=====

PK1: -15.100000(kcal/mol): PK_start=2074 sp=0 s1=3 s2=8 l1=5 l2=5 L3=0 PK_end=2105
(fs_start=2097)

CACTA
GAAAGGAAGGACATCAAATGAGAGACTG
GAC AGAGAGTC

```

                TTTTTTAGGG
            GCTAA

PK2:  -21.940000(kcal/mol): PK_start=2082 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2119
(fs_start=2097)
                C
GGACATCAAATGAGAGACTGCACTACTGAGAGA
                GATTTTTT    AATCGGA
                TTGGCCTTC
            GGAAAAT

PK3:  -18.565000(kcal/mol): PK_start=2106 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2139
(fs_start=2097)
                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                CCT    TCCGGTTT
                AGGCCGGAA
            AACAAGGGA

PK4:  -21.195000(kcal/mol): PK_start=2112 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2149
(fs_start=2097)
                TCCAACA
AGACAGGCTAATTTTTTAGGAAAATTTGGCCT
                GGGCCGGA    AGGGA
                TTCCTCA
            AAATT

=====
(54) AB253636
=====
PK1:  -15.100000(kcal/mol): PK_start=2073 sp=0 s1=3 s2=8 l1=5 l2=5 L3=0 PK_end=2104
(fs_start=2096)
                CACTA
GGAAGGAAGGACATCAAATGAGAGACTG
                GAC    AGAGAGTC
                TTTTTTAGGG
            GCTAA

PK2:  -21.940000(kcal/mol): PK_start=2081 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2118
(fs_start=2096)
                C
GGACATCAAATGAGAGACTGCACTACTGAGAGA
                GATTTTTT    AATCGGA
                TTGGCCTTC
            GGAAAAT

PK3:  -18.565000(kcal/mol): PK_start=2105 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2138
(fs_start=2096)
                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                CCT    TCCGGTTT

```

AGGCCGGGAA

AACAAAGGGA

PK4: -21.195000(kcal/mol): PK_start=2111 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2148
(fs_start=2096)

TCCAACA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGGCCGGA AGGGA

TTCCTCA

AAATT

=====
(55) AB253637
=====

PK1: -15.100000(kcal/mol): PK_start=2074 sp=0 s1=3 s2=8 l1=5 l2=5 L3=0 PK_end=2105
(fs_start=2097)

CACTA

GGAAGGAAGGACATCAAATGAGAGACTG

GAC AGAGAGTC

TTTTTTAGGG

GCTAA

PK2: -21.940000(kcal/mol): PK_start=2082 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2119
(fs_start=2097)

C

GGACATCAAATGAGAGACTGCACTACTGAGAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=2106 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2139
(fs_start=2097)

AAA

ACTGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT

AGGCCGGGAA

AACAAAGGGA

PK4: -21.195000(kcal/mol): PK_start=2112 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2149
(fs_start=2097)

TCCAACA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGGCCGGA AGGGA

TTCCTCA

AAATT

=====
(56) AB253638
=====

PK1: -15.100000(kcal/mol): PK_start=2074 sp=0 s1=3 s2=8 l1=5 l2=5 L3=0 PK_end=2105
(fs_start=2097)

CACTA

GAAAGGAAGGACATCAAATGAAAGACTG

```

                GAC    AGAGAGTC
                TTTTTTAGGG
    GTTAA
PK2:  -18.450000(kcal/mol): PK_start=2082 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2119
(fs_start=2097)
                C
    GGACATCAAATGAAAGACTGCACTACTGAGAGA
                GATTTTTT    AATTGGA
                TTGGCCTTC
    GGAAAAT

PK3:  -18.565000(kcal/mol): PK_start=2106 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2139
(fs_start=2097)
                AAA
    ACTGAGAGACAGGTTAATTTTTTAGGGA
                CCT    TCCGGTTT
                AGGCCGGGAA
    AACAAGGGA

PK4:  -21.195000(kcal/mol): PK_start=2112 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2149
(fs_start=2097)
                TCCAACA
    AGACAGGTTAATTTTTTAGGGAAAATTTGGCCT
                GGGCCGGA    AGGGA
                TTCCTCA
    AAATT

=====
(57) AB253639
=====
PK1:  -15.100000(kcal/mol): PK_start=2074 sp=0 s1=3 s2=8 l1=5 l2=5 L3=0 PK_end=2105
(fs_start=2097)
                CACTA
    GGAAGGAAGGACATCAAATGAGAGACTG
                GAC    AGAGAGTC
                TTTTTTAGGG
    GCTAA

PK2:  -21.940000(kcal/mol): PK_start=2082 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2119
(fs_start=2097)
                C
    GGACATCAAATGAGAGACTGCACTACTGAGAGA
                GATTTTTT    AATCGGA
                TTGGCCTTC
    GGAAAAT

PK3:  -18.565000(kcal/mol): PK_start=2106 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2139
(fs_start=2097)
                AAA
    ACTGAGAGACAGGCTAATTTTTTAGGGA

```

```

          CCT   TCCGGTTT
                AGGCCGGGAA
AACAAAGGGA

PK4:  -21.195000(kcal/mol): PK_start=2112 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2149
(fs_start=2097)
                TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGGCCGGA   AGGGA
                TTCCTCA
          AAATT

```

=====

(58) AB253640

=====

```

PK1:  -15.100000(kcal/mol): PK_start=2074 sp=0 s1=3 s2=8 l1=5 l2=5 L3=0 PK_end=2105
(fs_start=2097)
                CACTA
GAAAGGAAGGACATCAAATGAAAGACTG
                GAC   AGAGAGTC
                TTTTTTAGGG
          GTTAA

```

```

PK2:  -18.450000(kcal/mol): PK_start=2082 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2119
(fs_start=2097)

```

```

          C
GGACATCAAATGAAAGACTGCACTACTGAGAGA
                GATTTTTT   AATTGGA
                TTGGCCTTC
          GGAAAAT

```

```

PK3:  -18.565000(kcal/mol): PK_start=2106 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2139
(fs_start=2097)

```

```

                AAA
ACTGAGAGACAGGTTAATTTTTTAGGGA
                CCT   TCCGGTTT
                AGGCCGGGAA
          AACAAAGGGA

```

```

PK4:  -21.195000(kcal/mol): PK_start=2112 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2149
(fs_start=2097)

```

```

                TCCAACA
AGACAGGTTAATTTTTTAGGGAAAATTTGGCCT
                GGGCCGGA   AGGGA
                TTCCTCA
          AAATT

```

=====

(59) AB253641

=====

PK1: -15.10000(kcal/mol): PK_start=2075 sp=0 s1=3 s2=8 l1=5 l2=5 L3=0 PK_end=2106 (fs_start=2098)

CACTA
GAAAGGAAGGACATCAAATGAGAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.94000(kcal/mol): PK_start=2083 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2120 (fs_start=2098)

C
GGACATCAAATGAGAGACTGCACTACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAAT

PK3: -18.56500(kcal/mol): PK_start=2107 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2140 (fs_start=2098)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGAA
AACAAGGGA

PK4: -21.19500(kcal/mol): PK_start=2113 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2150 (fs_start=2098)

TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA AGGGA
TTCCTCA
AAATT

=====
(60) AB253642
=====

PK1: -15.10000(kcal/mol): PK_start=2074 sp=0 s1=3 s2=8 l1=5 l2=5 L3=0 PK_end=2105 (fs_start=2097)

CACTA
GGAAGGAAGGACATCAAATGAGAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.94000(kcal/mol): PK_start=2082 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2119 (fs_start=2097)

C
GGACATCAAATGAGAGACTGCACTACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAAT

PK3: -18.565000(kcal/mol): PK_start=2106 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2139
(fs_start=2097)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGAA
AACAAGGGA

PK4: -21.195000(kcal/mol): PK_start=2112 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2149
(fs_start=2097)

TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA AGGGA
TTCCTCA
AAATT

=====
(61) AB253643
=====

PK1: -15.100000(kcal/mol): PK_start=2074 sp=0 s1=3 s2=8 l1=5 l2=5 L3=0 PK_end=2105
(fs_start=2097)

CACTA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GTTAA

PK2: -18.450000(kcal/mol): PK_start=2082 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2119
(fs_start=2097)

C
GGACATCAAATGAAAGACTGCACTACTGAGAGA
GATTTTTT AATTGGA
TTGGCCTTC
GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=2106 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2139
(fs_start=2097)

AAA
ACTGAGAGACAGGTTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGAA
AACAAGGGA

PK4: -21.195000(kcal/mol): PK_start=2112 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2149
(fs_start=2097)

TCCAACA
AGACAGGTTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA AGGGA
TTCCTCA
AAATT

=====

(62) AB253644

=====

PK1: -15.100000(kcal/mol): PK_start=2075 sp=0 s1=3 s2=8 l1=5 l2=5 L3=0 PK_end=2106
(fs_start=2098)

CACTA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GTTAA

PK2: -18.450000(kcal/mol): PK_start=2083 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2120
(fs_start=2098)

C
GGACATCAAATGAAAGACTGCACTACTGAGAGA
GATTTTTT AATTGGA
TTGGCCTTC
GGAAAAAT

PK3: -18.565000(kcal/mol): PK_start=2107 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2140
(fs_start=2098)

AAA
ACTGAGAGACAGGTTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGAA
AACAAGGGA

PK4: -21.195000(kcal/mol): PK_start=2113 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2150
(fs_start=2098)

TCCAACA
AGACAGGTTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA AGGGA
TTCCTCA
AAATT

=====

(63) AB253645

=====

PK1: -15.100000(kcal/mol): PK_start=2075 sp=0 s1=3 s2=8 l1=5 l2=5 L3=0 PK_end=2106
(fs_start=2098)

CACTA
GAAAGGAAGGACATCAAATGAGAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=2083 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2120
(fs_start=2098)

C
GGACATCAAATGAGAGACTGCACTACTGAGAGA
GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=2107 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2140
(fs_start=2098)

AAA

ACTGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT

AGGCCGGGAA

AACAAGGGA

PK4: -21.195000(kcal/mol): PK_start=2113 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2150
(fs_start=2098)

TCCAACA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGGCCGGA AGGGA

TTCCTCA

AAATT

=====
(64) AB253646
=====

PK1: -15.100000(kcal/mol): PK_start=2074 sp=0 s1=3 s2=8 l1=5 l2=5 L3=0 PK_end=2105
(fs_start=2097)

CACTA

GAAAGGAAGGACATCAAATGAAAGACTG

GAC AGAGAGTC

TTTTTTTAGGG

GTTAA

PK2: -18.450000(kcal/mol): PK_start=2082 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2119
(fs_start=2097)

C

GGACATCAAATGAAAGACTGCACTACTGAGAGA

GATTTTTT AATTGGA

TTGGCCTTC

GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=2106 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2139
(fs_start=2097)

AAA

ACTGAGAGACAGGTTAATTTTTTAGGGA

CCT TCCGGTTT

AGGCCGGGAA

AACAAGGGA

PK4: -21.195000(kcal/mol): PK_start=2112 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2149
(fs_start=2097)

TCCAACA

AGACAGGTTAATTTTTTAGGGAAAATTTGGCCT

GGGCCGGA AGGGA

```

                                TTCCTCA
AAATT
=====
(65) AB253647
=====
PK1:  -15.100000(kcal/mol): PK_start=2075 sp=0 s1=3 s2=8 l1=5 l2=5 L3=0 PK_end=2106
(fs_start=2098)
                                CACTA
GGAAGGAAGGACATCAAATGAGAGACTG
                                GAC   AGAGAGTC
                                TTTTTTAGGG
                                GTTAA

PK2:  -18.450000(kcal/mol): PK_start=2083 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2120
(fs_start=2098)
                                C
GGACATCAAATGAGAGACTGCACTACTGAGAGA
                                GATTTTTT   AATTGGA
                                TTGGCCTTC
                                GGAAAAT

PK3:  -18.565000(kcal/mol): PK_start=2107 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2140
(fs_start=2098)
                                AAA
ACTGAGAGACAGGTTAATTTTTTAGGGA
                                CCT   TCCGGTTT
                                AGGCCGGGAA
                                AACAAAGGGA

PK4:  -21.195000(kcal/mol): PK_start=2113 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2150
(fs_start=2098)
                                TCCAACA
AGACAGGTTAATTTTTTAGGGAAAATTTGGCCT
                                GGGCCGGA   AGGGA
                                TTCCTCA
                                AAATT

=====
(66) AB253648
=====
PK1:  -15.100000(kcal/mol): PK_start=2075 sp=0 s1=3 s2=8 l1=5 l2=5 L3=0 PK_end=2106
(fs_start=2098)
                                CACTA
GGAAGGAAGGACATCAAATGAGAGACTG
                                GAC   AGAGAGTC
                                TTTTTTAGGG
                                GTTAA

PK2:  -18.450000(kcal/mol): PK_start=2083 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2120
(fs_start=2098)
                                C
GGACATCAAATGAGAGACTGCACTACTGAGAGA

```

GATTTTTT AATTGGA
 TTGGCCTTC
 GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=2107 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2140
 (fs_start=2098)

AAA
 ACTGAGAGACAGGTTAATTTTTTAGGGA

CCT TCCGGTTT
 AGGCCGGGAA
 AACAAAGGGA

PK4: -21.195000(kcal/mol): PK_start=2113 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2150
 (fs_start=2098)

TCCAACA
 AGACAGGTTAATTTTTTAGGGAAAATTTGGCCT

GGGCCGGA AGGGA
 TTCCTCA
 AAATT

=====
 (67) AB253649
 =====

PK1: -15.100000(kcal/mol): PK_start=2074 sp=0 s1=3 s2=8 l1=5 l2=5 L3=0 PK_end=2105
 (fs_start=2097)

CACTA
 GGAAGGAAGGACATCAAATGAGAGACTG

GAC AGAGAGTC
 TTTTTTAGGG
 GTTAA

PK2: -18.450000(kcal/mol): PK_start=2082 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2119
 (fs_start=2097)

C
 GGACATCAAATGAGAGACTGCACTACTGAGAGA

GATTTTTT AATTGGA
 TTGGCCTTC
 GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=2106 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2139
 (fs_start=2097)

AAA
 ACTGAGAGACAGGTTAATTTTTTAGGGA

CCT TCCGGTTT
 AGGCCGGGAA
 AACAAAGGGA

PK4: -21.195000(kcal/mol): PK_start=2112 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2149
 (fs_start=2097)

TCCAACA
 AGACAGGTTAATTTTTTAGGGAAAATTTGGCCT

```

GGGCCGGA    AGGGA
              TTCCTCA
AAATT

=====
(68) AB253650
=====
PK1:  -15.100000(kcal/mol): PK_start=2074 sp=0 s1=3 s2=8 l1=5 l2=5 L3=0 PK_end=2105
(fs_start=2097)
              CACTA
GGAAGGAAGGACATCAAATGAGAGACTG
              GAC    AGAGAGTC
              TTTTTTAGGG
GTTAA

PK2:  -18.450000(kcal/mol): PK_start=2082 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2119
(fs_start=2097)
              C
GGACATCAAATGAGAGACTGCACTACTGAGAGA
              GATTTTTT    AATTGGA
              TTGGCCTTC
GGAAAAT

PK3:  -18.565000(kcal/mol): PK_start=2106 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2139
(fs_start=2097)
              AAA
ACTGAGAGACAGGTTAATTTTTTAGGGA
              CCT    TCCGGTTT
              AGGCCGGGAA
AACAAAGGGA

PK4:  -21.195000(kcal/mol): PK_start=2112 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2149
(fs_start=2097)
              TCCAACA
AGACAGGTTAATTTTTTAGGGAAAATTTGGCCT
              GGGCCGGA    AGGGA
              TTCCTCA
AAATT

=====
(69) AB253651
=====
PK1:  -15.100000(kcal/mol): PK_start=2075 sp=0 s1=3 s2=8 l1=5 l2=5 L3=0 PK_end=2106
(fs_start=2098)
              CACTA
GGAAGGAAGGACATCAAATGAGAGACTG
              GAC    AGAGAGTC
              TTTTTTAGGG
GTTAA

```

PK2: -18.45000(kcal/mol): PK_start=2083 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2120
(fs_start=2098)

C
GGACATCAAATGAGAGACTGCACTACTGAGAGA
GATTTTTT AATTGGA
TTGGCCTTC
GGAAAAT

PK3: -18.56500(kcal/mol): PK_start=2107 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2140
(fs_start=2098)

AAA
ACTGAGAGACAGGTTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGAA
AACAAGGGA

PK4: -21.19500(kcal/mol): PK_start=2113 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2150
(fs_start=2098)

TCCAACA
AGACAGGTTAATTTTTTAGGAAAATTTGGCCT
GGGCCGGA AGGGA
TTCCTCA
AAATT

=====
(70) AB253652
=====

PK1: -15.10000(kcal/mol): PK_start=2074 sp=0 s1=3 s2=8 l1=5 l2=5 L3=0 PK_end=2105
(fs_start=2097)

CACTA
GGAAGGAAGGACATCAAATGAGAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GTTAA

PK2: -18.45000(kcal/mol): PK_start=2082 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2119
(fs_start=2097)

C
GGACATCAAATGAGAGACTGCACTACTGAGAGA
GATTTTTT AATTGGA
TTGGCCTTC
GGAAAAT

PK3: -18.56500(kcal/mol): PK_start=2106 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2139
(fs_start=2097)

AAA
ACTGAGAGACAGGTTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGAA
AACAAGGGA

PK4: -21.195000(kcal/mol): PK_start=2112 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2149
(fs_start=2097)

```

                                TCCAACA
AGACAGGTTAATTTTTTTAGGGAAAATTTGGCCT
                                GGGCCGGA   AGGGA
                                TTCCTCA
                                AAATT
```

=====
(71) AB253653
=====

PK1: -15.100000(kcal/mol): PK_start=2074 sp=0 s1=3 s2=8 l1=5 l2=5 L3=0 PK_end=2105
(fs_start=2097)

```

                                CACTA
GGAAGGAAGGACATCAAATGAGAGACTG
                                GAC   AGAGAGTC
                                TTTTTTAGGG
                                GTTAA
```

PK2: -18.450000(kcal/mol): PK_start=2082 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2119
(fs_start=2097)

```

                                C
GGACATCAAATGAGAGACTGCACTACTGAGAGA
                                GATTTTTT   AATTGGA
                                TTGGCCTTC
                                GGAAAAT
```

PK3: -18.565000(kcal/mol): PK_start=2106 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2139
(fs_start=2097)

```

                                AAA
ACTGAGAGACAGGTTAATTTTTTTAGGGA
                                CCT   TCCGGTTT
                                AGGCCGGGAA
                                AACAAGGGA
```

PK4: -21.195000(kcal/mol): PK_start=2112 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2149
(fs_start=2097)

```

                                TCCAACA
AGACAGGTTAATTTTTTTAGGGAAAATTTGGCCT
                                GGGCCGGA   AGGGA
                                TTCCTCA
                                AAATT
```

=====
(72) AB253654
=====

PK1: -15.100000(kcal/mol): PK_start=2074 sp=0 s1=3 s2=8 l1=5 l2=5 L3=0 PK_end=2105
(fs_start=2097)

```

                                CACTA
GGAAGGAAGGACATCAAATGAGAGACTG
                                GAC   AGAGAGTC
```

```

                TTTTTTAGGG
            GTTAA

PK2:  -18.450000(kcal/mol): PK_start=2082 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2119
(fs_start=2097)
                C
GGACATCAAATGAGAGACTGCACTACTGAGAGA
                GATTTTTT   AATTGGA
                TTGGCCTTC
            GGAAAAT

PK3:  -18.565000(kcal/mol): PK_start=2106 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2139
(fs_start=2097)
                AAA
ACTGAGAGACAGGTTAATTTTTTAGGGA
                CCT   TCCGGTTT
                AGGCCGGGAA
            AACAAGGGA

PK4:  -21.195000(kcal/mol): PK_start=2112 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2149
(fs_start=2097)
                TCCAACA
AGACAGGTTAATTTTTTAGGGAAAATTTGGCCT
                GGGCCGGA   AGGGA
                TTCCTCA
            AAATT

=====
(73) AB253655
=====
PK1:  -15.100000(kcal/mol): PK_start=2074 sp=0 s1=3 s2=8 l1=5 l2=5 L3=0 PK_end=2105
(fs_start=2097)
                CACTA
GGAAGGAAGGACATCAAATGAGAGACTG
                GAC   AGAGAGTC
                TTTTTTAGGG
            GTTAA

PK2:  -18.450000(kcal/mol): PK_start=2082 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2119
(fs_start=2097)
                C
GGACATCAAATGAGAGACTGCACTACTGAGAGA
                GATTTTTT   AATTGGA
                TTGGCCTTC
            GGAAAAT

PK3:  -18.565000(kcal/mol): PK_start=2106 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2139
(fs_start=2097)
                AAA
ACTGAGAGACAGGTTAATTTTTTAGGGA
                CCT   TCCGGTTT

```


AGGCCGGGAA

AACAAAGGGA

PK4: -21.195000(kcal/mol): PK_start=2112 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2149
(fs_start=2097)

TCCAACA

AGACAGGTTAATTTTTTTAGGGAAAATTTGGCCT

GGGCCGGA AGGGA

TTCCTCA

AAATT

=====
(74) AB253656
=====

PK1: -15.100000(kcal/mol): PK_start=2074 sp=0 s1=3 s2=8 l1=5 l2=5 L3=0 PK_end=2105
(fs_start=2097)

CACTA

GGAAGGAAGGACATCAAATGAGAGACTG

GAC AGAGAGTC

TTTTTTAGGG

GTTAA

PK2: -18.450000(kcal/mol): PK_start=2082 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2119
(fs_start=2097)

C

GGACATCAAATGAGAGACTGCACTACTGAGAGA

GATTTTTT AATTGGA

TTGGCCTTC

GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=2106 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2139
(fs_start=2097)

AAA

ACTGAGAGACAGGTTAATTTTTTTAGGGA

CCT TCCGGTTT

AGGCCGGGAA

AACAAAGGGA

PK4: -21.195000(kcal/mol): PK_start=2112 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2149
(fs_start=2097)

TCCAACA

AGACAGGTTAATTTTTTTAGGGAAAATTTGGCCT

GGGCCGGA AGGGA

TTCCTCA

AAATT

=====
(75) AB253657
=====

PK1: -15.100000(kcal/mol): PK_start=2075 sp=0 s1=3 s2=8 l1=5 l2=5 L3=0 PK_end=2106
(fs_start=2098)

CACTA

GGAAGGAAGGACATCAAATGAGAGACTG

GAC AGAGAGTC
TTTTTTAGGG
GTTAA
PK2: -18.450000(kcal/mol): PK_start=2083 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2120
(fs_start=2098)

C
GGACATCAAATGAGAGACTGCACTACTGAGAGA
GATTTTTT AATTGGA
TTGGCCTTC
GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=2107 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2140
(fs_start=2098)

AAA
ACTGAGAGACAGGTTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGAA
ACAAGGGA

PK4: -21.195000(kcal/mol): PK_start=2113 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2150
(fs_start=2098)

TCCAACA
AGACAGGTTAATTTTTTAGGAAAATTTGGCCT
GGCCGGA AGGGA
TTCCTCA
AAATT

=====
(76) AB253658
=====

PK1: -15.100000(kcal/mol): PK_start=2075 sp=0 s1=3 s2=8 l1=5 l2=5 L3=0 PK_end=2106
(fs_start=2098)

CACTA
GGAAGGAAGGACATCAAATGAGAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GTTAA

PK2: -18.450000(kcal/mol): PK_start=2083 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2120
(fs_start=2098)

C
GGACATCAAATGAGAGACTGCACTACTGAGAGA
GATTTTTT AATTGGA
TTGGCCTTC
GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=2107 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2140
(fs_start=2098)

AAA
ACTGAGAGACAGGTTAATTTTTTAGGGA

CCT TCCGGTTT
AGGCCGGGAA
AACAAAGGGA
PK4: -21.195000(kcal/mol): PK_start=2113 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2150
(fs_start=2098)

TCCAACA
AGACAGGTTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA AGGGA
TTCCTCA
AAATT

=====
(77) AB253659
=====

PK1: -15.100000(kcal/mol): PK_start=2073 sp=0 s1=3 s2=8 l1=5 l2=5 L3=0 PK_end=2104
(fs_start=2096)

CACTA
GAAAGGAAGGACATCAAATGAGAGACTG
GAC AGAGAGTC
TTTTTTTAGGG
GTTAA

PK2: -18.450000(kcal/mol): PK_start=2081 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2118
(fs_start=2096)

C
GGACATCAAATGAGAGACTGCACTACTGAGAGA
GATTTTTT AATTGGA
TTGGCCTTC
GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=2105 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2138
(fs_start=2096)

AAA
ACTGAGAGACAGGTTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGAA
AACAAAGGGA

PK4: -21.195000(kcal/mol): PK_start=2111 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2148
(fs_start=2096)

TCCAACA
AGACAGGTTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA AGGGA
TTCCTCA
AAATT

=====
(78) AB253660
=====

PK1: -15.10000(kcal/mol): PK_start=2074 sp=0 s1=3 s2=8 l1=5 l2=5 L3=0 PK_end=2105 (fs_start=2097)

CACTA
GGAAGGAAGGACATCAAATGAGAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GTTAA

PK2: -18.45000(kcal/mol): PK_start=2082 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2119 (fs_start=2097)

C
GGACATCAAATGAGAGACTGCACTACTGAGAGA
GATTTTTT AATTGGA
TTGGCCTTC
GGAAAAAT

PK3: -18.56500(kcal/mol): PK_start=2106 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2139 (fs_start=2097)

AAA
ACTGAGAGACAGGTTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGAA
AACAAGGGA

PK4: -21.19500(kcal/mol): PK_start=2112 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2149 (fs_start=2097)

TCCAACA
AGACAGGTTAATTTTTTAGGGAAAAATTTGGCCT
GGGCCGGA AGGGA
TTCCTCA
AAATT

=====
(79) AB253661
=====

PK1: -15.10000(kcal/mol): PK_start=2074 sp=0 s1=3 s2=8 l1=5 l2=5 L3=0 PK_end=2105 (fs_start=2097)

CACTA
GGAAGGAAGGACATCAAATGAGAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GTTAA

PK2: -18.45000(kcal/mol): PK_start=2082 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2119 (fs_start=2097)

C
GGACATCAAATGAGAGACTGCACTACTGAGAGA
GATTTTTT AATTGGA
TTGGCCTTC
GGAAAAAT

PK3: -18.565000(kcal/mol): PK_start=2106 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2139
(fs_start=2097)

AAA
ACTGAGAGACAGGTTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGAA
AACAAGGGA

PK4: -21.195000(kcal/mol): PK_start=2112 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2149
(fs_start=2097)

TCCAACA
AGACAGGTTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA AGGGA
TTCCTCA
AAATT

=====
(80) AB253662
=====

PK1: -15.100000(kcal/mol): PK_start=2074 sp=0 s1=3 s2=8 l1=5 l2=5 L3=0 PK_end=2105
(fs_start=2097)

CACTA
GAAAGGAAGGACATCAAATGAGAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GTTAA

PK2: -18.450000(kcal/mol): PK_start=2082 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2119
(fs_start=2097)

C
GGACATCAAATGAGAGACTGCACTACTGAGAGA
GATTTTTT AATTGGA
TTGGCCTTC
GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=2106 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2139
(fs_start=2097)

AAA
ACTGAGAGACAGGTTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGAA
AACAAGGGA

PK4: -21.195000(kcal/mol): PK_start=2112 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2149
(fs_start=2097)

TCCAACA
AGACAGGTTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA AGGGA
TTCCTCA
AAATT

=====
(81) AB253663
=====

PK1: -15.100000(kcal/mol): PK_start=2074 sp=0 s1=3 s2=8 l1=5 l2=5 L3=0 PK_end=2105
(fs_start=2097)

CACTA
GAAAGGAAGGACATCAAATGAGAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GTTAA

PK2: -18.450000(kcal/mol): PK_start=2082 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2119
(fs_start=2097)

C
GGACATCAAATGAGAGACTGCACTACTGAGAGA
GATTTTTT AATTGGA
TTGGCCTTC
GGAAAAAT

PK3: -18.565000(kcal/mol): PK_start=2106 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2139
(fs_start=2097)

AAA
ACTGAGAGACAGGTTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGAA
AACAAGGGA

PK4: -21.195000(kcal/mol): PK_start=2112 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2149
(fs_start=2097)

TCCAACA
AGACAGGTTAATTTTTTAGGGAAAATTTGGCCT
GGCCGGA AGGGA
TTCCTCA
AAATT

=====
(82) AB253664
=====

PK1: -15.100000(kcal/mol): PK_start=2065 sp=0 s1=3 s2=8 l1=5 l2=5 L3=0 PK_end=2096
(fs_start=2088)

CACTA
GGAAGGAAGGACATCAAATGAGAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GTTAA

PK2: -18.450000(kcal/mol): PK_start=2073 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2110
(fs_start=2088)

C
GGACATCAAATGAGAGACTGCACTACTGAGAGA
GATTTTTT AATTGGA

TTGGCCTTC

GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=2097 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2130
(fs_start=2088)

AAA

ACTGAGAGACAGGTTAATTTTTTTAGGGA

CCT TCCGGTTT

AGGCCGGGAA

AACAAGGGA

PK4: -21.195000(kcal/mol): PK_start=2103 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2140
(fs_start=2088)

TCCAACA

AGACAGGTTAATTTTTTTAGGGAAAATTTGGCCT

GGGCCGGA AGGGA

TTCCTCA

AAATT

=====
(83) AB253665
=====

PK1: -15.100000(kcal/mol): PK_start=2074 sp=0 s1=3 s2=8 l1=5 l2=5 L3=0 PK_end=2105
(fs_start=2097)

CACTA

GGAAGGAAGGACATCAAATGAGAGACTG

GAC AGAGAGTC

TTTTTTAGGG

GTTAA

PK2: -18.450000(kcal/mol): PK_start=2082 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2119
(fs_start=2097)

C

GGACATCAAATGAGAGACTGCACTACTGAGAGA

GATTTTTT AATTGGA

TTGGCCTTC

GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=2106 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2139
(fs_start=2097)

AAA

ACTGAGAGACAGGTTAATTTTTTTAGGGA

CCT TCCGGTTT

AGGCCGGGAA

AACAAGGGA

PK4: -21.195000(kcal/mol): PK_start=2112 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2149
(fs_start=2097)

TCCAACA

AGACAGGTTAATTTTTTTAGGGAAAATTTGGCCT

GGGCCGGA AGGGA

```

                                TTCCTCA
AAATT
=====
(84) AB253666
=====
PK1:  -15.100000(kcal/mol): PK_start=2074 sp=0 s1=3 s2=8 l1=5 l2=5 L3=0 PK_end=2105
(fs_start=2097)
                                CACTA
GAAAGGAAGGACATCAAATGAGAGACTG
                                GAC   AGAGAGTC
                                TTTTTTAGGG
                                GTTAA

PK2:  -18.450000(kcal/mol): PK_start=2082 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2119
(fs_start=2097)
                                C
GGACATCAAATGAGAGACTGCACTACTGAGAGA
                                GATTTTTT   AATTGGA
                                TTGGCCTTC
                                GGAAAAT

PK3:  -18.565000(kcal/mol): PK_start=2106 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2139
(fs_start=2097)
                                AAA
ACTGAGAGACAGGTTAATTTTTTAGGGA
                                CCT   TCCGGTTT
                                AGGCCGGGAA
                                AACAAGGGA

PK4:  -21.195000(kcal/mol): PK_start=2112 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2149
(fs_start=2097)
                                TCCAACA
AGACAGGTTAATTTTTTAGGGAAAATTTGGCCT
                                GGGCCGGA   AGGGA
                                TTCCTCA
                                AAATT

=====
(85) AB253667
=====
PK1:  -15.100000(kcal/mol): PK_start=2074 sp=0 s1=3 s2=8 l1=5 l2=5 L3=0 PK_end=2105
(fs_start=2097)
                                CACTA
GAAAGGAAGGACATCAAATGAGAGACTG
                                GAC   AGAGAGTC
                                TTTTTTAGGG
                                GTTAA

PK2:  -18.450000(kcal/mol): PK_start=2082 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2119
(fs_start=2097)
                                C
GGACATCAAATGAGAGACTGCACTACTGAGAGA

```


GATTTTTT AATTGGA
TTGGCCTTC
GGAAAAT
PK3: -18.565000(kcal/mol): PK_start=2106 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2139
(fs_start=2097)

AAA
ACTGAGAGACAGGTTAATTTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGAA
AACAAAGGGA

PK4: -21.195000(kcal/mol): PK_start=2112 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2149
(fs_start=2097)

TCCAACA
AGACAGGTTAATTTTTTTAGGGAAAATTTGGCCT
GGGCCGGA AGGGA
TTCCTCA
AAATT

=====
(86) AB253668
=====

PK1: -15.100000(kcal/mol): PK_start=2074 sp=0 s1=3 s2=8 l1=5 l2=5 L3=0 PK_end=2105
(fs_start=2097)

CACTA
GAAAGGAAGGACATCAAATGAGAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GTTAA

PK2: -18.450000(kcal/mol): PK_start=2082 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2119
(fs_start=2097)

C
GGACATCAAATGAGAGACTGCACTACTGAGAGA
GATTTTTT AATTGGA
TTGGCCTTC
GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=2106 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2139
(fs_start=2097)

AAA
ACTGAGAGACAGGTTAATTTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGAA
AACAAAGGGA

PK4: -21.195000(kcal/mol): PK_start=2112 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2149
(fs_start=2097)

TCCAACA
AGACAGGTTAATTTTTTTAGGGAAAATTTGGCCT

```

GGGCCGGA    AGGGA
              TTCCTCA
AAATT

=====
(87) AB253669
=====
PK1:  -15.100000(kcal/mol): PK_start=2062 sp=0 s1=3 s2=8 l1=5 l2=5 L3=0 PK_end=2093
(fs_start=2085)
              CACTA
GGAAGGAAGGACATCAAATGAGAGACTG
              GAC    AGAGAGTC
              TTTTTTAGGG
GTTAA

PK2:  -18.450000(kcal/mol): PK_start=2070 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2107
(fs_start=2085)
              C
GGACATCAAATGAGAGACTGCACTACTGAGAGA
              GATTTTTT    AATTGGA
              TTGGCCTTC
GGAAAAT

PK3:  -18.565000(kcal/mol): PK_start=2094 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2127
(fs_start=2085)
              AAA
ACTGAGAGACAGGTTAATTTTTTAGGGA
              CCT    TCCGGTTT
              AGGCCGGGAA
AACAAGGGA

PK4:  -21.195000(kcal/mol): PK_start=2100 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2137
(fs_start=2085)
              TCCAACA
AGACAGGTTAATTTTTTAGGGAAAATTTGGCCT
              GGGCCGGA    AGGGA
              TTCCTCA
AAATT

=====
(88) AB253670
=====
PK1:  -15.100000(kcal/mol): PK_start=2062 sp=0 s1=3 s2=8 l1=5 l2=5 L3=0 PK_end=2093
(fs_start=2085)
              CACTA
GGAAGGAAGGACATCAAATGAGAGACTG
              GAC    AGAGAGTC
              TTTTTTAGGG
GTTAA

```

PK2: -18.45000(kcal/mol): PK_start=2070 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2107
(fs_start=2085)

C
GGACATCAAATGAGAGACTGCACTACTGAGAGA
GATTTTTT AATTGGA
TTGGCCTTC
GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=2094 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2127
(fs_start=2085)

AAA
ACTGAGAGACAGGTTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGAA
AACAAGGGA

PK4: -21.195000(kcal/mol): PK_start=2100 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2137
(fs_start=2085)

TCCAACA
AGACAGGTTAATTTTTTAGGAAAATTTGGCCT
GGGCCGGA AGGGA
TTCCTCA
AAATT

=====
(89) AB253671
=====

PK1: -15.100000(kcal/mol): PK_start=2062 sp=0 s1=3 s2=8 l1=5 l2=5 L3=0 PK_end=2093
(fs_start=2085)

CACTA
GGAAGGAAGGACATCAAATGAGAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GTTAA

PK2: -18.450000(kcal/mol): PK_start=2070 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2107
(fs_start=2085)

C
GGACATCAAATGAGAGACTGCACTACTGAGAGA
GATTTTTT AATTGGA
TTGGCCTTC
GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=2094 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2127
(fs_start=2085)

AAA
ACTGAGAGACAGGTTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGAA
AACAAGGGA

PK4: -21.195000(kcal/mol): PK_start=2100 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2137
(fs_start=2085)

```

                                TCCAACA
AGACAGGTTAATTTTTTTAGGGAAAATTTGGCCT
                                GGGCCGGA   AGGGA
                                TTCCTCA
                                AAATT
```

=====
(90) AB253672
=====

PK1: -15.100000(kcal/mol): PK_start=2062 sp=0 s1=3 s2=8 l1=5 l2=5 L3=0 PK_end=2093
(fs_start=2085)

```

                                CACTA
GGAAGGAAGGACATCAAATGAGAGACTG
                                GAC   AGAGAGTC
                                TTTTTTAGGG
                                GTTAA
```

PK2: -18.450000(kcal/mol): PK_start=2070 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2107
(fs_start=2085)

```

                                C
GGACATCAAATGAGAGACTGCACTACTGAGAGA
                                GATTTTTT   AATTGGA
                                TTGGCCTTC
                                GGAAAAT
```

PK3: -18.565000(kcal/mol): PK_start=2094 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2127
(fs_start=2085)

```

                                AAA
ACTGAGAGACAGGTTAATTTTTTTAGGGA
                                CCT   TCCGGTTT
                                AGGCCGGGAA
                                AACAAGGGA
```

PK4: -21.195000(kcal/mol): PK_start=2100 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2137
(fs_start=2085)

```

                                TCCAACA
AGACAGGTTAATTTTTTTAGGGAAAATTTGGCCT
                                GGGCCGGA   AGGGA
                                TTCCTCA
                                AAATT
```

=====
(91) AB253673
=====

PK1: -15.100000(kcal/mol): PK_start=2061 sp=0 s1=3 s2=8 l1=5 l2=5 L3=0 PK_end=2092
(fs_start=2084)

```

                                CACTA
GGAAGGAAGGACATCAAATGAGAGACTG
                                GAC   AGAGAGTC
```

```

                TTTTTTAGGG
            GTTAA

PK2:  -18.45000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2106
(fs_start=2084)
                C
GGACATCAAATGAGAGACTGCACTACTGAGAGA
                GATTTTTT   AATTGGA
                TTGGCCTTC
            GGAAAAT

PK3:  -18.56500(kcal/mol): PK_start=2093 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2126
(fs_start=2084)
                AAA
ACTGAGAGACAGGTTAATTTTTTAGGGA
                CCT   TCCGGTTT
                AGGCCGGAA
            AACAAGGGA

PK4:  -21.19500(kcal/mol): PK_start=2099 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2136
(fs_start=2084)
                TCCAACA
AGACAGGTTAATTTTTTAGGGAAAATTTGGCCT
                GGGCCGGA   AGGGA
                TTCCTCA
            AAATT

=====
(92) AB253674
=====

PK1:  -15.10000(kcal/mol): PK_start=2061 sp=0 s1=3 s2=8 l1=5 l2=5 L3=0 PK_end=2092
(fs_start=2084)
                CACTA
GGAAGGAAGGACATCAAATGAGAGACTG
                GAC   AGAGAGTC
                TTTTTTAGGG
            GTTAA

PK2:  -18.45000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2106
(fs_start=2084)
                C
GGACATCAAATGAGAGACTGCACTACTGAGAGA
                GATTTTTT   AATTGGA
                TTGGCCTTC
            GGAAAAT

PK3:  -18.56500(kcal/mol): PK_start=2093 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2126
(fs_start=2084)
                AAA
ACTGAGAGACAGGTTAATTTTTTAGGGA
                CCT   TCCGGTTT

```

AGGCCGGGAA

AACAAAGGGA

PK4: -21.195000(kcal/mol): PK_start=2099 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2136
(fs_start=2084)

TCCAACA

AGACAGGTTAATTTTTTTAGGGAAAATTTGGCCT

GGGCCGGA AGGGA

TTCCTCA

AAATT

=====
(93) AB253675
=====

PK1: -15.100000(kcal/mol): PK_start=2061 sp=0 s1=3 s2=8 l1=5 l2=5 L3=0 PK_end=2092
(fs_start=2084)

CACTA

GGAAGGAAGGACATCAAATGAGAGACTG

GAC AGAGAGTC

TTTTTTAGGG

GTTAA

PK2: -18.450000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2106
(fs_start=2084)

C

GGACATCAAATGAGAGACTGCACTACTGAGAGA

GATTTTTT AATTGGA

TTGGCCTTC

GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=2093 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2126
(fs_start=2084)

AAA

ACTGAGAGACAGGTTAATTTTTTTAGGGA

CCT TCCGGTTT

AGGCCGGGAA

AACAAAGGGA

PK4: -21.195000(kcal/mol): PK_start=2099 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2136
(fs_start=2084)

TCCAACA

AGACAGGTTAATTTTTTTAGGGAAAATTTGGCCT

GGGCCGGA AGGGA

TTCCTCA

AAATT

=====
(94) AB253676
=====

PK1: -15.100000(kcal/mol): PK_start=2062 sp=0 s1=3 s2=8 l1=5 l2=5 L3=0 PK_end=2093
(fs_start=2085)

CACTA

GGAAGGAAGGACATCAAATGAGAGACTG

```

                GAC    AGAGAGTC
                    TTTTTTAGGG
            GTTAA

PK2:  -18.45000(kcal/mol): PK_start=2070 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2107
(fs_start=2085)
                    C
GGACATCAAATGAGAGACTGCACTACTGAGAGA
                    GATTTTTT    AATTGGA
                                TTGGCCTTC
                GGAAAAT

PK3:  -18.56500(kcal/mol): PK_start=2094 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2127
(fs_start=2085)
                    AAA
ACTGAGAGACAGGTTAATTTTTTAGGGA
                    CCT    TCCGGTTT
                                AGGCCGGGAA
                AACAAAGGA

PK4:  -21.19500(kcal/mol): PK_start=2100 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2137
(fs_start=2085)
                    TCCAACA
AGACAGGTTAATTTTTTAGGGAAAATTTGGCCT
                    GGGCCGGA    AGGGA
                                TTCCTCA
                AAATT

=====
(95) AB253677
=====
PK1:  -15.10000(kcal/mol): PK_start=2061 sp=0 s1=3 s2=8 l1=5 l2=5 L3=0 PK_end=2092
(fs_start=2084)
                    CACTA
GGAAGGAAGGACATCAAATGAGAGACTG
                    GAC    AGAGAGTC
                                TTTTTTAGGG
            GTTAA

PK2:  -18.45000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2106
(fs_start=2084)
                    C
GGACATCAAATGAGAGACTGCACTACTGAGAGA
                    GATTTTTT    AATTGGA
                                TTGGCCTTC
                GGAAAAT

PK3:  -18.56500(kcal/mol): PK_start=2093 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2126
(fs_start=2084)
                    AAA
ACTGAGAGACAGGTTAATTTTTTAGGGA

```

```

          CCT   TCCGGTTT
                AGGCCGGGAA
AACAAAGGGA
PK4:  -21.195000(kcal/mol): PK_start=2099 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2136
(fs_start=2084)
                TCCAACA
AGACAGGTTAATTTTTTTAGGGAAAATTTGGCCT
                GGGCCGGA   AGGGA
                TTCCTCA
          AAATT

```

=====

(96) AB253678

=====

```

PK1:  -15.100000(kcal/mol): PK_start=2062 sp=0 s1=3 s2=8 l1=5 l2=5 L3=0 PK_end=2093
(fs_start=2085)

```

```

                CACTA
GGAAGGAAGGACATCAAATGAGAGACTG
                GAC   AGAGAGTC
                TTTTTTAGGG
          GTTAA

```

```

PK2:  -18.450000(kcal/mol): PK_start=2070 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2107
(fs_start=2085)

```

```

                C
GGACATCAAATGAGAGACTGCACTACTGAGAGA
                GATTTTTT   AATTGGA
                TTGGCCTTC
          GGAAAAT

```

```

PK3:  -18.565000(kcal/mol): PK_start=2094 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2127
(fs_start=2085)

```

```

                AAA
ACTGAGAGACAGGTTAATTTTTTTAGGGA
                CCT   TCCGGTTT
                AGGCCGGGAA
          AACAAAGGGA

```

```

PK4:  -21.195000(kcal/mol): PK_start=2100 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2137
(fs_start=2085)

```

```

                TCCAACA
AGACAGGTTAATTTTTTTAGGGAAAATTTGGCCT
                GGGCCGGA   AGGGA
                TTCCTCA
          AAATT

```

=====

(97) AB253679

=====

PK1: -15.10000(kcal/mol): PK_start=2062 sp=0 s1=3 s2=8 l1=5 l2=5 L3=0 PK_end=2093 (fs_start=2085)

CACTA
GGAAGGAAGGACATCAAATGAGAGACTG
GAC AGAGAGTC
TTTTTTTAGGG
GTTAA

PK2: -18.45000(kcal/mol): PK_start=2070 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2107 (fs_start=2085)

C
GGACATCAAATGAGAGACTGCACTACTGAGAGA
GATTTTTT AATTGGA
TTGGCCTTC
GGAAAAAT

PK3: -18.56500(kcal/mol): PK_start=2094 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2127 (fs_start=2085)

AAA
ACTGAGAGACAGGTAAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGAA
AACAAGGGA

PK4: -21.19500(kcal/mol): PK_start=2100 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2137 (fs_start=2085)

TCCAACA
AGACAGGTTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA AGGGA
TTCCTCA
AAATT

=====
(98) AB253680
=====

PK1: -15.10000(kcal/mol): PK_start=2062 sp=0 s1=3 s2=8 l1=5 l2=5 L3=0 PK_end=2093 (fs_start=2085)

CACTA
GGAAGGAAGGACATCAAATGAGAGACTG
GAC AGAGAGTC
TTTTTTTAGGG
GTTAA

PK2: -18.45000(kcal/mol): PK_start=2070 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2107 (fs_start=2085)

C
GGACATCAAATGAGAGACTGCACTACTGAGAGA
GATTTTTT AATTGGA
TTGGCCTTC
GGAAAAAT

PK3: -18.565000(kcal/mol): PK_start=2094 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2127
(fs_start=2085)

AAA
ACTGAGAGACAGGTTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGAA
AACAAGGGA

PK4: -21.195000(kcal/mol): PK_start=2100 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2137
(fs_start=2085)

TCCAACA
AGACAGGTTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA AGGGA
TTCCTCA
AAATT

=====
(99) AB253681
=====

PK1: -15.100000(kcal/mol): PK_start=2076 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2104
(fs_start=2096)

CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=2081 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2118
(fs_start=2096)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=2104 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2138
(fs_start=2096)

AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGA

PK4: -22.915000(kcal/mol): PK_start=2111 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2148
(fs_start=2096)

TCCCACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(100) AB253682
=====

PK1: -15.100000(kcal/mol): PK_start=2076 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2104
(fs_start=2096)

CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=2081 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2118
(fs_start=2096)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAAT

PK3: -23.745000(kcal/mol): PK_start=2104 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2138
(fs_start=2096)

AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGA

PK4: -22.915000(kcal/mol): PK_start=2111 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2148
(fs_start=2096)

TCCCACA
AGACAGGCTAATTTTTTAGGAAAATTTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(101) AB253683
=====

PK1: -15.100000(kcal/mol): PK_start=2076 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2104
(fs_start=2096)

CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=2081 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2118
(fs_start=2096)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA

```

                                TTGGCCTTC
                                GGAAAAT
PK3:  -20.285000(kcal/mol): PK_start=2105 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2138
(fs_start=2096)
                                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCT   TCCGGTTT
                                AGGCCAGGGA
                                AACAAGGGA

PK4:  -22.915000(kcal/mol): PK_start=2111 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2148
(fs_start=2096)
                                TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                                GGACCGGA   AGGGA
                                TTCCTCA
                                GAATT

=====
(102) AB253684
=====
PK1:  -15.100000(kcal/mol): PK_start=2076 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2104
(fs_start=2096)
                                CA
GAAAGGAAGGACATCAAATGAAAGACTG
                                GAC   AGAGAGTC
                                TTTTTTAGGG
                                GCTAA

PK2:  -21.940000(kcal/mol): PK_start=2081 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2118
(fs_start=2096)
                                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                                GATTTTTT   AATCGGA
                                TTGGCCTTC
                                GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=2105 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2138
(fs_start=2096)
                                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCT   TCCGGTTT
                                AGGCCAGGGA
                                AACAAGGGA

PK4:  -22.915000(kcal/mol): PK_start=2111 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2148
(fs_start=2096)
                                TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                                GGACCGGA   AGGGA

```

TTCCTCA

GAATT

=====
(103) AB253685
=====

PK1: -15.100000(kcal/mol): PK_start=2076 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2104
(fs_start=2096)

CA

GAAAGGAAGGACATCAAATGAAAGACTG

GAC AGAGAGTC

TTTTTTTAGGG

GCTAA

PK2: -21.940000(kcal/mol): PK_start=2081 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2118
(fs_start=2096)

C

GAAGGACATCAAATGAAAGACTGCACTGAGAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=2105 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2138
(fs_start=2096)

AAA

ACTGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT

AGGCCAGGGA

AACAAGGGA

PK4: -22.915000(kcal/mol): PK_start=2111 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2148
(fs_start=2096)

TCCAACA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA AGGGA

TTCCTCA

GAATT

=====
(104) AB253686
=====

PK1: -15.100000(kcal/mol): PK_start=2075 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2103
(fs_start=2095)

CA

GAAAGGAAGGACATCAAATGAAAGACTG

GAC AGAGAGTC

TTTTTTTAGGG

GCTAA

PK2: -21.940000(kcal/mol): PK_start=2080 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2117
(fs_start=2095)

C

GAAGGACATCAAATGAAAGACTGCACTGAGAGA

```

          GATTTTTT   AATCGGA
                    TTGGCCTTC
      GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=2104 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2137
(fs_start=2095)
          AAA
ACTGAGAGACAGGCTAATTTTTTTAGGGA
          CCT   TCCGGTTT
                    AGGCCAGGGA
      AACAAGGGA

PK4:  -22.915000(kcal/mol): PK_start=2110 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2147
(fs_start=2095)
                    TCCAACA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
          GGACCGGA   AGGGA
                    TTCCTCA
      GAATT

=====
(105) AB253687
=====
PK1:  -15.100000(kcal/mol): PK_start=2076 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2104
(fs_start=2096)
          CA
GAAAGGAAGGACATCAAATGAAAGACTG
          GAC   AGAGAGTC
                    TTTTTTAGGG
      GCTAA

PK2:  -21.940000(kcal/mol): PK_start=2081 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2118
(fs_start=2096)
          C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
          GATTTTTT   AATCGGA
                    TTGGCCTTC
      GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=2105 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2138
(fs_start=2096)
          AAA
ACTGAGAGACAGGCTAATTTTTTTAGGGA
          CCT   TCCGGTTT
                    AGGCCAGGGA
      AACAAGGGA

PK4:  -22.915000(kcal/mol): PK_start=2111 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2148
(fs_start=2096)
                    TCCAACA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT

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                GGACCGGA    AGGGA
                    TTCCTCA
GAATT
=====
(106) AB253688
=====
PK1:  -15.100000(kcal/mol): PK_start=2076 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2104
(fs_start=2096)
                CA
GAAAGGAAGGACATCAAATGAAAGACTG
                GAC    AGAGAGTC
                    TTTTTTAGGG
GCTAA

PK2:  -21.940000(kcal/mol): PK_start=2081 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2118
(fs_start=2096)
                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT    AATCGGA
                    TTGGCCTTC
GAAAAAT

PK3:  -20.285000(kcal/mol): PK_start=2105 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2138
(fs_start=2096)
                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                CCT    TCCGGTTT
                    AGGCCAGGGA
ACAAGGGA

PK4:  -22.915000(kcal/mol): PK_start=2111 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2148
(fs_start=2096)
                TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA    AGGGA
                    TTCCTCA
GAATT

=====
(107) AB253689
=====
PK1:  -15.100000(kcal/mol): PK_start=2076 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2104
(fs_start=2096)
                CA
GAAAGGAAGGACATCAAATGAAAGACTG
                GAC    AGAGAGTC
                    TTTTTTAGGG
GCTAA

```

PK2: -21.940000(kcal/mol): PK_start=2081 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2118
(fs_start=2096)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=2104 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2138
(fs_start=2096)

AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGA

PK4: -22.915000(kcal/mol): PK_start=2111 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2148
(fs_start=2096)

TCCCACA
AGACAGGCTAATTTTTTAGGAAAATTTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(108) AB253690
=====

PK1: -15.100000(kcal/mol): PK_start=2076 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2104
(fs_start=2096)

CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=2081 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2118
(fs_start=2096)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=2105 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2138
(fs_start=2096)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AACAAGGGA

PK4: -22.915000(kcal/mol): PK_start=2111 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2148
(fs_start=2096)

```

                                TCCAACA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
                                GGACCGGA   AGGGA
                                TTCCTCA
                                GAATT
```

=====
(109) AB253691
=====

PK1: -15.100000(kcal/mol): PK_start=2076 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2104
(fs_start=2096)

```

                                CA
GAAAGGAAGGACATCAAATGAAAGACTG
                                GAC   AGAGAGTC
                                TTTTTTAGGG
                                GCTAA
```

PK2: -21.940000(kcal/mol): PK_start=2081 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2118
(fs_start=2096)

```

                                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                                GATTTTTT   AATCGGA
                                TTGGCCTTC
                                GGAAAAT
```

PK3: -20.285000(kcal/mol): PK_start=2105 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2138
(fs_start=2096)

```

                                AAA
ACTGAGAGACAGGCTAATTTTTTTAGGGA
                                CCT   TCCGGTTT
                                AGGCCAGGGA
                                AACAAGGGA
```

PK4: -22.915000(kcal/mol): PK_start=2111 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2148
(fs_start=2096)

```

                                TCCAACA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
                                GGACCGGA   AGGGA
                                TTCCTCA
                                GAATT
```

=====
(110) AB253692
=====

PK1: -15.100000(kcal/mol): PK_start=2076 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2104
(fs_start=2096)

```

                                CA
GAAAGGAAGGACATCAAATGAAAGACTG
                                GAC   AGAGAGTC
```

```

                TTTTTTAGGG
          GCTAA
PK2:  -21.940000(kcal/mol): PK_start=2081 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2118
(fs_start=2096)
                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT   AATCGGA
                TTGGCCTTC
          GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=2105 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2138
(fs_start=2096)
                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                CCT   TCCGGTTT
                AGGCCAGGGA
          AACAAGGGA

PK4:  -22.915000(kcal/mol): PK_start=2111 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2148
(fs_start=2096)
                TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA   AGGGA
                TTCCTCA
          GAATT

=====
(111) AB253693
=====
PK1:  -15.100000(kcal/mol): PK_start=2076 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2104
(fs_start=2096)
                CA
GAAAGGAAGGACATCAAATGAAAGACTG
                GAC   AGAGAGTC
                TTTTTTAGGG
          GCTAA

PK2:  -21.940000(kcal/mol): PK_start=2081 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2118
(fs_start=2096)
                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT   AATCGGA
                TTGGCCTTC
          GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=2105 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2138
(fs_start=2096)
                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                CCT   TCCGGTTT

```

AGGCCAGGGA

AACAAGGGA

PK4: -22.915000(kcal/mol): PK_start=2111 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2148
(fs_start=2096)

TCCAACA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA AGGGA

TTCCTCA

GAATT

=====
(112) AB253694
=====

PK1: -15.100000(kcal/mol): PK_start=2075 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2103
(fs_start=2095)

CA

GAAAGGAAGGACATCAAATGAAAGACTG

GAC AGAGAGTC

TTTTTTAGGG

GCTAA

PK2: -21.940000(kcal/mol): PK_start=2080 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2117
(fs_start=2095)

C

GAAGGACATCAAATGAAAGACTGCACTGAGAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=2104 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2137
(fs_start=2095)

AAA

ACTGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT

AGGCCAGGGA

AACAAGGGA

PK4: -22.915000(kcal/mol): PK_start=2110 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2147
(fs_start=2095)

TCCAACA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA AGGGA

TTCCTCA

GAATT

=====
(113) AB253695
=====

PK1: -15.100000(kcal/mol): PK_start=2074 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2102
(fs_start=2094)

CA

GAAAGGAAGGACATCAAATGAAAGACTG

GAC AGAGAGTC
TTTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=2079 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2116
(fs_start=2094)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=2103 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2136
(fs_start=2094)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
ACAAGGGA

PK4: -22.915000(kcal/mol): PK_start=2109 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2146
(fs_start=2094)

TCCAACA
AGACAGGCTAATTTTTTAGGAAAATTTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(114) AB253696
=====

PK1: -15.100000(kcal/mol): PK_start=2076 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2104
(fs_start=2096)

CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=2081 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2118
(fs_start=2096)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=2105 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2138
(fs_start=2096)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA

```

          CCT   TCCGGTTT
                AGGCCAGGGA
AACAAAGGGA
PK4:  -22.915000(kcal/mol): PK_start=2111 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2148
(fs_start=2096)
                TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA   AGGGA
                TTCCTCA
          GAATT

```

```

=====
(115) AB253697
=====

```

```

PK1:  -15.100000(kcal/mol): PK_start=2076 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2104
(fs_start=2096)
                CA
GAAAGGAAGGACATCAAATGAAAGACTG
                GAC   AGAGAGTC
                TTTTTTAGGG
          GCTAA

```

```

PK2:  -21.940000(kcal/mol): PK_start=2081 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2118
(fs_start=2096)
                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT   AATCGGA
                TTGGCCTTC
          GGAAAAT

```

```

PK3:  -20.285000(kcal/mol): PK_start=2105 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2138
(fs_start=2096)
                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                CCT   TCCGGTTT
                AGGCCAGGGA
          AACAAAGGGA

```

```

PK4:  -22.915000(kcal/mol): PK_start=2111 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2148
(fs_start=2096)
                TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA   AGGGA
                TTCCTCA
          GAATT

```

```

=====
(116) AB253698
=====

```

PK1: -15.100000(kcal/mol): PK_start=2076 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2104
(fs_start=2096)

CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=2081 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2118
(fs_start=2096)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAAT

PK3: -20.285000(kcal/mol): PK_start=2105 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2138
(fs_start=2096)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AACAAGGGA

PK4: -22.915000(kcal/mol): PK_start=2111 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2148
(fs_start=2096)

TCCAACA
AGACAGGCTAATTTTTTAGGGAAAAATTTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(117) AB253699
=====

PK1: -15.100000(kcal/mol): PK_start=2076 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2104
(fs_start=2096)

CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=2081 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2118
(fs_start=2096)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAAT

PK3: -20.285000(kcal/mol): PK_start=2105 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2138
(fs_start=2096)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AACAAGGGA

PK4: -22.915000(kcal/mol): PK_start=2111 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2148
(fs_start=2096)

TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(118) AB253700
=====

PK1: -15.100000(kcal/mol): PK_start=2076 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2104
(fs_start=2096)

CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=2081 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2118
(fs_start=2096)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=2105 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2138
(fs_start=2096)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AACAAGGGA

PK4: -22.915000(kcal/mol): PK_start=2111 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2148
(fs_start=2096)

TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(119) AB253701
=====

PK1: -15.10000(kcal/mol): PK_start=2076 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2104
(fs_start=2096)

CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.94000(kcal/mol): PK_start=2081 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2118
(fs_start=2096)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAAT

PK3: -20.28500(kcal/mol): PK_start=2105 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2138
(fs_start=2096)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AACAAGGGA

PK4: -22.91500(kcal/mol): PK_start=2111 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2148
(fs_start=2096)

TCCAACA
AGACAGGCTAATTTTTTAGGAAAATTTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(120) AB253702
=====

PK1: -15.10000(kcal/mol): PK_start=2076 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2104
(fs_start=2096)

CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.94000(kcal/mol): PK_start=2081 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2118
(fs_start=2096)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=2105 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2138
(fs_start=2096)

AAA

ACTGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT

AGGCCAGGGA

ACAAGGGA

PK4: -22.915000(kcal/mol): PK_start=2111 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2148
(fs_start=2096)

TCCAACA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA AGGGA

TTCCTCA

GAATT

=====
(121) AB253703
=====

PK1: -15.100000(kcal/mol): PK_start=2077 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2105
(fs_start=2097)

CA

GAAAGGAAGGACATCAAATGAAAGACTG

GAC AGAGAGTC

TTTTTTTAGGG

GCTAA

PK2: -21.940000(kcal/mol): PK_start=2082 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2119
(fs_start=2097)

C

GAAGGACATCAAATGAAAGACTGCACTGAGAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=2105 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2139
(fs_start=2097)

AAA

CACTGAGAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT

AGGCCAGGGA

ACAAGGGA

PK4: -22.915000(kcal/mol): PK_start=2112 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2149
(fs_start=2097)

TCCCACA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA AGGGA

```

                                TTCCTCA
                                GAATT
=====
(122) AB253704
=====
PK1:  -15.100000(kcal/mol): PK_start=2077 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2105
(fs_start=2097)
                                CA
GAAAGGAAGGACATCAAATGAAAGACTG
                                GAC   AGAGAGTC
                                TTTTTTAGGG
                                GCTAA

PK2:  -21.940000(kcal/mol): PK_start=2082 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2119
(fs_start=2097)
                                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                                GATTTTTT   AATCGGA
                                TTGGCCTTC
                                GGAAAAT

PK3:  -23.745000(kcal/mol): PK_start=2105 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2139
(fs_start=2097)
                                AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTTT
                                AGGCCAGGAA
                                ACAAGGGA

PK4:  -22.915000(kcal/mol): PK_start=2112 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2149
(fs_start=2097)
                                TCCCACA
AGACAGGCTAATTTTTTAGGAAAATTTGGCCT
                                GGACCGGA   AGGGA
                                TTCCTCA
                                AAATT

=====
(123) AB253705
=====
PK1:  -15.100000(kcal/mol): PK_start=2077 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2105
(fs_start=2097)
                                CA
GAAAGGAAGGACATCAAATGAAAGACTG
                                GAC   AGAGAGTC
                                TTTTTTAGGG
                                GCTAA

PK2:  -21.940000(kcal/mol): PK_start=2082 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2119
(fs_start=2097)
                                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA

```

```

                GATTTTTT   AATCGGA
                    TTGGCCTTC
    GGAAAAT
PK3:  -23.745000(kcal/mol): PK_start=2105 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2139
(fs_start=2097)
                AAA
    CACTGAGAGACAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTTT
                    AGGCCAGGAA
    ACAAGGGA
PK4:  -22.915000(kcal/mol): PK_start=2112 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2149
(fs_start=2097)
                    TCCCACA
    AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA   AGGGA
                    TTCCTCA
    AAATT

=====
(124) AB253706
=====
PK1:  -15.100000(kcal/mol): PK_start=2077 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2105
(fs_start=2097)
                CA
    GAAAGGAAGGACATCAAATGAAAGACTG
                GAC   AGAGAGTC
                    TTTTTTAGGG
    GCTAA
PK2:  -21.940000(kcal/mol): PK_start=2082 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2119
(fs_start=2097)
                C
    GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT   AATCGGA
                    TTGGCCTTC
    GGAAAAT
PK3:  -23.745000(kcal/mol): PK_start=2105 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2139
(fs_start=2097)
                AAA
    CACTGAGAGACAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTTT
                    AGGCCAGGGA
    ACAAGGGA
PK4:  -22.915000(kcal/mol): PK_start=2112 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2149
(fs_start=2097)
                    TCCCACA
    AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

```

```

                GGACCGGA    AGGGA
                    TTCCTCA
GAATT
=====
(125) AB253707
=====
PK1:  -15.100000(kcal/mol): PK_start=2077 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2105
(fs_start=2097)
                CA
GAAAGGAAGGACATCAAATGAAAGACTG
                GAC    AGAGAGTC
                    TTTTTTAGGG
GCTAA

PK2:  -21.940000(kcal/mol): PK_start=2082 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2119
(fs_start=2097)
                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT    AATCGGA
                    TTGGCCTTC
GAAAAAT

PK3:  -20.285000(kcal/mol): PK_start=2106 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2139
(fs_start=2097)
                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                CCT    TCCGGTTT
                    AGGCCAGGAA
AACAAGGGA

PK4:  -22.915000(kcal/mol): PK_start=2112 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2149
(fs_start=2097)
                TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA    AGGGA
                    TTCCTCA
AAATT

=====
(126) AB253708
=====
PK1:  -15.100000(kcal/mol): PK_start=2077 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2105
(fs_start=2097)
                CA
GAAAGGAAGGACATCAAATGAAAGACTG
                GAC    AGAGAGTC
                    TTTTTTAGGG
GCTAA

```

PK2: -21.940000(kcal/mol): PK_start=2082 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2119
(fs_start=2097)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=2106 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2139
(fs_start=2097)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AACAAGGGA

PK4: -22.915000(kcal/mol): PK_start=2112 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2149
(fs_start=2097)

TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA AGGGA
TTCCTCA
AAATT

=====
(127) AB253709
=====

PK1: -15.100000(kcal/mol): PK_start=2077 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2105
(fs_start=2097)

CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=2082 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2119
(fs_start=2097)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=2105 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2139
(fs_start=2097)

AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGA

PK4: -22.915000(kcal/mol): PK_start=2112 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2149
(fs_start=2097)

```

                                TCCCACA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
                                GGACCGGA   AGGGA
                                TTCCTCA
                                GAATT
```

=====
(128) AB253710
=====

PK1: -15.100000(kcal/mol): PK_start=2077 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2105
(fs_start=2097)

```

                                CA
GAAAGGAAGGACATCAAATGAAAGACTG
                                GAC   AGAGAGTC
                                TTTTTTAGGG
                                GCTAA
```

PK2: -21.940000(kcal/mol): PK_start=2082 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2119
(fs_start=2097)

```

                                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                                GATTTTTT   AATCGGA
                                TTGGCCTTC
                                GGAAAAT
```

PK3: -23.745000(kcal/mol): PK_start=2105 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2139
(fs_start=2097)

```

                                AAA
CACTGAGAGACAGGCTAATTTTTTTAGGGA
                                CCCT   TCCGGTTT
                                AGGCCAGGGA
                                ACAAGGGA
```

PK4: -22.915000(kcal/mol): PK_start=2112 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2149
(fs_start=2097)

```

                                TCCCACA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
                                GGACCGGA   AGGGA
                                TTCCTCA
                                GAATT
```

=====
(129) AB253711
=====

PK1: -15.100000(kcal/mol): PK_start=2077 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2105
(fs_start=2097)

```

                                CA
GAAAGGAAGGACATCAAATGAAAGACTG
                                GAC   AGAGAGTC
```

```

                TTTTTTAGGG
          GCTAA

PK2:  -21.940000(kcal/mol): PK_start=2082 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2119
(fs_start=2097)
                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT    AATCGGA
                TTGGCCTTC
          GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=2106 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2139
(fs_start=2097)
                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                CCT    TCCGGTTT
                AGGCCAGGAA
          AACAAGGGA

PK4:  -22.915000(kcal/mol): PK_start=2112 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2149
(fs_start=2097)
                TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA    AGGGA
                TTCCTCA
          AAATT

=====
(130) AB253712
=====

PK1:  -15.100000(kcal/mol): PK_start=2077 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2105
(fs_start=2097)
                CA
GAAAGGAAGGACATCAAATGAAAGACTG
                GAC    AGAGAGTC
                TTTTTTAGGG
          GCTAA

PK2:  -21.940000(kcal/mol): PK_start=2082 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2119
(fs_start=2097)
                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT    AATCGGA
                TTGGCCTTC
          GGAAAAT

PK3:  -23.745000(kcal/mol): PK_start=2105 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2139
(fs_start=2097)
                AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA
                CCCT    TCCGGTTT

```

AGGCCAGGGA

ACAAGGGA

PK4: -22.915000(kcal/mol): PK_start=2112 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2149
(fs_start=2097)

TCCCACA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA AGGGA

TTCCTCA

GAATT

=====
(131) AB253713
=====

PK1: -15.100000(kcal/mol): PK_start=2078 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2106
(fs_start=2098)

CA

GAAAGGAAGGACATCAAATGAAAGACTG

GAC AGAGAGTC

TTTTTTAGGG

GCTAA

PK2: -21.940000(kcal/mol): PK_start=2083 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2120
(fs_start=2098)

C

GAAGGACATCAAATGAAAGACTGCACTGAGAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=2107 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2140
(fs_start=2098)

AAA

ACTGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT

AGGCCAGGAA

ACAAGGGA

PK4: -22.915000(kcal/mol): PK_start=2113 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2150
(fs_start=2098)

TCCAACA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA AGGGA

TTCCTCA

AAATT

=====
(132) AB253714
=====

PK1: -15.100000(kcal/mol): PK_start=2077 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2105
(fs_start=2097)

CA

GAAAGGAAGGACATCAAATGAAAGACTG


```

                GAC    AGAGAGTC
                TTTTTTAGGG
            GCTAA

PK2:  -21.940000(kcal/mol): PK_start=2082 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2119
(fs_start=2097)
                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT    AATCGGA
                TTGGCCTTC
            GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=2106 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2139
(fs_start=2097)
                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                CCT    TCCGGTTT
                AGGCCAGGGA
            AACAAAGGGA

PK4:  -22.915000(kcal/mol): PK_start=2112 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2149
(fs_start=2097)
                TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA    AGGGA
                TTCCTCA
            GAATT

=====
(133) AB253715
=====
PK1:  -15.100000(kcal/mol): PK_start=2077 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2105
(fs_start=2097)
                CA
GAAAGGAAGGACATCAAATGAAAGACTG
                GAC    AGAGAGTC
                TTTTTTAGGG
            GCTAA

PK2:  -21.940000(kcal/mol): PK_start=2082 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2119
(fs_start=2097)
                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT    AATCGGA
                TTGGCCTTC
            GGAAAAT

PK3:  -23.745000(kcal/mol): PK_start=2105 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2139
(fs_start=2097)
                AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA

```

```

          CCCT   TCCGGTTT
                AGGCCAGGGA
ACAAGGGA
PK4:  -22.915000(kcal/mol): PK_start=2112 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2149
(fs_start=2097)
                TCCCACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA   AGGGA
                TTCCTCA
          GAATT

```

=====
(134) AB253716
=====

```

PK1:  -15.100000(kcal/mol): PK_start=2077 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2105
(fs_start=2097)
                CA
GAAAGGAAGGACATCAAATGAAAGACTG
                GAC   AGAGAGTC
                TTTTTTAGGG
          GCTAA

```

```

PK2:  -21.940000(kcal/mol): PK_start=2082 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2119
(fs_start=2097)
                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT   AATCGGA
                TTGGCCTTC
          GGAAAAT

```

```

PK3:  -23.745000(kcal/mol): PK_start=2105 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2139
(fs_start=2097)
                AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTTT
                AGGCCAGGGA
          ACAAGGGA

```

```

PK4:  -22.915000(kcal/mol): PK_start=2112 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2149
(fs_start=2097)
                TCCCACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA   AGGGA
                TTCCTCA
          GAATT

```

=====
(135) AB253717
=====

PK1: -15.10000(kcal/mol): PK_start=2077 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2105 (fs_start=2097)

CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTTAGGG
GCTAA

PK2: -21.94000(kcal/mol): PK_start=2082 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2119 (fs_start=2097)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTT
GGAGAAT

PK3: -15.11000(kcal/mol): PK_start=2105 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=2139 (fs_start=2097)

AA
CACTGAGAGACAGGCTAATTTTTTTAGGGAG
CTTTC CGGTTT
GCCAGGGA
CACAAAGGAAG

PK4: -22.91500(kcal/mol): PK_start=2112 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2149 (fs_start=2097)

TTCCACA
AGACAGGCTAATTTTTTTAGGGAGAATTTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(136) AB253718
=====

PK1: -15.10000(kcal/mol): PK_start=2077 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2105 (fs_start=2097)

CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTTAGGG
GCTAA

PK2: -21.94000(kcal/mol): PK_start=2082 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2119 (fs_start=2097)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTT
GGAGAAT

PK3: -15.110000(kcal/mol): PK_start=2105 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=2139 (fs_start=2097)

AA
CACTGAGAGACAGGCTAATTTTTTAGGGAG
CTTTC CGGTTT
GCCAGGGA
CACAAAGGAAG

PK4: -22.915000(kcal/mol): PK_start=2112 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2149 (fs_start=2097)

TTCCACA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(137) AB253719
=====

PK1: -15.100000(kcal/mol): PK_start=2077 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2105 (fs_start=2097)

CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=2082 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2119 (fs_start=2097)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTT
GGAGAAT

PK3: -15.110000(kcal/mol): PK_start=2105 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=2139 (fs_start=2097)

AA
CACTGAGAGACAGGCTAATTTTTTAGGGAG
CTTTC CGGTTT
GCCAGGGA
CACAAAGGAAG

PK4: -22.915000(kcal/mol): PK_start=2112 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2149 (fs_start=2097)

TTCCACA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(138) AB253720
=====

PK1: -15.100000(kcal/mol): PK_start=2077 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2105
(fs_start=2097)

CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=2082 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2119
(fs_start=2097)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTT
GGAGAAT

PK3: -15.110000(kcal/mol): PK_start=2105 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=2139
(fs_start=2097)

AA
CACTGAGAGACAGGCTAATTTTTTAGGGAG
CTTTC CGGTTT
GCCAGGGA
CACAAAGGAAG

PK4: -22.915000(kcal/mol): PK_start=2112 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2149
(fs_start=2097)

TCCACA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(139) AB253721
=====

PK1: -15.100000(kcal/mol): PK_start=2077 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2105
(fs_start=2097)

CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=2082 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2119
(fs_start=2097)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA

TTGGCCTTT

GGAGAAT

PK3: -15.110000(kcal/mol): PK_start=2105 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=2139
(fs_start=2097)

AA

CACTGAGAGACAGGCTAATTTTTTAGGGAG

CTTTC CGGTTT

GCCAGGGA

CACAAAGGAAG

PK4: -22.915000(kcal/mol): PK_start=2112 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2149
(fs_start=2097)

TTCCACA

AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT

GGACCGGA AGGGA

TTCCTCA

GAATT

=====
(140) AB253722
=====

PK1: -15.100000(kcal/mol): PK_start=2077 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2105
(fs_start=2097)

CA

GAAAGGAAGGACATCAAATGAAAGACTG

GAC AGAGAGTC

TTTTTTTAGGG

GCTAA

PK2: -21.940000(kcal/mol): PK_start=2082 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2119
(fs_start=2097)

C

GAAGGACATCAAATGAAAGACTGCACTGAGAGA

GATTTTTT AATCGGA

TTGGCCTTT

GGAGAAT

PK3: -15.110000(kcal/mol): PK_start=2105 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=2139
(fs_start=2097)

AA

CACTGAGAGACAGGCTAATTTTTTAGGGAG

CTTTC CGGTTT

GCCAGGGA

CACAAAGGAAG

PK4: -22.915000(kcal/mol): PK_start=2112 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2149
(fs_start=2097)

TTCCACA

AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT

GGACCGGA AGGGA

```

                                TTCCTCA
                                GAATT
=====
(141) AB253723
=====
PK1:  -15.100000(kcal/mol): PK_start=2077 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2105
(fs_start=2097)
                                CA
GAAAGGAAGGACATCAAATGAAAGACTG
                                GAC   AGAGAGTC
                                TTTTTTAGGG
                                GCTAA

PK2:  -21.940000(kcal/mol): PK_start=2082 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2119
(fs_start=2097)
                                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                                GATTTTTT   AATCGGA
                                TTGGCCTTT
                                GGAGAAT

PK3:  -15.110000(kcal/mol): PK_start=2105 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=2139
(fs_start=2097)
                                AA
CACTGAGAGACAGGCTAATTTTTTAGGGAG
                                CTTTC   CGGTTT
                                GCCAGGGA
                                CACAAGGGAAG

PK4:  -22.915000(kcal/mol): PK_start=2112 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2149
(fs_start=2097)
                                TTCCACA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
                                GGACCGGA   AGGGA
                                TTCCTCA
                                GAATT

=====
(142) AB253724
=====
PK1:  -15.100000(kcal/mol): PK_start=2077 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2105
(fs_start=2097)
                                CA
GAAAGGAAGGACATCAAATGAAAGACTG
                                GAC   AGAGAGTC
                                TTTTTTAGGG
                                GCTAA

PK2:  -21.940000(kcal/mol): PK_start=2082 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2119
(fs_start=2097)
                                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA

```

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          GATTTTTT   AATCGGA
                    TTGGCCTTT
      GGAAAAT
PK3:  -21.215000(kcal/mol): PK_start=2106 sp=0 s1=4 s2=8 l1=2 l2=8 L3=0 PK_end=2139
(fs_start=2097)
          AA
ACTGAGAGACAGGCTAATTTTTTTAGGGAA
          CCTT   TCCGGTTT
                    AGGCCAGGGA
      ACAAGGGA
PK4:  -22.915000(kcal/mol): PK_start=2112 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2149
(fs_start=2097)
                    TTCCACA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
          GGACCGGA   AGGGA
                    TTCCTCA
      GAATT

=====
(143) AB253725
=====
PK1:  -15.100000(kcal/mol): PK_start=2077 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2105
(fs_start=2097)
          CA
GAAAGGAAGGACATCAAATGAAAGACTG
          GAC   AGAGAGTC
                    TTTTTTAGGG
      GCTAA
PK2:  -21.940000(kcal/mol): PK_start=2082 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2119
(fs_start=2097)
          C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
          GATTTTTT   AATCGGA
                    TTGGCCTTT
      GGAGAAT
PK3:  -15.110000(kcal/mol): PK_start=2105 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=2139
(fs_start=2097)
          AA
CACTGAGAGACAGGCTAATTTTTTTAGGGAG
          CTTTC   CGGTTT
                    GCCAGGGA
      CACAAGGGAAG
PK4:  -22.915000(kcal/mol): PK_start=2112 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2149
(fs_start=2097)
                    TTCCACA
AGACAGGCTAATTTTTTTAGGGAGAATTTGGCCT

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                GGACCGGA    AGGGA
                    TTCCTCA
GAATT
=====
(144) AB254141
=====
PK1:  -13.005000(kcal/mol): PK_start=2057 sp=0 s1=4 s2=6 l1=5 l2=6 L3=0 PK_end=2087
(fs_start=2080)
                    ACTAA
GAAAGGAAGGACACCAAATGAAAGACTGT
                GACA    GAGAGT
                    TTTTTAGG
GCTAAT
PK2:  -19.660000(kcal/mol): PK_start=2066 sp=0 s1=7 s2=7 l1=1 l2=8 L3=0 PK_end=2102
(fs_start=2080)
                    C
GACACCAAATGAAAGACTGTACTAATGAGAGA
                ATTTTTT    AATCGGA
                    TTGGCCTTC
GGGAAAAT
PK3:  -23.745000(kcal/mol): PK_start=2088 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2122
(fs_start=2080)
                    AAA
TAATGAGAGACAGGCTAATTTTTTAGGGA
                CCCT    TCCGGTTT
                    AGGCCAGGGA
ACAAGGGG
PK4:  -23.985000(kcal/mol): PK_start=2095 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=2133
(fs_start=2080)
                    TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA    GGGG
                    CTCCAG
GAATTTC
PK4B:  -26.865000(kcal/mol): PK_start=2095 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2158
(fs_start=2080)
                    TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA    GGGG
                    CCCCAC
GAATTTCTCCAGAGCAGACCAGACCAACAG
=====
(145) AB254142
=====

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PK1: -14.985000(kcal/mol): PK_start=2073 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2101
(fs_start=2093)

A
GAAAGGAAGGACATCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -18.720000(kcal/mol): PK_start=2078 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2114
(fs_start=2093)

C
GAAGGACATCAAATGAAAGACTGTACTGAGAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=2101 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2135
(fs_start=2093)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
AGAAGGGG

PK4: -32.490000(kcal/mol): PK_start=2108 sp=7 s1=11 s2=4 l1=2 l2=7 L3=0 PK_end=2146
(fs_start=2093)

CA
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTCC
GGACCGGAGGG GAAG
CTTCAG
GAATTTTC

PK4B: -30.395000(kcal/mol): PK_start=2108 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2171
(fs_start=2093)

TCCCAGAA
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCCTTCAGAGCAGGCCAGAGCCAACAG

=====
(146) AB254143
=====

PK1: -12.405000(kcal/mol): PK_start=2052 sp=0 s1=4 s2=6 l1=5 l2=6 L3=0 PK_end=2082
(fs_start=2075)

ACTAA
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGT
TTTTTAGG
GCTAAT

PK2: -16.440000(kcal/mol): PK_start=2061 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=2096
(fs_start=2075)

C
GACACCAAATGAAAGACTGTACTAATGAGAGG
ATTTTTT A ATCGGA
TGGCCTTC
GGGAAAATC

PK3: -27.275000(kcal/mol): PK_start=2083 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2117
(fs_start=2075)

AAA
TAATGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -30.395000(kcal/mol): PK_start=2090 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2153
(fs_start=2075)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCACTCAGAGCAGACTAGAGCCAACAG

=====
(147) AB254144

=====
PK1: -12.405000(kcal/mol): PK_start=2052 sp=0 s1=4 s2=6 l1=5 l2=6 L3=0 PK_end=2082
(fs_start=2075)

ACTAA
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGT
TTTTTAGG
GCTAAT

PK2: -16.440000(kcal/mol): PK_start=2061 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=2096
(fs_start=2075)

C
GACACCAAATGAAAGACTGTACTAATGAGAGG
ATTTTTT A ATCGGA
TGGCCTTC
GGGAAAATC

PK3: -27.275000(kcal/mol): PK_start=2083 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2117
(fs_start=2075)

AAA
TAATGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -30.395000(kcal/mol): PK_start=2090 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2153
(fs_start=2075)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCACTCAGAGCAGACTAGAGCCAACAG

=====
(148) AB254145
=====

PK1: -12.405000(kcal/mol): PK_start=2053 sp=0 s1=4 s2=6 l1=5 l2=6 L3=0 PK_end=2083
(fs_start=2076)

ACTAA
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGT
TTTTTAGG
GCTAAT

PK2: -16.440000(kcal/mol): PK_start=2062 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=2097
(fs_start=2076)

C
GACACCAAATGAAAGACTGTACTAATGAGAGG
ATTTTTT A ATCGGA
TGGCCTTC
GGGAAAATC

PK3: -27.275000(kcal/mol): PK_start=2084 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2118
(fs_start=2076)

AAA
TAATGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -30.395000(kcal/mol): PK_start=2091 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2154
(fs_start=2076)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCACTCAGAGCAGACTAGAGCCAACAG

=====
(149) AB254146
=====

PK1: -12.405000(kcal/mol): PK_start=2052 sp=0 s1=4 s2=6 l1=5 l2=6 L3=0 PK_end=2082
(fs_start=2075)

ACTAA
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGT

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                TTTT TAGG
    GCTAAT
PK2:  -16.440000(kcal/mol): PK_start=2061 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=2096
(fs_start=2075)
                C
GACACCAAATGAAAGACTGTACTAATGAGAGG
                ATTTTTT A ATCGGA
                TGGCCTTC
    GGGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=2083 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2117
(fs_start=2075)
                AAA
TAATGAGAGGCAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTCT
                AGGCCAGGGA
    ACAAGGGG
PK4:  -30.395000(kcal/mol): PK_start=2090 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2153
(fs_start=2075)
                TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCT
                GGACCGGA   GGGG
                CCCCAC
    GAATTTCACTCAGAGCAGACTAGAGCCAACAG

=====
(150) AB254147
=====
PK1:  -12.405000(kcal/mol): PK_start=2052 sp=0 s1=4 s2=6 l1=5 l2=6 L3=0 PK_end=2082
(fs_start=2075)
                ACTAA
GAAAGGAAGGACACCAAATGAAAGACTGT
                GACG   GAGAGT
                TTTT TAGG
    GCTAAT
PK2:  -16.440000(kcal/mol): PK_start=2061 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=2096
(fs_start=2075)
                C
GACACCAAATGAAAGACTGTACTAATGAGAGG
                ATTTTTT A ATCGGA
                TGGCCTTC
    GGGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=2083 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2117
(fs_start=2075)
                AAA
TAATGAGAGGCAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTCT

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AGGCCAGGGA
ACAAGGGG
PK4: -30.395000(kcal/mol): PK_start=2090 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2153
(fs_start=2075)
TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCACTCAGAGCAGACTAGAGCCAACAG

=====
(151) AB254148
=====

PK1: -12.825000(kcal/mol): PK_start=2055 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2083
(fs_start=2075)

A
GAGAGGAAGGGCACCAAATGAAAGACTGT
GACA GAGGGTC
TTTTTAGGG
GCTAAT

PK2: -19.180000(kcal/mol): PK_start=2060 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2097
(fs_start=2075)

C
GAAGGGCACCAAATGAAAGACTGTACTGGGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -22.025000(kcal/mol): PK_start=2083 sp=0 s1=4 s2=8 l1=3 l2=11 L3=0 PK_end=2120
(fs_start=2075)

AAA
TACTGGGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCGGGGA
ACAACAAGGGG

PK4: -23.290000(kcal/mol): PK_start=2090 sp=7 s1=10 s2=4 l1=7 l2=6 L3=0 PK_end=2130
(fs_start=2075)

CCACAAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGCCGGAGG GGAA
CCTTCA
GAATTT

=====
(152) AB254149
=====

PK1: -15.585000(kcal/mol): PK_start=2053 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2081
(fs_start=2073)

A
GAAAGGAAGGACACCAAATGAAAGACTGT

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          GACA      GAGAGTC
                TTTTATAGG
    GCTAAT
PK2:  -20.46000(kcal/mol): PK_start=2058 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2094
(fs_start=2073)
                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
                GATTTTTT  A  ATCGGA
                TGGCCTTC
    GGAAAATC
PK3:  -26.60500(kcal/mol): PK_start=2081 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2115
(fs_start=2073)
                AAA
TACTGAGAGACAGGCTAATTTTTATAGGGA
                CCCT      TCCGGTCT
                AGGCCGGGAA
    AGAGGGGG
PK4:  -31.47000(kcal/mol): PK_start=2088 sp=7 s1=11 s2=4 l1=2 l2=6 L3=0 PK_end=2125
(fs_start=2073)
                CA
AGACAGGCTAATTTTTATAGGAAAATCTGGCCTTCC
                GGGCCGGAGG      GGAG
                CCTTCA
    AAATTT
PK4B:  -30.58500(kcal/mol): PK_start=2088 sp=7 s1=9 s2=4 l1=6 l2=32 L3=0 PK_end=2151
(fs_start=2073)
                CCCAGA
AGACAGGCTAATTTTTATAGGAAAATCTGGCCTT
                GGGCCGGAG      GGGG
                CCCAC
    AAATTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(153) AB254150
=====
PK1:  -12.40500(kcal/mol): PK_start=2052 sp=0 s1=4 s2=6 l1=5 l2=6 L3=0 PK_end=2082
(fs_start=2075)
                ACTAA
GAAAGGAAGGACACCAAATGAAAGACTGT
                GACG      GAGAGT
                TTTTATAG
    GCTAAT
PK2:  -16.44000(kcal/mol): PK_start=2061 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=2096
(fs_start=2075)
                C
GACACCAAATGAAAGACTGTACTAATGAGAGG

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          ATTTTTT A ATCGGA
                    TGGCCTTC
GGGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=2083 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2117
(fs_start=2075)
          AAA
TAATGAGAGGCAGGCTAATTTTTTTAGGGA
          CCCT   TCCGGTCT
                    AGGCCAGGGA
          ACAAGGGG

PK4:  -30.395000(kcal/mol): PK_start=2090 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2153
(fs_start=2075)
                    TCCCACAA
AGGCAGGCTAATTTTTTTAGGGAAAATCTGGCCT
          GGACCGGA   GGGG
                    CCCCAC
          GAATTTCACTCAGAGCAGACTAGAGCCAACAG

=====
(154) AB254151
=====
PK1:  -12.405000(kcal/mol): PK_start=2052 sp=0 s1=4 s2=6 l1=5 l2=6 L3=0 PK_end=2082
(fs_start=2075)
          ACTAA
GAAAGGAAGGACACCAAATGAAAGACTGT
          GACG   GAGAGT
                    TTTTTTAGG
          GCTAAT

PK2:  -16.440000(kcal/mol): PK_start=2061 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=2096
(fs_start=2075)
          C
GACACCAAATGAAAGACTGTACTAATGAGAGG
          ATTTTTT A ATCGGA
                    TGGCCTTC
GGGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=2083 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2117
(fs_start=2075)
          AAA
TAATGAGAGGCAGGCTAATTTTTTTAGGGA
          CCCT   TCCGGTCT
                    AGGCCAGGGA
          ACAAGGGG

PK4:  -30.395000(kcal/mol): PK_start=2090 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2153
(fs_start=2075)
                    TCCCACAA
AGGCAGGCTAATTTTTTTAGGGAAAATCTGGCCT

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GGACCGGA GGGG
CCCCAC
GAATTTCACTCAGAGCAGACTAGAGCCAACAG

=====
(155) AB254152
=====

PK1: -12.405000(kcal/mol): PK_start=2052 sp=0 s1=4 s2=6 l1=5 l2=6 L3=0 PK_end=2082
(fs_start=2075)

ACTAA
GAAAGGAAGGACACCAAATGAAAGACTGT

GACG GAGAGT
TTTTTAGG
GCTAAT

PK2: -16.440000(kcal/mol): PK_start=2061 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=2096
(fs_start=2075)

C
GACACCAAATGAAAGACTGTACTAATGAGAGG

ATTTTTT A ATCGGA
TGGCCTTC
GGGAAAATC

PK3: -27.275000(kcal/mol): PK_start=2083 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2117
(fs_start=2075)

AAA
TAATGAGAGGCAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -30.395000(kcal/mol): PK_start=2090 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2153
(fs_start=2075)

TCCCACAA
AGGCAGGCTAATTTTTTAGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCACTCAGAGCAGACTAGAGCCAACAG

=====
(156) AB254153
=====

PK1: -12.405000(kcal/mol): PK_start=2052 sp=0 s1=4 s2=6 l1=5 l2=6 L3=0 PK_end=2082
(fs_start=2075)

ACTAA
GAAAGGAAGGACACCAAATGAAAGACTGT

GACG GAGAGT
TTTTTAGG
GCTAAT

PK2: -16.440000(kcal/mol): PK_start=2061 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=2096
(fs_start=2075)

C
GACACCAAATGAAAGACTGTACTAATGAGAGG
ATTTTTT A ATCGGA
TGGCCTTC
GGGAAAATC

PK3: -27.275000(kcal/mol): PK_start=2083 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2117
(fs_start=2075)

AAA
TAATGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -30.395000(kcal/mol): PK_start=2090 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2153
(fs_start=2075)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCACTCAGAGCAGACTAGAGCCAACAG

=====
(157) AB254154
=====

PK1: -12.405000(kcal/mol): PK_start=2052 sp=0 s1=4 s2=6 l1=5 l2=6 L3=0 PK_end=2082
(fs_start=2075)

ACTAA
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGT
TTTTTAGG
GCTAAT

PK2: -16.440000(kcal/mol): PK_start=2061 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=2096
(fs_start=2075)

C
GACACCAAATGAAAGACTGTACTAATGAGAGG
ATTTTTT A ATCGGA
TGGCCTTC
GGGAAAATC

PK3: -27.275000(kcal/mol): PK_start=2083 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2117
(fs_start=2075)

AAA
TAATGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -30.395000(kcal/mol): PK_start=2090 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2153
(fs_start=2075)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCACTCAGAGCAGACTAGAGCCAACAG

=====
(158) AB254155
=====

PK1: -15.625000(kcal/mol): PK_start=2053 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2081
(fs_start=2073)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -21.980000(kcal/mol): PK_start=2058 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2095
(fs_start=2073)

C
GAAGGACACCAAATGAAAGACTGTACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTCT
GGAAAAT

PK3: -19.360000(kcal/mol): PK_start=2081 sp=0 s1=4 s2=7 l1=3 l2=10 L3=0 PK_end=2115
(fs_start=2073)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CTCT CCGGTTT
GGCCAGGGA
AACAAGGGGA

PK4: -23.075000(kcal/mol): PK_start=2088 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2125
(fs_start=2073)

CAAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTCT
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=2088 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2151
(fs_start=2073)

CTCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCTTCAGAGCAGACCAGAGCCATCAG

=====
(159) AB254156
=====

PK1: -15.625000(kcal/mol): PK_start=2053 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=2081
(fs_start=2073)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -21.980000(kcal/mol): PK_start=2058 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=2095
(fs_start=2073)

C
GAAGGACACCAAATGAAAGACTGTACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTCT
GGAAAAAT

PK3: -19.360000(kcal/mol): PK_start=2081 sp=0 s1=4 s2=7 l1=3 l2=10 l3=0 PK_end=2115
(fs_start=2073)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CTCT CCGGTTT
GGCCAGGGA
AACAAGGGGA

PK4: -23.075000(kcal/mol): PK_start=2088 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=2125
(fs_start=2073)

CAAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTCT
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=2088 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=2151
(fs_start=2073)

CTCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCTTCAGAGCAGACCAGAGCCATCAG

=====
(160) AB286849
=====

PK1: -15.585000(kcal/mol): PK_start=2078 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=2106
(fs_start=2098)

A
GAAGGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC

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                TTTTAGGG
          GCGAAT
PK2:  -13.95000(kcal/mol): PK_start=2083 sp=0 s1=8 s2=4 l1=4 l2=6 L3=0 PK_end=2116
(fs_start=2098)
                CAGG
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
                GATTTTTT   AAGC
                TTTGGC
          GGAGAC
PK3:  -26.95500(kcal/mol): PK_start=2106 sp=0 s1=4 s2=9 l1=2 l2=8 L3=0 PK_end=2141
(fs_start=2098)
                GA
TACTGAGAGACAGGCGAATTTTTTAGGGA
                CCCT   TCCGGTTC
                AGGCCAGGGAA
          AGAAGGGG
PK4:  -26.59500(kcal/mol): PK_start=2112 sp=6 s1=9 s2=4 l1=8 l2=6 L3=0 PK_end=2151
(fs_start=2098)
                TCCCAGAA
GAGACAGGCGAATTTTTTAGGGAGACTTTGGCCT
                GGGACCGGA   GGGG
                CTCCAG
          AATTTC
PK4B:  -29.47500(kcal/mol): PK_start=2112 sp=6 s1=9 s2=4 l1=8 l2=31 L3=0 PK_end=2176
(fs_start=2098)
                TCCCAGAA
GAGACAGGCGAATTTTTTAGGGAGACTTTGGCCT
                GGGACCGGA   GGGG
                CCCCAC
          AATTCCTCCAGAGCAGACCAGAGCCAACAG

=====
(161) AB286850
=====
PK1:  -15.58500(kcal/mol): PK_start=2078 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2106
(fs_start=2098)
                A
GAAGGGAAGGACACCAAATGAAAGACTGT
                GACA   GAGAGTC
                TTTTAGGG
          GCGAAT
PK2:  -13.95000(kcal/mol): PK_start=2083 sp=0 s1=8 s2=4 l1=4 l2=6 L3=0 PK_end=2116
(fs_start=2098)
                CAGG
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
                GATTTTTT   AAGC

```

TTTGGC
 GGAGAC
 PK3: -26.955000(kcal/mol): PK_start=2106 sp=0 s1=4 s2=9 l1=2 l2=8 L3=0 PK_end=2141
 (fs_start=2098)
 GA
 TACTGAGAGACAGGCGAATTTTTTAGGGA
 CCCT TCCGGTTTC
 AGGCCAGGGAA
 AGAAGGGG
 PK4: -26.595000(kcal/mol): PK_start=2112 sp=6 s1=9 s2=4 l1=8 l2=6 L3=0 PK_end=2151
 (fs_start=2098)
 TCCCAGAA
 GAGACAGGCGAATTTTTTAGGGAGACTTTGGCCT
 GGGACCGGA GGGG
 CTCCAG
 AATTTC
 PK4B: -29.475000(kcal/mol): PK_start=2112 sp=6 s1=9 s2=4 l1=8 l2=31 L3=0 PK_end=2176
 (fs_start=2098)
 TCCCAGAA
 GAGACAGGCGAATTTTTTAGGGAGACTTTGGCCT
 GGGACCGGA GGGG
 CCCCAC
 AATTTCTCCAGAGCAGACCAGAGCCAACAG
 =====
 (162) AB286851
 =====
 PK1: -11.420000(kcal/mol): PK_start=2099 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=2125
 (fs_start=2119)
 CACC
 GAAAGGAAGGACATCAAATGAAAGACTG
 GAC AGAGAG
 TTTTTTAG
 GCTAA
 PK2: -17.180000(kcal/mol): PK_start=2106 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=2140
 (fs_start=2119)
 C
 AGGACATCAAATGAAAGACTGCACCGAGAGA
 TTTTTT A ATCGGA
 TGGCCTTC
 AGGGAGAATC
 PK3: -22.370000(kcal/mol): PK_start=2127 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=2161
 (fs_start=2119)
 AA
 CACCGAGAGACAGGCTAATTTTTTAGGGAG
 CCTTC CGGTCT

GCCAGGGA
AGCAAGGGGAG
PK4: -26.235000(kcal/mol): PK_start=2134 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2171
(fs_start=2119)

CAGC
AGACAGGCTAATTTTTTAGGGAGAATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

=====
(163) AB286852
=====

PK1: -11.420000(kcal/mol): PK_start=2099 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=2125
(fs_start=2119)

CACC
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAG
TTTTTTAG
GCTAA

PK2: -17.180000(kcal/mol): PK_start=2106 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=2140
(fs_start=2119)

C
AGGACATCAAATGAAAGACTGCACCGAGAGA
TTTTTT A ATCGGA
TGGCCTTC
AGGGAGAATC

PK3: -22.370000(kcal/mol): PK_start=2127 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=2161
(fs_start=2119)

AA
CACCGAGAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTCT
GCCAGGGA
AGCAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=2134 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2171
(fs_start=2119)

CAGC
AGACAGGCTAATTTTTTAGGGAGAATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

=====
(164) AB286853
=====

PK1: -13.305000(kcal/mol): PK_start=2090 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=2117
(fs_start=2109)

A
AAAGGAAGGACACCAAATGAAAGAATGT

ACA GAGAGTC
TTTTTAGGG
GGCTAAT
PK2: -21.940000(kcal/mol): PK_start=2094 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2131
(fs_start=2109)

C
GAAGGACACCAAATGAAAGAATGTACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=2118 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2151
(fs_start=2109)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AGCAAGGGG

PK4: -22.215000(kcal/mol): PK_start=2124 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=2161
(fs_start=2109)

CCAGCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGAG GGGA
TCCTCA
AAATTT

PK4B: -26.865000(kcal/mol): PK_start=2124 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2187
(fs_start=2109)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTTCCTCAGAGCAGACCGGAACCAACAG

=====
(165) AB286854
=====

PK1: -13.305000(kcal/mol): PK_start=2077 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=2104
(fs_start=2096)

A
AAAGGAAGGACACCAAATGAAAGAATGT
ACA GAGAGTC
TTTTTAGGG
GGCTAAT

PK2: -21.940000(kcal/mol): PK_start=2081 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2118
(fs_start=2096)

C
GAAGGACACCAAATGAAAGAATGTACTGAGAGA

GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT
PK3: -20.285000(kcal/mol): PK_start=2105 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2138
(fs_start=2096)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AGCAAGGGG

PK4: -22.215000(kcal/mol): PK_start=2111 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=2148
(fs_start=2096)

CCAGCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGAG GGGA
TCCTCA
AAATTT

PK4B: -26.865000(kcal/mol): PK_start=2111 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2174
(fs_start=2096)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGA GGGG
CCCCAC
AAATTTTCCTCAGAGCAGACCGGAACCAACAG

=====
(166) AB286855
=====

PK1: -15.100000(kcal/mol): PK_start=2088 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2116
(fs_start=2108)

CA
GAAAGGAAGGACACCAAATGAAGGACTG
GAC AGAGAGTC
TTTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=2093 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2130
(fs_start=2108)

C
GAAGGACACCAAATGAAGGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.245000(kcal/mol): PK_start=2114 sp=0 s1=5 s2=8 l1=4 l2=7 L3=0 PK_end=2150
(fs_start=2108)

AAAA
TGCACTGAGAGACAGGCTAATTTTTTAGGG

ATCCT TCCGGTTT
 AGGCCAGGAA
 CAAAGGG
 PK4: -22.840000(kcal/mol): PK_start=2123 sp=7 s1=7 s2=4 l1=10 l2=6 L3=0 PK_end=2160
 (fs_start=2108)
 TTCCTACAAA
 AGACAGGCTAATTTTTTAGGGAAAATTTGGCC
 GGACCGG AGGG
 TCCCCA
 AAATTT

=====
 (167) AB286856
 =====

PK1: -15.100000(kcal/mol): PK_start=2088 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2116
 (fs_start=2108)
 CA
 GAAAGGAAGGACACCAAATGAAGGACTG
 GAC AGAGAGTC
 TTTTTTAGGG
 GCTAA

PK2: -21.940000(kcal/mol): PK_start=2093 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2130
 (fs_start=2108)
 C
 GAAGGACACCAAATGAAGGACTGCACTGAGAGA
 GATTTTTT AATCGGA
 TTGGCCTTC
 GGAAAAT

PK3: -23.245000(kcal/mol): PK_start=2114 sp=0 s1=5 s2=8 l1=4 l2=7 L3=0 PK_end=2150
 (fs_start=2108)
 AAAA
 TGCACTGAGAGACAGGCTAATTTTTTAGGG
 ATCCT TCCGGTTT
 AGGCCAGGAA
 CAAAGGG

PK4: -22.840000(kcal/mol): PK_start=2123 sp=7 s1=7 s2=4 l1=10 l2=6 L3=0 PK_end=2160
 (fs_start=2108)
 TTCCTACAAA
 AGACAGGCTAATTTTTTAGGGAAAATTTGGCC
 GGACCGG AGGG
 TCCCCA
 AAATTT

=====
 (168) AB286857
 =====

PK1: -15.585000(kcal/mol): PK_start=2063 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2091 (fs_start=2083)

A
GGAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -21.940000(kcal/mol): PK_start=2068 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2105 (fs_start=2083)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -22.025000(kcal/mol): PK_start=2091 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2125 (fs_start=2083)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCGGGAA
ACAAGGGG

PK4: -23.355000(kcal/mol): PK_start=2098 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2135 (fs_start=2083)

TCCCACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA GGGGA
TCCCTCA
AAATT

PK4B: -25.145000(kcal/mol): PK_start=2098 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2161 (fs_start=2083)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA GGGG
CCCCAC
AAATTTCCCTCAGAGCAGACCAGAACCAACAG

=====
(169) AB286858
=====

PK1: -15.625000(kcal/mol): PK_start=2061 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2089 (fs_start=2081)

A
GGAAGGAAGGACACCAAATGAAAGACTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -21.98000(kcal/mol): PK_start=2066 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2103
(fs_start=2081)

C
GAAGGACACCAAATGAAAGACTGTACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -22.02500(kcal/mol): PK_start=2089 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2123
(fs_start=2081)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCGGGAA
ACAAGGGG

PK4: -23.35500(kcal/mol): PK_start=2096 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2133
(fs_start=2081)

TCCCACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA GGGGA
TCCCTCA
AAATT

PK4B: -25.14500(kcal/mol): PK_start=2096 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2159
(fs_start=2081)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA GGGG
CCCCAC
AAATTTCCCTCAGAGCAGACCGGAACCAACAG

=====
(170) AB286859
=====

PK1: -13.00500(kcal/mol): PK_start=2061 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=2088
(fs_start=2081)

AA
GGAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGT
TTTTTAGG
GCTAAT

PK2: -18.18000(kcal/mol): PK_start=2067 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=2102
(fs_start=2081)

C
AAGGACACCAAATGAAAGACTGTAATGAGAGA
ATTTTTT A ATCGGA
TGGCCTTC
GGGAAAATC

PK3: -23.815000(kcal/mol): PK_start=2090 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2123
(fs_start=2081)

AAA
AATGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTCT
AGGCCAGGAA
AGCAAGGGG

PK4: -30.395000(kcal/mol): PK_start=2096 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=2134
(fs_start=2081)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAG
AAATTTTC

PK4B: -30.395000(kcal/mol): PK_start=2096 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2159
(fs_start=2081)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTCCCCCAGAGCAGACCGGAACCATCAG

=====
(171) AB286860
=====

PK1: -15.585000(kcal/mol): PK_start=2061 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2089
(fs_start=2081)

A
GGAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2066 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2102
(fs_start=2081)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -23.815000(kcal/mol): PK_start=2090 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2123
(fs_start=2081)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTCT
AGGCCAGGAA
AGCAAGGGG

PK4: -30.395000(kcal/mol): PK_start=2096 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=2134
(fs_start=2081)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAG
AAATTTTC

PK4B: -30.395000(kcal/mol): PK_start=2096 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2159
(fs_start=2081)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTCCCCCAGAGCAGACCGGAACCATCAG

=====
(172) AB286862
=====

PK1: -15.585000(kcal/mol): PK_start=2079 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2107
(fs_start=2099)

A
GGAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2084 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2120
(fs_start=2099)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -23.815000(kcal/mol): PK_start=2108 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2141
(fs_start=2099)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTCT
AGGCCAGGAA
AGCAAGGGG

PK4: -30.530000(kcal/mol): PK_start=2114 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=2152
(fs_start=2099)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCC
GGACCGG AGGGG
TCCCCAG
AAATTT

PK4B: -25.710000(kcal/mol): PK_start=2115 sp=8 s1=6 s2=4 l1=9 l2=33 L3=1 PK_end=2176
(fs_start=2099)

TTCCAGCAA
GACAGGCTAATTTTTTAGGGAAAATCTGGCC
GACCGG A GGGG
CCCCAC
GAAATTTTCCCCAGAGCAGACCGGAACCAACAG

=====
(173) AB286863
=====

PK1: -13.305000(kcal/mol): PK_start=2090 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=2117
(fs_start=2109)

A
AAAGGAAGGACACCAAATGAAAGAATGT
ACA GAGAGTC
TTTTTAGGG
GGCTAAT

PK2: -21.940000(kcal/mol): PK_start=2094 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2131
(fs_start=2109)

C
GAAGGACACCAAATGAAAGAATGTACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=2118 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2151
(fs_start=2109)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AGCAAGGGG

PK4: -22.215000(kcal/mol): PK_start=2124 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=2161
(fs_start=2109)

CCAGCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGAG GGGG
TCCTCA
AAATTT

PK4B: -26.865000(kcal/mol): PK_start=2124 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2187
(fs_start=2109)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTTCCTCAGAGCAGACCGGAACCAACAG

=====
(174) AB286864
=====

PK1: -13.305000(kcal/mol): PK_start=2060 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=2087
(fs_start=2079)

A
AAAGGAAGGACACCAAATGAAAGAATGT
ACA GAGAGTC
TTTTTAGGG
GGCTAAT

PK2: -21.940000(kcal/mol): PK_start=2064 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2101
(fs_start=2079)

C
GAAGGACACCAAATGAAAGAATGTACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAAT

PK3: -20.285000(kcal/mol): PK_start=2088 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2121
(fs_start=2079)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AGCAAGGGG

PK4: -22.215000(kcal/mol): PK_start=2094 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=2131
(fs_start=2079)

CCAGCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGAG GGGA
TCCTCA
AAATTT

PK4B: -26.865000(kcal/mol): PK_start=2094 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2157
(fs_start=2079)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCGC
AAATTTTCCTCAGAGCAGACCGGAACCAACAG

=====
(175) AB287003
=====

PK1: -10.925000(kcal/mol): PK_start=2090 sp=0 s1=3 s2=7 l1=4 l2=18 L3=0 PK_end=2131
(fs_start=2124)

CAGA
CTGTTGAAATGTGGAAAGGAGGGACAT
GTA AGAAAGT


```

                TTTTTTAGG
          CACAGAAAGACAGGCCAA

PK2:  -19.480000(kcal/mol): PK_start=2111 sp=0 s1=6 s2=6 l1=1 l2=10 l3=1 PK_end=2145
(fs_start=2124)
                C
GGGACATCAGATGAAAGAATGCACAGAAAGA

                TTTTTT A ACCGGA
                TGGCCTTC
          AGGGAAAATC

PK3:  -23.815000(kcal/mol): PK_start=2133 sp=0 s1=3 s2=8 l1=3 l2=9 l3=0 PK_end=2166
(fs_start=2124)
                AAA
ACAGAAAGACAGGCCAATTTTTTAGGGA

                CCT   TCCGGTCT
                AGGCCAGGGA
          AACAAGGGG

PK4:  -26.235000(kcal/mol): PK_start=2139 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=2176
(fs_start=2124)
                CAAC
AGACAGGCCAATTTTTTAGGGAAAATCTGGCCTTC

                GGACCGGAGG   GGAA
                TCTTCA
          GAATTT

PK4B:  -27.515000(kcal/mol): PK_start=2139 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=2202
(fs_start=2124)
                TCCAACAA
AGACAGGCCAATTTTTTAGGGAAAATCTGGCCT

                GGACCGGA   GGGG
                CTCCAC
          GAATTTTCTTCAGAACAGGCCAGAGCCATCAG

=====
(176) AB287004
=====
PK1:  -10.925000(kcal/mol): PK_start=2090 sp=0 s1=3 s2=7 l1=4 l2=18 l3=0 PK_end=2131
(fs_start=2124)
                CAGA
CTGTTGGAAATGTGGAAAGGAGGGACAT

                GTA   AGAAAGT
                TTTTTTAGG
          CACAGAAAGACAGGCCAA

PK2:  -19.480000(kcal/mol): PK_start=2111 sp=0 s1=6 s2=6 l1=1 l2=10 l3=1 PK_end=2145
(fs_start=2124)
                C
GGGACATCAGATGAAAGAATGCACAGAAAGA

                TTTTTT A ACCGGA

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                                TGGCCTTC
          AGGGAAAATC
PK3:  -23.815000(kcal/mol): PK_start=2133 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2166
(fs_start=2124)
                                AAA
ACAGAAAGACAGGCCAATTTTTTAGGGA
                                CCT   TCCGGTCT
                                AGGCCAGGGA
          AACAAAGGGG
PK4:  -26.235000(kcal/mol): PK_start=2139 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2176
(fs_start=2124)
                                CAAC
AGACAGGCCAATTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAGG   GGAA
                                TCTTCA
          GAATTT
PK4B:  -27.515000(kcal/mol): PK_start=2139 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2202
(fs_start=2124)
                                TCCAACAA
AGACAGGCCAATTTTTTAGGGAAAATCTGGCCT
                                GGACCGGA   GGGG
                                CTCCAC
          GAATTTTCTTCAGAACAGGCCAGGCCATCAG

=====
(177) AB287363
=====
PK1:  -15.585000(kcal/mol): PK_start=2068 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2096
(fs_start=2088)
                                A
GAAAGGAAGGACACCAAATGAAAGACTGT
                                GACA   GAGAGTC
                                TTTTTAGGG
          GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=2073 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2109
(fs_start=2088)
                                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
                                GATTTTTT   A   ATCGGA
                                TGGCCTTC
          GGAAGATC
PK3:  -26.110000(kcal/mol): PK_start=2096 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=2130
(fs_start=2088)
                                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                                CCCTTC   CGGTCT

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                                GCCAGGGA
                ACAAAGGAAG
PK4:  -26.925000(kcal/mol): PK_start=2103 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2140
(fs_start=2088)
                                TCCCACA
AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCT
                GGACCGGA    AGGAA
                                TCCTTCA
                GAATT

=====
(178) AB287364
=====
PK1:  -15.795000(kcal/mol): PK_start=2098 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2126
(fs_start=2118)
                                A
GAAAGGAAGGACATCAAATGAAGGACTGT
                GACA    AAGAGTC
                                TTTTtaggg
                GCTAAT

PK2:  -20.500000(kcal/mol): PK_start=2103 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2139
(fs_start=2118)
                                C
GAAGGACATCAAATGAAGGACTGTACTGAGAAA
                GATTTTTT A  ATCGGA
                                TGGCCTTC
                GGAGAATC

PK3:  -22.370000(kcal/mol): PK_start=2126 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=2160
(fs_start=2118)
                                AA
TACTGAGAAACAGGCTAATTTTTTTAGGGAG
                CCTTC    CGGTCT
                                GCCAGGGA
                CACAAGGAAG

PK4:  -29.020000(kcal/mol): PK_start=2133 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2170
(fs_start=2118)
                                CCAC
AAACAGGCTAATTTTTTTAGGGAGAATCTGGCCTTC
                GGACCGGAAG    GGAA
                                CCTTCA
                GAATTT

=====
(179) AB287365
=====
PK1:  -15.795000(kcal/mol): PK_start=2098 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2126
(fs_start=2118)
                                A
GAAAGGAAGGACATCAAATGAAGGACTGT

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          GACA   AAGAGTC
                TTTTATAGGG
    GCTAAT
PK2:  -20.500000(kcal/mol): PK_start=2103 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2139
(fs_start=2118)
                C
GAAGGACATCAAATGAAGGACTGTACTGAGAAA
                GATTTTTT A  ATCGGA
                                TGGCCTTC
                GGAGAATC
PK3:  -22.370000(kcal/mol): PK_start=2126 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=2160
(fs_start=2118)
                AA
TACTGAGAAACAGGCTAATTTTTATAGGGAG
                CCTTC   CGGTCT
                                GCCAGGGA
                CACAAGGGAAG
PK4:  -29.020000(kcal/mol): PK_start=2133 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2170
(fs_start=2118)
                CCAC
AAACAGGCTAATTTTTATAGGGAGAATCTGGCCTTC
                GGACCGGAAG   GGAA
                                CCTTCA
                GAATTT
=====
(180) AB287368
=====
PK1:  -10.795000(kcal/mol): PK_start=2088 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2116
(fs_start=2108)
                A
GACAGGAAGGACACCAAATGAAAGATTGT
                GACA   GAGGGTC
                                TTTTATAGGG
                GCTAAT
PK2:  -17.700000(kcal/mol): PK_start=2093 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2129
(fs_start=2108)
                C
GAAGGACACCAAATGAAAGATTGTACTGGGAGA
                GATTTTTT A  ATCGGA
                                TGGCCTTC
                GGAAAATC
PK3:  -23.815000(kcal/mol): PK_start=2117 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2150
(fs_start=2108)
                AAA
ACTGGGAGACAGGCTAATTTTTATAGGGA

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          CCT      TCCGGTCT
                AGGCCAGGAA
          AACAAAGGGA

PK4:  -24.995000(kcal/mol): PK_start=2123 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=2160
(fs_start=2108)
                TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                GGACCGGA      AGGG
                TCTCCA
          AAATTT

=====
(181) AB287369
=====
PK1:  -13.555000(kcal/mol): PK_start=2096 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2124
(fs_start=2116)
                A
GACAAGAAGGACACCAAATGAAAGATTGT
                GACA      GAGAGTC
                TTTTTAGGG
          GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=2101 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2137
(fs_start=2116)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT      A      ATCGGA
                TGGCCTTC
          GGAAGGTC

PK3:  -26.110000(kcal/mol): PK_start=2124 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=2158
(fs_start=2116)
                G
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                CCCTTC      CGGTCT
                GCCAGGGA
          ACAAGGGGAG

PK4:  -26.235000(kcal/mol): PK_start=2131 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2168
(fs_start=2116)
                CCAC
AGACAGGCTAATTTTTTAGGGAAGGTCTGGCCTTC
                GGACCGGAGG      GGAA
                TCTTCA
          GAATTT

PK4B:  -30.395000(kcal/mol): PK_start=2131 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2194
(fs_start=2116)
                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGGTCTGGCCT

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GGACCGGA GGGG
CCCCAC
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(182) AB287370
=====

PK1: -13.555000(kcal/mol): PK_start=2096 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2124
(fs_start=2116)

A
GACAAGAAGGACACCAAATGAAAGATTGT

GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2101 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2137
(fs_start=2116)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA
TGGCCTTC
GGAAGGTC

PK3: -26.110000(kcal/mol): PK_start=2124 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=2158
(fs_start=2116)

G
TACTGAGAGACAGGCTAATTTTTTAGGGAAG

CCCTTC CGGTCT
GCCAGGGA
ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=2131 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2168
(fs_start=2116)

CCAC
AGACAGGCTAATTTTTTAGGGAAGGTCTGGCCTTC

GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=2131 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2194
(fs_start=2116)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGGTCTGGCCT

GGACCGGA GGGG
CCCCAC
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(183) AB287371
=====

PK1: -13.595000(kcal/mol): PK_start=2084 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2112 (fs_start=2104)

A
GACAGGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GTTAAT

PK2: -17.010000(kcal/mol): PK_start=2089 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2125 (fs_start=2104)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATTGGA
TGGCCTTC
GGAAGGTC

PK3: -28.190000(kcal/mol): PK_start=2111 sp=0 s1=7 s2=6 l1=1 l2=9 L3=0 PK_end=2146 (fs_start=2104)

G
GTACTGAAAGACAGGTTAATTTTTTAGGGAAG
TCCCTTC CGGTCT
GCCAGGGA
CAAGGGGAG

PK4: -22.705000(kcal/mol): PK_start=2119 sp=7 s1=10 s2=4 l1=4 l2=5 L3=0 PK_end=2155 (fs_start=2104)

CCTC
AGACAGGTTAATTTTTTAGGGAAGGTCTGGCCTTC
GGACCGGAGG GGAA
TTTTTC
GAATT

PK4B: -30.395000(kcal/mol): PK_start=2119 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2182 (fs_start=2104)

TCCCTCAA
AGACAGGTTAATTTTTTAGGGAAGGTCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTTTTCAGAGCAGACCAGAACCAACAG

=====
(184) AB287372
=====

PK1: -13.595000(kcal/mol): PK_start=2084 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2112 (fs_start=2104)

A
GACAGGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GTTAAT

PK2: -17.01000(kcal/mol): PK_start=2089 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2125
(fs_start=2104)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATTGGA
TGGCCTTC
GGAAGGTC

PK3: -28.19000(kcal/mol): PK_start=2111 sp=0 s1=7 s2=6 l1=1 l2=9 L3=0 PK_end=2146
(fs_start=2104)

G
GTTACTGAAAGACAGGTTAATTTTTTAGGGAAG
TCCCTTC CGGTCT
GCCAGGGA
CAAGGGGAG

PK4: -22.70500(kcal/mol): PK_start=2119 sp=7 s1=10 s2=4 l1=4 l2=5 L3=0 PK_end=2155
(fs_start=2104)

CCTC
AGACAGGTTAATTTTTTAGGGAAGGTCTGGCCTTC
GGACCGGAGG GGAA
TTTTTC
GAATT

PK4B: -30.39500(kcal/mol): PK_start=2119 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2182
(fs_start=2104)

TCCCTCAA
AGACAGGTTAATTTTTTAGGGAAGGTCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTTTTCAGAGCAGACCAGAACCAACAG

=====
(185) AB287376
=====

PK1: -15.14000(kcal/mol): PK_start=2057 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2085
(fs_start=2077)

CA
GGAAAGAGGGACACCAAATGAAGGACTG
GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -21.98000(kcal/mol): PK_start=2062 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2099
(fs_start=2077)

C
GAGGGACACCAAATGAAGGACTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=2086 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2119
(fs_start=2077)

AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AGCAAGGGG

PK4: -27.000000(kcal/mol): PK_start=2092 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=2130
(fs_start=2077)

TTCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCC
GGACCGG AGGGG
TCCCCAG
AAACTT

PK4B: -24.080000(kcal/mol): PK_start=2093 sp=8 s1=6 s2=4 l1=9 l2=33 L3=1 PK_end=2154
(fs_start=2077)

TTCCAGCAA
GACAGGCTAATTTTTTAGGGAAAATTTGGCC
GACCGG A GGGG
CCCCAC
GAAACTTTCCCCAGAGCAGGCCAGAGCCAACAG

=====
(186) AB287377

=====
PK1: -15.140000(kcal/mol): PK_start=2057 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2085
(fs_start=2077)

CA
GGAAAGAGGGACACCAAATGAAGGACTG
GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -21.980000(kcal/mol): PK_start=2062 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2099
(fs_start=2077)

C
GAGGGACACCAAATGAAGGACTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=2086 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2119
(fs_start=2077)

AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AGCAAGGGG

PK4: -27.000000(kcal/mol): PK_start=2092 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=2130
(fs_start=2077)

TTCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCC
GGACCGG AGGGG
TCCCCAG
AAACTT

PK4B: -24.080000(kcal/mol): PK_start=2093 sp=8 s1=6 s2=4 l1=9 l2=33 L3=1 PK_end=2154
(fs_start=2077)

TTCCAGCAA
GACAGGCTAATTTTTTAGGGAAAATTTGGCC
GACCGG A GGGG
CCCCAC
GAAACTTTCCCCAGAGCAGGCCAGAGCCAACAG

=====
(187) AB287378
=====

PK1: -10.640000(kcal/mol): PK_start=2046 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=2084
(fs_start=2077)

A
CTGGAAATGTGGGAAGGAAGGACACCAA
GTT AGAAAGT
TTTTTTAGG
CACTGAGAGACAGGCTAA

PK2: -21.940000(kcal/mol): PK_start=2062 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2099
(fs_start=2077)

C
GAAGGACACCAAATGAAAGATTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=2086 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2119
(fs_start=2077)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AGCAAGGGG

PK4: -22.215000(kcal/mol): PK_start=2092 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=2129
(fs_start=2077)

CCAGCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGAG GGGG
TCCTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=2092 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2155
(fs_start=2077)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCCTCAGAGCAGACCGGAGCCAACAG

=====
(188) AB287379
=====

PK1: -10.640000(kcal/mol): PK_start=2046 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=2084
(fs_start=2077)

A
CTGGAAATGTGGGAAGGAAGGACACCAA
GTT AGAAAGT
TTTTTTAGG
CACTGAGAGACAGGCTAA

PK2: -21.940000(kcal/mol): PK_start=2062 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2099
(fs_start=2077)

C
GAAGGACACCAAATGAAAGATTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=2086 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2119
(fs_start=2077)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AGCAAGGGG

PK4: -22.215000(kcal/mol): PK_start=2092 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=2129
(fs_start=2077)

CCAGCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGAG GGGG
TCCTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=2092 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2155
(fs_start=2077)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCCTCAGAGCAGACCGGAGCCAACAG

=====
(189) AB289587
=====

PK1: -13.555000(kcal/mol): PK_start=2067 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2095
(fs_start=2087)

A
GAAAGGAAGGACATCAAATGAGAGATTGT
GACA GAGAGTC
TTTTTAGGG
GTTAAT

PK2: -16.970000(kcal/mol): PK_start=2072 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2108
(fs_start=2087)

C
GAAGGACATCAAATGAGAGATTGTACTGAGAGA
GATTTTTT A ATGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=2095 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2129
(fs_start=2087)

AAA
TACTGAGAGACAGGTTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGAA
ACAAGGGG

PK4: -27.650000(kcal/mol): PK_start=2102 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=2140
(fs_start=2087)

TCCCCACAA
AGACAGGTTAATTTTTTAGGGAAAATCTGGCC
GGACCGG AGGGG
TCTCCAG
AAACTT

=====
(190) AB289588
=====

PK1: -13.555000(kcal/mol): PK_start=2067 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2095
(fs_start=2087)

A
GAAAGGAAGGACATCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GTTAAT

PK2: -16.970000(kcal/mol): PK_start=2072 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2108
(fs_start=2087)

C
GAAGGACATCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATGGA

```

                                TGGCCTTC
          GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=2095 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2129
(fs_start=2087)
                                AAA
TACTGAGAGACAGGTTAATTTTTTAGGGA
                                CCCT   TCCGGTCT
                                AGGCCAGGAA
          ACAAGGGG
PK4:  -27.650000(kcal/mol): PK_start=2102 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=2140
(fs_start=2087)
                                TTTCCACAA
AGACAGGTTAATTTTTTAGGGAAAATCTGGCC
                                GGACCGG   AGGGG
                                TCTCCAG
          AAACTT
=====
(191) AB289589
=====
PK1:  -13.805000(kcal/mol): PK_start=2077 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2105
(fs_start=2097)
                                A
GAAGGGAAGGACACCAAATGAAGGATTGT
                                GACA   AAAAGTC
                                TTTTTAGGG
          GCTAAT
PK2:  -20.540000(kcal/mol): PK_start=2082 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2118
(fs_start=2097)
                                C
GAAGGACACCAAATGAAGGATTGTACTGAAAAA
                                GATTTTTT   A   ATCGGA
                                TGGCCTTC
          GGAAGATC
PK3:  -26.110000(kcal/mol): PK_start=2105 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=2139
(fs_start=2097)
                                A
TACTGAAAAACAGGCTAATTTTTTAGGGAAG
                                CCCTTC   CGGTCT
                                GCCAGGGA
          ACAAGGGAAG
PK4:  -26.445000(kcal/mol): PK_start=2112 sp=7 s1=8 s2=5 l1=7 l2=4 L3=0 PK_end=2148
(fs_start=2097)
                                TTTCCACA
AAACAGGCTAATTTTTTAGGGAAAGATCTGGCCT
                                GGACCGGA   AGGGA

```

```

                                TTCCTCC
                                GAAC
=====
(192) AB289590
=====
PK1:  -13.805000(kcal/mol): PK_start=2078 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2106
(fs_start=2098)
                                A
GAAGGGAAGGACACCAAATGAAGGATTGT
                                GACA   AAAAGTC
                                TTTTtaggg
                                GCTAAT

PK2:  -20.540000(kcal/mol): PK_start=2083 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2119
(fs_start=2098)
                                C
GAAGGACACCAAATGAAGGATTGTACTGAAAAA
                                GATTTTTT  A  ATCGGA
                                TGGCCTTC
                                GGAAGATC

PK3:  -26.110000(kcal/mol): PK_start=2106 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=2140
(fs_start=2098)
                                A
TACTGAAAAACAGGCTAATTTTTTAGGGAAG
                                CCCTTC   CGGTCT
                                GCCAGGGA
                                ACAAGGGAAG

PK4:  -26.445000(kcal/mol): PK_start=2113 sp=7 s1=8 s2=5 l1=7 l2=4 L3=0 PK_end=2149
(fs_start=2098)
                                TCCCACA
AAACAGGCTAATTTTTTAGGGAAGATCTGGCCT
                                GGACCGGA   AGGGA
                                TTCCTCC
                                GAAC

=====
(193) AB428551
=====
PK1:  -10.445000(kcal/mol): PK_start=1287 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1314
(fs_start=1306)
                                A
AAAGGAAGGACACCAAATGAAAGAGTGT
                                ACA   GGGAGTC
                                TTTTtaggg
                                GGCTAAT

PK2:  -17.700000(kcal/mol): PK_start=1291 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1327
(fs_start=1306)
                                C
GAAGGACACCAAATGAAAGAGTGTACTGAGGGA

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          GATTTTTT A ATCGGA
                    TGGCCTTC
    GGAAGATC
PK3:  -26.110000(kcal/mol): PK_start=1314 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1348
(fs_start=1306)
          A
TACTGAGGGACAGGCTAATTTTTTAGGGAAG
          CCCTTC   CGGTCT
                    GCCAGGGA
    ACAAGGGGAG
PK4:  -26.235000(kcal/mol): PK_start=1321 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1358
(fs_start=1306)
                    CCAC
GGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
          GGACCGGAGG   GGAA
                    TCTTCA
    GAACTT
PK4B: -27.515000(kcal/mol): PK_start=1321 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1384
(fs_start=1306)
                    TCCCACAA
GGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
          GGACCGGA   GGGG
                    CTCCAC
    GAACTTTCTTCAGAGCAGACCAGAGCCAACAG
=====
(194) AB428552
=====
PK1:  -13.205000(kcal/mol): PK_start=1287 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1314
(fs_start=1306)
          A
AAAGGAAGGACACCAAATGAAAGAGTGT
          ACA   GAGAGTC
                    TTTTTAGGG
    GGCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1291 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1327
(fs_start=1306)
          C
GAAGGACACCAAATGAAAGAGTGTACTGAGAGA
          GATTTTTT A ATCGGA
                    TGGCCTTC
    GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1314 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1348
(fs_start=1306)
          AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA

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          CCCT   TCCGGTCT
                AGGCCAGGAA
ACAAGGGA

PK4:  -26.715000(kcal/mol): PK_start=1321 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1358
(fs_start=1306)
                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                GGACCGAAG   GGAA
                TCTTCA
          AACTT

=====
(195) AB428553
=====
PK1:  -10.445000(kcal/mol): PK_start=1287 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1314
(fs_start=1306)
                G
AAAGGAAGGACACCAAATGAAAGAGTGT
                ACA   GGGAGTC
                TTTTTAGGG
          GGCTAAT

PK2:  -17.400000(kcal/mol): PK_start=1291 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1327
(fs_start=1306)
                C
GAAGGACACCAAATGAAAGAGTGTGCTGAGGGA
                GATTTTTT   A   ATCGGA
                TGGCCTTC
          GGAAGATC

PK3:  -26.110000(kcal/mol): PK_start=1314 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1348
(fs_start=1306)
                A
TGCTGAGGGACAGGCTAATTTTTTAGGGAAG
                CCCTTC   CGGTCT
                GCCAGGGA
          ACAAGGGGAG

PK4:  -27.650000(kcal/mol): PK_start=1321 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=1359
(fs_start=1306)
                TTCCCACAA
GGACAGGCTAATTTTTTAGGGAAGATCTGGCC
                GGACCGG   AGGGG
                TCTCCAG
          GAACTT

PK4B:  -22.830000(kcal/mol): PK_start=1322 sp=8 s1=6 s2=4 l1=9 l2=33 L3=1 PK_end=1383
(fs_start=1306)
                TTCCCACAA
GACAGGCTAATTTTTTAGGGAAGATCTGGCC

```


GACCGG A GGG
CTCCAC
GGAAC TTTCTCCAGAGCAGACCAGCCAACAG

=====
(196) AB428554
=====

PK1: -10.445000(kcal/mol): PK_start=1287 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1314
(fs_start=1306)

G
AAAAGAAGGACACCAAATGAAAGAGTGT

ACA GGGAGTC
TTTTTAGGG
GGCTAAT

PK2: -17.400000(kcal/mol): PK_start=1291 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1327
(fs_start=1306)

C
GAAGGACACCAAATGAAAGAGTGTGCTGAGGGA

GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1314 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1348
(fs_start=1306)

A
TGCTGAGGGACAGGCTAATTTTTAGGGAAG

CCCTTC CGGTCT
GCCAGGGA
ACAAGGGGAG

PK4: -22.615000(kcal/mol): PK_start=1321 sp=7 s1=9 s2=4 l1=6 l2=5 L3=0 PK_end=1357
(fs_start=1306)

CCCACA
GGACAGGCTAATTTTTAGGGAAGATCTGGCCTT

GGACCGGAG GGGA
TTCTGC
GAACT

PK4B: -27.515000(kcal/mol): PK_start=1321 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1384
(fs_start=1306)

TCCCACAA
GGACAGGCTAATTTTTAGGGAAGATCTGGCCT

GGACCGGA GGGG
CTCCAC
GAACTTTCTGCAGAGCAGACCAGCCAACAG

=====
(197) AB428555
=====

PK1: -10.445000(kcal/mol): PK_start=1287 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1314
(fs_start=1306)

A
AAAGGAAGGACACCAAATGAAAGAGTGT
ACA GGGAGTC
TTTTTAGGG
GGCTAAT

PK2: -17.700000(kcal/mol): PK_start=1291 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1327
(fs_start=1306)

C
GAAGGACACCAAATGAAAGAGTGTACTGAGGGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1314 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1348
(fs_start=1306)

AAA
TACTGAGGGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=1321 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1358
(fs_start=1306)

CCAC
GGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAACTT

PK4B: -27.515000(kcal/mol): PK_start=1321 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1384
(fs_start=1306)

TCCCACAA
GGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CTCCAC
GAACTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(198) AB428556
=====

PK1: -10.445000(kcal/mol): PK_start=1287 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1314
(fs_start=1306)

A
AAAGGAAGGACACCAAATGAAAGAGTGT
ACA GGGAGTC
TTTTTAGGG
GGCTAAT

PK2: -17.70000(kcal/mol): PK_start=1291 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1327
(fs_start=1306)

C
GAAGGACACCAAATGAAAGAGTGACTGAGGGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1314 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1348
(fs_start=1306)

AAA
TACTGAGGGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGAA
ACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=1321 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1358
(fs_start=1306)

CCAC
GGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
AAACTT

PK4B: -27.515000(kcal/mol): PK_start=1321 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1384
(fs_start=1306)

TCCCACAA
GGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CTCCAC
AAACTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(199) AB428557
=====

PK1: -14.780000(kcal/mol): PK_start=1271 sp=0 s1=4 s2=7 l1=4 l2=20 L3=0 PK_end=1316
(fs_start=1309)

CAAA
GCTGTTGGAAATGTGGAAAGGAAGGACAC
TGTG AGAAAGT
TTTTTTAGG
ACTAATGAGGGACAGGCTAA

PK2: -15.420000(kcal/mol): PK_start=1295 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1330
(fs_start=1309)

C
GACACCAAATGAAAGAGTGACTAATGAGGGA
ATTTTTT A ATCGGA
TGGCCTTC
GGGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1317 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1351
(fs_start=1309)

A
TAATGAGGGACAGGCTAATTTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1324 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1361
(fs_start=1309)

CCAC
GGACAGGCTAATTTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAACTT

PK4B: -26.615000(kcal/mol): PK_start=1324 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=1387
(fs_start=1309)

TCCCACAA
GGACAGGCTAATTTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CTCCCC
GAACTTTCTTCAKAGCAGACCAGAGCCAACAG

=====
(200) AB428558

=====
PK1: -13.555000(kcal/mol): PK_start=1283 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1311
(fs_start=1303)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1288 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1324
(fs_start=1303)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1311 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=1345
(fs_start=1303)

AAA
TACTGAGAGACAGGCTAATTTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -28.540000(kcal/mol): PK_start=1318 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1355
(fs_start=1303)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAACTT

=====
(201) AB428559
=====

PK1: -13.555000(kcal/mol): PK_start=1283 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1311
(fs_start=1303)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1288 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1324
(fs_start=1303)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1311 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1345
(fs_start=1303)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -28.540000(kcal/mol): PK_start=1318 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1355
(fs_start=1303)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAACTT

=====
(202) AB428561
=====

PK1: -13.555000(kcal/mol): PK_start=1283 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1311
(fs_start=1303)

A
GTAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC

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                TTTTtaggg
      GCTAAT
PK2:  -20.46000(kcal/mol): PK_start=1288 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1324
(fs_start=1303)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT A  ATCGGA
                TGGCCTTC
      GGAAAATC
PK3:  -27.27500(kcal/mol): PK_start=1311 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1345
(fs_start=1303)
                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTCT
                AGGCCAGGGA
      ACAAGGGG
PK4:  -26.34500(kcal/mol): PK_start=1318 sp=7 s1=9 s2=4 l1=6 l2=5 L3=0 PK_end=1354
(fs_start=1303)
                CCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT
                GGACCGGAG   GGGa
                TCCTAC
      GAACT
PK4B:  -30.39500(kcal/mol): PK_start=1318 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1381
(fs_start=1303)
                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                GGACCGGA   GGGG
                CCCCAC
      GAACTTCCTACAGAGCAGACCAGAGCCAACAG

=====
(203) AB428562
=====
PK1:  -7.96500(kcal/mol): PK_start=1283 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1311
(fs_start=1303)
                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                GACA   GGGAGTT
                TTTTtaggg
      GCTAAT
PK2:  -15.67000(kcal/mol): PK_start=1288 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1324
(fs_start=1303)
                C
GAAGGACACCAAATGAAAGATTGTATTGAGGGA
                GATTTTTT A  ATCGGA

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                                TGGCCTTC
          GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1311 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1345
(fs_start=1303)
                                AAA
TATTGAGGGACAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTCT
                                AGGCCAGGGA
          ACAAGGGG
PK4:  -28.540000(kcal/mol): PK_start=1318 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1355
(fs_start=1303)
                                CCAC
GGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAGG   GGAA
                                CCTTCA
          GAACTT
=====
(204) AB480044
=====
PK1:  -15.100000(kcal/mol): PK_start=2075 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2103
(fs_start=2095)
                                CA
GGAAGGAAGGACACCAAATGAAAGACTG
                                GAC   AGAGAGTC
                                TTTTTTAGGG
          GCTAA
PK2:  -21.940000(kcal/mol): PK_start=2080 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2117
(fs_start=2095)
                                C
GAAGGACACCAAATGAAAGACTGCACTGAGAGA
                                GATTTTTT   AATCGGA
                                TTGGCCTTC
          GGAAAAT
PK3:  -20.285000(kcal/mol): PK_start=2104 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2137
(fs_start=2095)
                                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCT   TCCGGTTT
                                AGGCCAGGAA
          AGCAAGGGG
PK4:  -24.120000(kcal/mol): PK_start=2110 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=2148
(fs_start=2095)
                                TTCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCC
                                GGACCGG   AGGGG

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                                TCCTCAG
AAACTT
PK4B: -21.200000(kcal/mol): PK_start=2111 sp=8 s1=6 s2=4 l1=9 l2=33 L3=1 PK_end=2172
(fs_start=2095)
                                TTCCAGCAA
GACAGGCTAATTTTTTAGGGAAAATTTGGCC
                                GACCGG A GGGG
                                CTCCAC
GAAACTTTCCTCAGAGCAGACCAGAACCAACAG

=====
(205) AB480045
=====
PK1: -15.100000(kcal/mol): PK_start=2075 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2103
(fs_start=2095)
                                CA
GGAAGGAAGGACACCAAATGAAAGACTG
                                GAC AGAGAGTC
                                TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=2080 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2117
(fs_start=2095)
                                C
GAAGGACACCAAATGAAAGACTGCACTGAGAGA
                                GATTTTTT AATCGGA
                                TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=2104 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2137
(fs_start=2095)
                                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCT TCCGGTTT
                                AGGCCAGGAA
AGCAAGGGG

PK4: -24.120000(kcal/mol): PK_start=2110 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=2148
(fs_start=2095)
                                TTCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCC
                                GGACCGG AGGGG
                                TCCTCAG
AAACTT

PK4B: -21.200000(kcal/mol): PK_start=2111 sp=8 s1=6 s2=4 l1=9 l2=33 L3=1 PK_end=2172
(fs_start=2095)
                                TTCCAGCAA
GACAGGCTAATTTTTTAGGGAAAATTTGGCC
                                GACCGG A GGGG

```


CTCCAC
GAAACTTTCCTCAGAGCAGACCAGAACCAACAG

=====
(206) AB480046
=====

PK1: -15.100000(kcal/mol): PK_start=2074 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2102
(fs_start=2094)

CA
GGAAGGAAGGACACCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=2079 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2116
(fs_start=2094)

C
GAAGGACACCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=2103 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2136
(fs_start=2094)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AGCAAGGGG

PK4: -24.120000(kcal/mol): PK_start=2109 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=2147
(fs_start=2094)

TTCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCC
GGACCGG AGGGG
TCCTCAG
AAACTT

PK4B: -21.200000(kcal/mol): PK_start=2110 sp=8 s1=6 s2=4 l1=9 l2=33 L3=1 PK_end=2171
(fs_start=2094)

TTCCAGCAA
GACAGGCTAATTTTTTAGGGAAAATTTGGCC
GACCGG A GGGG
CTCCAC
GAAACTTTCCTCAGAGCAGACCAGAACCAACAG

=====
(207) AB480047
=====

PK1: -13.595000(kcal/mol): PK_start=2068 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2096
(fs_start=2088)

A
GAAAGGAAGGACACCAAATGAAAGATTGT

GACA GAAAGTC
TTTTTAGGG
GCTAAT
PK2: -21.980000(kcal/mol): PK_start=2073 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2110
(fs_start=2088)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=2096 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2130
(fs_start=2088)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGAA
ACAAGGGG

PK4: -22.215000(kcal/mol): PK_start=2103 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=2140
(fs_start=2088)

CCCACA
AGACAGGCTAATTTTTTAGGAAAATTTGGCCTT
GGACCGGAG GGGA
TCCTCA
AAATTT

PK4B: -26.865000(kcal/mol): PK_start=2103 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2166
(fs_start=2088)

TCCCACAA
AGACAGGCTAATTTTTTAGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTTCCTCAGAGCAGACCAGAGCCAACAG

=====
(208) AB480048
=====

PK1: -13.595000(kcal/mol): PK_start=2068 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2096
(fs_start=2088)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -21.980000(kcal/mol): PK_start=2073 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2110
(fs_start=2088)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA

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                GATTTTTT   AATCGGA
                    TTGGCCTTC
GGAAAAT
PK3:  -23.745000(kcal/mol): PK_start=2096 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2130
(fs_start=2088)
                AAA
TACTGAAAGACAGGCTAATTTTTTTAGGGA
                CCCT   TCCGGTTT
                    AGGCCAGGAA
                ACAAGGGG
PK4:  -22.215000(kcal/mol): PK_start=2103 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=2140
(fs_start=2088)
                    CCCACA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTT
                GGACCGGAG   GGGA
                    TCCTCA
                AAATTT
PK4B: -26.865000(kcal/mol): PK_start=2103 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2166
(fs_start=2088)
                    TCCCACAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTT
                GGACCGGA   GGGG
                    CCCCAC
                AAATTTTCCTCAGAGCAGACCAGAGCCAACAG
=====
(209) AB480298
=====
PK1:  -15.625000(kcal/mol): PK_start=2052 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2080
(fs_start=2072)
                A
GAAGAGAGGGACACCAAATGAAAGACTGT
                GACA   GAAAGTC
                    TTTTTAGGG
                GTTAAT
PK2:  -17.010000(kcal/mol): PK_start=2057 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2093
(fs_start=2072)
                C
GAGGGACACCAAATGAAAGACTGTACTGAAAGA
                GATTTTTT   A   ATGGA
                    TGGCCTTC
                GGAAAATC
PK3:  -23.815000(kcal/mol): PK_start=2081 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2114
(fs_start=2072)
                AAA
ACTGAAAGACAGGTTAATTTTTTTAGGGA

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          CCT      TCCGGTCT
                AGGCCAGGGA
    AACAAGGGG

PK4:  -28.54000(kcal/mol): PK_start=2087 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2124
(fs_start=2072)
                CAAC
AGACAGGTTAATTTTTTTAGGGAAAATCTGGCCTTC
                GGACCGGAGG      GGAA
                                CCTTCA
                GAATTT

PK4B:  -30.395000(kcal/mol): PK_start=2087 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2150
(fs_start=2072)
                TCCAACAA
AGACAGGTTAATTTTTTTAGGGAAAATCTGGCCT
                GGACCGGA      GGGG
                                CCCCAC
                GAATTTCTTCAGAACAGGCTAGAGCCAACAG

=====
(210) AB480299
=====
PK1:  -15.625000(kcal/mol): PK_start=2052 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2080
(fs_start=2072)
                A
GAAGAGAGGGACACCAAATGAAAGACTGT
                GACA      GAAAGTC
                                TTTTTAGGG
                GTTAAT

PK2:  -17.010000(kcal/mol): PK_start=2057 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2093
(fs_start=2072)
                C
GAGGGACACCAAATGAAAGACTGTACTGAAAGA
                GATTTTTT      A      ATTGGA
                                TGGCCTTC
                GGAAAATC

PK3:  -23.815000(kcal/mol): PK_start=2081 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2114
(fs_start=2072)
                AAA
ACTGAAAGACAGGTTAATTTTTTTAGGGA
                CCT      TCCGGTCT
                                AGGCCAGGGA
                AACAAGGGG

PK4:  -28.540000(kcal/mol): PK_start=2087 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2124
(fs_start=2072)
                CAAC
AGACAGGTTAATTTTTTTAGGGAAAATCTGGCCTTC

```

```

                GGACCGGAGG    GGAA
                                CCTTCA
          GAATTT
PK4B:  -30.395000(kcal/mol): PK_start=2087 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2150
(fs_start=2072)
                                TCCAACAA
AGACAGGTTAATTTTTTTAGGGAAAATCTGGCCT
                GGACCGGA    GGGG
                                CCCCAC
          GAATTTCC TTCAGAACAGGCTAGAGCCAACAG

```

```

=====
(211) AB480692
=====

```

```

PK1:  -13.555000(kcal/mol): PK_start=2073 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2101
(fs_start=2093)

```

```

                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                GACA    GAGAGTC
                                TTTTTAGGG
          GCTAAT

```

```

PK2:  -20.460000(kcal/mol): PK_start=2078 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2114
(fs_start=2093)

```

```

                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT A ATCGGA
                                TGGCCTTC
          GGAAAATC

```

```

PK3:  -27.275000(kcal/mol): PK_start=2101 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2135
(fs_start=2093)

```

```

                AAA
TACTGAGAGACAGGCTAATTTTTTTAGGGA
                CCCT    TCCGGTCT
                                AGGCCAGGGA
          ACAAGGGA

```

```

PK4:  -29.020000(kcal/mol): PK_start=2108 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2145
(fs_start=2093)

```

```

                                CCAC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
                GGACCGGAAG    GGAA
                                CCTTCA
          GAACTT

```

```

=====
(212) AB480693
=====

```

PK1: -13.555000(kcal/mol): PK_start=2072 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2100
(fs_start=2092)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2077 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2113
(fs_start=2092)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=2100 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2134
(fs_start=2092)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -29.020000(kcal/mol): PK_start=2107 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2144
(fs_start=2092)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAACTT

=====
(213) AB480694
=====

PK1: -10.440000(kcal/mol): PK_start=2038 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=2076
(fs_start=2069)

A
TTGGAAGTGTGAAAGGAAGGACATCAA
GTT AGAAAGT
TTTTTTAGG
CACTGAGAGACAGGCTAA

PK2: -20.460000(kcal/mol): PK_start=2054 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2090
(fs_start=2069)

C
GAAGGACATCAAATGAAAGATTGCACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=2077 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2111
(fs_start=2069)

AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGAA
AGAAGGGG

PK4: -32.490000(kcal/mol): PK_start=2084 sp=7 s1=11 s2=4 l1=2 l2=7 L3=0 PK_end=2122
(fs_start=2069)

CA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTCC
GGACCGGAGGG GAAG
CTTCAG
AAATTTTC

PK4B: -30.395000(kcal/mol): PK_start=2084 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2147
(fs_start=2069)

TCCCAGAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTTCCTTCAGAGCAGACTAGAGCCAACAG

=====
(214) AB480695
=====

PK1: -10.640000(kcal/mol): PK_start=2038 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=2076
(fs_start=2069)

A
TTGGAAATGTGGAAAGGAAGGACACCAA
GTT AGAAAGT
TTTTTTAGG
CACTGAGAGACAGGCTAA

PK2: -20.460000(kcal/mol): PK_start=2054 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2090
(fs_start=2069)

C
GAAGGACACCAAATGAAAGATTGCACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=2077 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2111
(fs_start=2069)

AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGAA
AGAAGGGG

PK4: -32.490000(kcal/mol): PK_start=2084 sp=7 s1=11 s2=4 l1=2 l2=7 l3=0 PK_end=2122
(fs_start=2069)

CA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTCC
GGACCGGAGGG GAAG
CTTCAG
AAATTTTC

PK4B: -30.395000(kcal/mol): PK_start=2084 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=2147
(fs_start=2069)

TCCCAGAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTTCCTTCAGAGCAGACTAGAGCCAACAG

=====
(215) AB480696
=====

PK1: -13.555000(kcal/mol): PK_start=2073 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=2101
(fs_start=2093)

A
GAAAGGAAGGGCACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2078 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=2114
(fs_start=2093)

C
GAAGGGCACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=2101 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=2135
(fs_start=2093)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -25.745000(kcal/mol): PK_start=2108 sp=7 s1=9 s2=4 l1=6 l2=6 l3=0 PK_end=2145
(fs_start=2093)

CCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT
GGACCGGAG GGGG
TCCTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=2108 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2171
(fs_start=2093)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCCTCAGGGCAGACTAGAGCCAACAG

=====
(216) AB480697
=====

PK1: -13.555000(kcal/mol): PK_start=2072 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2100
(fs_start=2092)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2077 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2113
(fs_start=2092)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=2100 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2134
(fs_start=2092)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -25.745000(kcal/mol): PK_start=2107 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=2144
(fs_start=2092)

CCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT
GGACCGGAG GGGG
TCCTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=2107 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2170
(fs_start=2092)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCCTCAGGGCAGACTAGAACCAACAG

=====
(217) AB480698
=====

PK1: -13.065000(kcal/mol): PK_start=2062 sp=0 s1=3 s2=8 l1=5 l2=19 l3=0 PK_end=2107
(fs_start=2100)

CCAAA
GCTGTTGGAAATGTGGAAAGGAAGGACA

TGT TAGAAAGT

ATTTTTTAGG
ACTAATGAGAGACAGGCTA

PK2: -18.180000(kcal/mol): PK_start=2086 sp=0 s1=7 s2=6 l1=1 l2=9 l3=1 PK_end=2121
(fs_start=2100)

C
GACACCAAATGAAAGATTGTACTAATGAGAGA

ATTTTTT A ATCGGA

TGGCCTTC
GGGAAAGTC

PK3: -27.275000(kcal/mol): PK_start=2108 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=2142
(fs_start=2100)

AAG
TAATGAGAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT

AGGCCAGGGA
ACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=2115 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=2152
(fs_start=2100)

CCAC
AGACAGGCTAATTTTTTAGGGAAAGTCTGGCCTTC

GGACCGGAGG GGAA

TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=2115 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=2178
(fs_start=2100)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAGTCTGGCCT

GGACCGGA GGGG

CCCCAC
GAATTTTCTTCAGAGCAGACCAGAGCCGTCAG

=====
(218) AB485632
=====

PK1: -15.100000(kcal/mol): PK_start=2083 sp=0 s1=3 s2=8 l1=2 l2=5 l3=0 PK_end=2111
(fs_start=2103)

CA
GGAAAGAAGGACATCAAATGAAAGACTG

GAC AGAGAGTC

```

                TTTTTTAGGG
          GCTAA
PK2:  -21.940000(kcal/mol): PK_start=2088 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2125
(fs_start=2103)
                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT   AATCGGA
                TTGGCCTTC
          GGAAAAAT
PK3:  -20.285000(kcal/mol): PK_start=2112 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2145
(fs_start=2103)
                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                CCT   TCCGGTTT
                AGGCCAGGAA
          AGCAAGGGG
PK4:  -22.215000(kcal/mol): PK_start=2118 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=2155
(fs_start=2103)
                CCAGCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
                GGACCGGAG   GGGA
                TCCTCA
          AAATTT
PK4B:  -26.865000(kcal/mol): PK_start=2118 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2181
(fs_start=2103)
                TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA   GGGG
                CCCCCG
          AAATTTTCCTCAGAGCAGACCGGAGCCAACAG
=====
(219) AB485633
=====
PK1:  -15.585000(kcal/mol): PK_start=2062 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2090
(fs_start=2082)
                A
GGAAGGAAGGACACCAAATGAAAGACTGT
                GACA   GAGAGTC
                TTTTTTAGGG
          GCTAAT
PK2:  -21.940000(kcal/mol): PK_start=2067 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2104
(fs_start=2082)
                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
                GATTTTTT   AATCGGA

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                                TTGGCCTTC
                GGAAAAAT
PK3:  -20.285000(kcal/mol): PK_start=2091 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2124
(fs_start=2082)
                                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCT   TCCGGTTT
                                AGGCCAGGAA
                AGCAAGGGG
PK4:  -27.000000(kcal/mol): PK_start=2097 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=2135
(fs_start=2082)
                                TTCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCC
                                GGACCGG   AGGGG
                                TCCCCAG
                AAATTT
PK4B:  -21.200000(kcal/mol): PK_start=2098 sp=8 s1=6 s2=4 l1=9 l2=33 L3=1 PK_end=2159
(fs_start=2082)
                                TTCCAGCAA
GACAGGCTAATTTTTTAGGGAAAATTTGGCC
                                GACCGG   A   GGGG
                                CTCCAC
                GAAATTTTCCCCAGAGCAGACCGGAACCAACAG

=====
(220) AB485634
=====
PK1:  -13.555000(kcal/mol): PK_start=2062 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2090
(fs_start=2082)
                                A
GGAAGGAGGGACACCAAATGAAAGATTGT
                                GACA   GAGAGTC
                                TTTTtaggg
                GCTAAT
PK2:  -21.940000(kcal/mol): PK_start=2067 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2104
(fs_start=2082)
                                C
GAGGGACACCAAATGAAAGATTGTACTGAGAGA
                                GATTTTTT   AATCGGA
                                TTGGCCTTC
                GGAAAAAT
PK3:  -20.285000(kcal/mol): PK_start=2091 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2124
(fs_start=2082)
                                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCT   TCCGGTTT

```

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                                AGGCCAGGAA
                AGCAAGGGG
PK4:  -22.215000(kcal/mol): PK_start=2097 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=2134
(fs_start=2082)
                                CCAGCA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTT
                GGACCGGAG      GGGA
                                TCCTCA
                AAATTT

PK4B:  -26.865000(kcal/mol): PK_start=2097 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2160
(fs_start=2082)
                                TCCAGCAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTT
                GGACCGGA      GGGG
                                CCCCAC
                AAATTTTCCTCAAAGCAGACCGGAACCAACAG

=====
(221) AB485635
=====
PK1:  -13.595000(kcal/mol): PK_start=2062 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2090
(fs_start=2082)
                                A
GGAAGGAGGGACACCAAATGAAAGATTGT
                GACA      GAAAGTC
                                TTTTTAGGG
                GCTAAT

PK2:  -21.980000(kcal/mol): PK_start=2067 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2104
(fs_start=2082)
                                C
GAGGGACACCAAATGAAAGATTGTACTGAAAGA
                GATTTTTT      AATCGGA
                                TTGGCCTTC
                GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=2091 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2124
(fs_start=2082)
                                AAA
ACTGAAAGACAGGCTAATTTTTTTAGGGA
                CCT      TCCGGTTT
                                AGGCCAGGAA
                AGCAAGGGG

PK4:  -22.215000(kcal/mol): PK_start=2097 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=2134
(fs_start=2082)
                                CCAGCA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTT
                GGACCGGAG      GGGA

```

TCCTCA

AAATTT

PK4B: -26.865000(kcal/mol): PK_start=2097 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2160
(fs_start=2082)

TCCAGCAA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG

CCCCAC

AAATTTTCCTCAAAGCAGACCGGAACCAACAG

=====
(222) AB485636
=====

PK1: -15.585000(kcal/mol): PK_start=2059 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2087
(fs_start=2079)

A

GAAAGGAAGGACACCAAATGAAAGACTGT

GACA GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -21.940000(kcal/mol): PK_start=2064 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2101
(fs_start=2079)

C

GAAGGACACCAAATGAAAGACTGTACTGAGAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=2088 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2121
(fs_start=2079)

AAA

ACTGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT

AGGCCAGGAA

AGCAAAGGG

PK4: -21.815000(kcal/mol): PK_start=2094 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=2131
(fs_start=2079)

TCCAGCAA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG

TCCTCA

AAACTT

=====
(223) AB485637
=====

PK1: -15.585000(kcal/mol): PK_start=2059 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2087
(fs_start=2079)

A

GAAAGGAAGGACACCAAATGAAAGACTGT

```

          GACA   GAGAGTC
                TTTTATAGGG
      GCTAAT
PK2:  -21.94000(kcal/mol): PK_start=2064 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2101
(fs_start=2079)
                                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
                GATTTTTT   AATCGGA
                                TTGGCCTTC
                GGAAAAT
PK3:  -20.28500(kcal/mol): PK_start=2088 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2121
(fs_start=2079)
                                AAA
ACTGAGAGACAGGCTAATTTTTATAGGGA
                CCT   TCCGGTTT
                                AGGCCAGGAA
                AGCAAAGGG
PK4:  -21.81500(kcal/mol): PK_start=2094 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=2131
(fs_start=2079)
                                TCCAGCAA
AGACAGGCTAATTTTTATAGGAAAATTTGGCCT
                GGACCGGA   GGG
                                TCCTCA
                AACTT
=====
(224) AB485638
=====
PK1:  -13.55500(kcal/mol): PK_start=2063 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2091
(fs_start=2083)
                                A
GAAAGGAAGGACATCAAATGAAAGATTGT
                GACA   GAGAGTC
                                TTTTATAGGG
                GCTAAT
PK2:  -20.46000(kcal/mol): PK_start=2068 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2104
(fs_start=2083)
                                C
GAAGGACATCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT   A   ATCGGA
                                TGGCCTTC
                GGAAGATC
PK3:  -25.06000(kcal/mol): PK_start=2091 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=2125
(fs_start=2083)
                                A
TACTGAGAGACAGGCTAATTTTTATAGGGAAG

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TCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG
PK4: -26.715000(kcal/mol): PK_start=2098 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2135
(fs_start=2083)

CTAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAACTT

=====
(225) AB485639
=====

PK1: -13.555000(kcal/mol): PK_start=2065 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2093
(fs_start=2085)

A
GAAAGGAAGGACATCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2070 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2106
(fs_start=2085)

C
GAAGGACATCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=2093 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=2127
(fs_start=2085)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=2100 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2137
(fs_start=2085)

CTAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAACTT

=====
(226) AB485640
=====

PK1: -13.555000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2092
(fs_start=2084)

A
GAAAGGAAGGACATCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2105
(fs_start=2084)

C
GAAGGACATCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=2092 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=2126
(fs_start=2084)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=2099 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2136
(fs_start=2084)

CTAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAACTT

=====
(227) AB485641
=====

PK1: -10.425000(kcal/mol): PK_start=2068 sp=0 s1=4 s2=6 l1=2 l2=5 L3=0 PK_end=2094
(fs_start=2088)

TC
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGA
TTTTTTAG
GCTAA

PK2: -17.180000(kcal/mol): PK_start=2075 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=2109
(fs_start=2088)

C
AGGACACCAAATGAAAGATTGTTCAGAGAGA
TTTTTT A ATCGGA
TGGCCTTC
AGGGAAGATC

PK3: -25.060000(kcal/mol): PK_start=2096 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=2130
(fs_start=2088)

A
TTCAGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -29.020000(kcal/mol): PK_start=2103 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=2140
(fs_start=2088)

CTAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAACTT

=====
(228) AB485642
=====

PK1: -10.425000(kcal/mol): PK_start=2068 sp=0 s1=4 s2=6 l1=2 l2=5 l3=0 PK_end=2094
(fs_start=2088)

TC
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGA
TTTTTTAG
GCTAA

PK2: -17.180000(kcal/mol): PK_start=2075 sp=0 s1=6 s2=6 l1=1 l2=10 l3=1 PK_end=2109
(fs_start=2088)

C
AGGACACCAAATGAAAGATTGTTTCAGAGAGA
TTTTTT A ATCGGA
TGGCCTTC
AGGGAAGATC

PK3: -25.060000(kcal/mol): PK_start=2096 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=2130
(fs_start=2088)

A
TTCAGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -29.020000(kcal/mol): PK_start=2103 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=2140
(fs_start=2088)

CTAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAACTT

=====
(229) AB485643
=====

PK1: -15.585000(kcal/mol): PK_start=2081 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2109
(fs_start=2101)

A
GAAGGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -21.940000(kcal/mol): PK_start=2086 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2123
(fs_start=2101)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAAT

PK3: -20.285000(kcal/mol): PK_start=2110 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2143
(fs_start=2101)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=2116 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2153
(fs_start=2101)

CAAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=2116 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2179
(fs_start=2101)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(230) AB485644
=====

PK1: -15.585000(kcal/mol): PK_start=2080 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2108
(fs_start=2100)

A
GAAGGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC

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          TTTT TAGG
    GCTAAT
PK2:  -21.940000(kcal/mol): PK_start=2085 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2122
(fs_start=2100)
          C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
          GATTTTTT   AATCGGA
          TTGGCCTTC
    GGAAAAAT
PK3:  -20.285000(kcal/mol): PK_start=2109 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2142
(fs_start=2100)
          AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
          CCT   TCCGGTTT
          AGGCCAGGGA
    AACAAGGGG
PK4:  -25.010000(kcal/mol): PK_start=2115 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2152
(fs_start=2100)
          CAAC
AGACAGGCTAATTTTTTAGGAAAATTTGGCCTTC
          GGACCGGAGG   GGAA
          CCTTCA
    GAATTT
PK4B:  -26.865000(kcal/mol): PK_start=2115 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2178
(fs_start=2100)
          TCCAACAA
AGACAGGCTAATTTTTTAGGAAAATTTGGCCT
          GGACCGGA   GGGG
          CCCCAC
    GAATTTCTTCAGAGCAGACCCGAGCCAACAG
=====
(231) AB485645
=====
PK1:  -11.500000(kcal/mol): PK_start=2044 sp=0 s1=3 s2=7 l1=5 l2=17 L3=1 PK_end=2085
(fs_start=2079)
          CCAAA
GCTGTTGGAAATGTGGAAAGGAAGGACA
          TGT   C   AGAAAGT
          TTTTTTAGG
    ACCGAGAGGCAGGCTAA
PK2:  -15.910000(kcal/mol): PK_start=2066 sp=0 s1=5 s2=6 l1=2 l2=11 L3=1 PK_end=2100
(fs_start=2079)
          GC
AGGACACCAAATGAAAGACTGTACCGAGAG
          TTTTT   A   ATCGGA

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                                TGGCCTTC
          TAGGGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=2087 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2121
(fs_start=2079)
                                AAA
TACCGAGAGGCAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTCT
                                AGGCCAGGGA
          ACAAGGGG
PK4:  -28.540000(kcal/mol): PK_start=2094 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2131
(fs_start=2079)
                                CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAGG   GGAA
                                CCTTCA
          GAATTT
PK4B:  -29.495000(kcal/mol): PK_start=2094 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2157
(fs_start=2079)
                                TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCT
                                GGACCGGA   GGGG
                                CCCCCA
          GAATTTCTTCAGAGCAGGCCAGAGCCAACAG

=====
(232) AB485646
=====
PK1:  -11.500000(kcal/mol): PK_start=2067 sp=0 s1=3 s2=7 l1=5 l2=17 L3=1 PK_end=2108
(fs_start=2102)
                                CCAAA
GCTGTTGGAAATGTGGAAAGGAAGGACA
                                TGT   C   AGAAAGT
                                TTTTTTAGG
          ACCGAGAGGCAGGCTAA
PK2:  -15.910000(kcal/mol): PK_start=2089 sp=0 s1=5 s2=6 l1=2 l2=11 L3=1 PK_end=2123
(fs_start=2102)
                                GC
AGGACACCAAATGAAAGACTGTACCGAGAG
                                TTTTT   A   ATCGGA
                                TGGCCTTC
          TAGGGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=2110 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2144
(fs_start=2102)
                                AAA
TACCGAGAGGCAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTCT

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                                AGGCCAGGGA
ACAAGGGG
PK4:  -28.540000(kcal/mol): PK_start=2117 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2154
(fs_start=2102)
                                CCAC
AGGCAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAGG    GGAA
                                CCTTCA
GAATTT
PK4B:  -29.495000(kcal/mol): PK_start=2117 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2180
(fs_start=2102)
                                TCCCACAA
AGGCAGGCTAATTTTTTTAGGGAAAATCTGGCCT
                                GGACCGGA    GGGG
                                CCCCCA
GAATTTCTTCAGAGCAGGCCAGAGCCAACAG
=====
(233) AB485647
=====
PK1:  -11.500000(kcal/mol): PK_start=2068 sp=0 s1=3 s2=7 l1=5 l2=17 L3=1 PK_end=2109
(fs_start=2103)
                                CCAAA
GCTGTTGGAAATGTGGAAAGGAAGGACA
                                TGT  C  AGAAAGT
                                TTTTTTAGG
ACCGAGAGGCAGGCTAA
PK2:  -15.910000(kcal/mol): PK_start=2090 sp=0 s1=5 s2=6 l1=2 l2=11 L3=1 PK_end=2124
(fs_start=2103)
                                GC
AGGACACCAAATGAAAGACTGTACCGAGAG
                                TTTTT  A  ATCGGA
                                TGGCCTTC
TAGGGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=2111 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2145
(fs_start=2103)
                                AAA
TACCGAGAGGCAGGCTAATTTTTTTAGGGA
                                CCCT    TCCGGTCT
                                AGGCCAGGGA
ACAAGGGG
PK4:  -28.540000(kcal/mol): PK_start=2118 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2155
(fs_start=2103)
                                CCAC
AGGCAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAGG    GGAA

```

CCTTCA

GAATTT

PK4B: -29.495000(kcal/mol): PK_start=2118 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2181
(fs_start=2103)

TCCCACAA

AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCT

GGACCGGA GGGG

CCCCCA

GAATTTCCCTCAGAGCAGGCCAGAGCCAACAG

=====
(234) AB485648
=====

PK1: -10.640000(kcal/mol): PK_start=2055 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=2093
(fs_start=2086)

A

TTGGAAATGTGGACAGGAAGGACACCAA

GTT AGAAAGT

TTTTTTTAGG

CACTGGAAGACAGGCTAA

PK2: -20.580000(kcal/mol): PK_start=2071 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2108
(fs_start=2086)

C

GAAGGACACCAAATGAAAGATTGCACTGGAAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=2095 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2128
(fs_start=2086)

AAA

ACTGGAAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT

AGGCCAGGGA

AGCAAGGGG

PK4: -22.215000(kcal/mol): PK_start=2101 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=2138
(fs_start=2086)

CCAGCA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT

GGACCGGAG GGGA

TCCTCA

GAACTT

PK4B: -26.865000(kcal/mol): PK_start=2101 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2164
(fs_start=2086)

TCCAGCAA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG

CCCCAC
GAACTTTCCTCAGAGCAGACCAGAGCCAACAG

=====
(235) AB485649
=====

PK1: -11.710000(kcal/mol): PK_start=2067 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2095
(fs_start=2087)

CA
GACAGGAAGGACACCAAATGAAGGATTG
GAC AGAAGGTC
TTTTTTAGGG
GCTAA

PK2: -20.580000(kcal/mol): PK_start=2072 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2109
(fs_start=2087)

C
GAAGGACACCAAATGAAGGATTGCACTGGAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=2096 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2129
(fs_start=2087)

AAA
ACTGGAAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AGCAAGGGG

PK4: -22.215000(kcal/mol): PK_start=2102 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=2139
(fs_start=2087)

CCAGCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGAG GGGA
TCCTCA
GAACTT

PK4B: -26.865000(kcal/mol): PK_start=2102 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2165
(fs_start=2087)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGA GGGG
CCCCAC
GAACTTTCCTCAGAGCAGACCAGAGCCAACAG

=====
(236) AB485650
=====

PK1: -10.640000(kcal/mol): PK_start=2056 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=2094
(fs_start=2087)

A
TTGGAAATGTGGAAGGGAAGGACACCAA

GTT AGAAAGT
TTTTTTAGG
CACAGAAAGACAGGCTAA

PK2: -17.220000(kcal/mol): PK_start=2074 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=2108
(fs_start=2087)

C
AGGACACCAAATGAAAGATTGCACAGAAAGA
TTTTTT A ATCGGA
TGGCCTTC
AGGGAAAATC

PK3: -27.275000(kcal/mol): PK_start=2095 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2129
(fs_start=2087)

AAA
CACAGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -28.540000(kcal/mol): PK_start=2102 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2139
(fs_start=2087)

CCAC
AGACAGGCTAATTTTTTAGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAACTT

PK4B: -30.395000(kcal/mol): PK_start=2102 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2165
(fs_start=2087)

TCCCACAA
AGACAGGCTAATTTTTTAGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAACTTCCTTCAGAGCAGACCAGAGCCAACAG

=====
(237) AB485651
=====

PK1: -10.640000(kcal/mol): PK_start=2051 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=2089
(fs_start=2082)

A
TTGGAAATGTGGAAGGAAGGACACCAA
GTT AGAAAGT
TTTTTTAGG
CACAGAAAGACAGGCTAA

PK2: -17.220000(kcal/mol): PK_start=2069 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=2103
(fs_start=2082)

C
AGGACACCAAATGAAAGATTGCACAGAAAGA

```

          TTTTTT A ATCGGA
                    TGGCCTTC
AGGGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=2090 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2124
(fs_start=2082)
                    AAA
CACAGAAAGACAGGCTAATTTTTTTAGGGA
                    CCCT   TCCGGTCT
                    AGGCCAGGGA
ACAAGGGG
PK4:  -28.540000(kcal/mol): PK_start=2097 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2134
(fs_start=2082)
                    CCAC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
                    GGACCGGAGG   GGAA
                    CCTTCA
GAACTT
PK4B: -30.395000(kcal/mol): PK_start=2097 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2160
(fs_start=2082)
                    TCCCACAA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT
                    GGACCGGA   GGGG
                    CCCCAC
GAACTTCCTTCAGAGCAGACCAGAGCCAACAG
=====
(238) AB485652
=====
PK1:  -15.100000(kcal/mol): PK_start=2074 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2102
(fs_start=2094)
                    CA
GGAAGGAAGGACATCAAATGAAAGACTG
                    GAC   AGAGAGTC
                    TTTTTTTAGGG
GCTAA
PK2:  -21.940000(kcal/mol): PK_start=2079 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2116
(fs_start=2094)
                    C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                    GATTTTTT   AATCGGA
                    TTGGCCTTC
GGAAAAT
PK3:  -18.565000(kcal/mol): PK_start=2103 sp=0 s1=3 s2=8 l1=3 l2=6 L3=0 PK_end=2133
(fs_start=2094)
                    AAA
ACTGAGAGACAGGCTAATTTTTTTAGGGA

```

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          CCT   TCCGGTTT
                AGGCCGGGGA
AAGGGA
PK4:  -21.195000(kcal/mol): PK_start=2109 sp=7 s1=8 s2=5 l1=4 l2=5 L3=0 PK_end=2143
(fs_start=2094)
                TCCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGGCCGGA   AGGGA
                TTCCTCA
          GAATT

```

```

=====
(239) AB485653
=====

```

```

PK1:  -15.100000(kcal/mol): PK_start=2074 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2102
(fs_start=2094)
                CA
GGAAGGAAGGACATCAAATGAAAGACTG
                GAC   AGAGAGTC
                TTTTTTAGGG
          GCTAA

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PK2:  -21.940000(kcal/mol): PK_start=2079 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2116
(fs_start=2094)
                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT   AATCGGA
                TTGGCCTTC
          GGAAAAT

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PK3:  -18.565000(kcal/mol): PK_start=2103 sp=0 s1=3 s2=8 l1=3 l2=6 L3=0 PK_end=2133
(fs_start=2094)
                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                CCT   TCCGGTTT
                AGGCCGGGGA
          AAGGGA

```

```

PK4:  -21.195000(kcal/mol): PK_start=2109 sp=7 s1=8 s2=5 l1=4 l2=5 L3=0 PK_end=2143
(fs_start=2094)
                TCCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGGCCGGA   AGGGA
                TTCCTCA
          GAATT

```

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=====
(240) AB485654
=====

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PK1: -10.440000(kcal/mol): PK_start=2064 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=2102
(fs_start=2095)

A
TTGGAATGTGGGAAGGAAGGACATCAA
GTT AGAAAGT
TTTTTTAGG
CACTGAGAGACAGGCTAA

PK2: -21.940000(kcal/mol): PK_start=2080 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2117
(fs_start=2095)

C
GAAGGACATCAAATGAAAGATTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=2104 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2137
(fs_start=2095)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AACAAGGGA

PK4: -22.915000(kcal/mol): PK_start=2110 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2147
(fs_start=2095)

TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA AGGGA
TTCCTCA
AAATT

=====
(241) AB485655
=====

PK1: -15.100000(kcal/mol): PK_start=2076 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2104
(fs_start=2096)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=2081 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2118
(fs_start=2096)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=2105 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2138
(fs_start=2096)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AACAAGGGA

PK4: -22.915000(kcal/mol): PK_start=2111 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2148
(fs_start=2096)

TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(242) AB485656
=====

PK1: -13.740000(kcal/mol): PK_start=2051 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2079
(fs_start=2071)

CA
GAAGAGAAGGACACCAAATGAAAGACTG
GAC AGGAAGTC
TTTTTTTAGGG
GCTAA

PK2: -20.580000(kcal/mol): PK_start=2056 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2093
(fs_start=2071)

C
GAAGGACACCAAATGAAAGACTGCACTGAAGGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -21.780000(kcal/mol): PK_start=2079 sp=0 s1=5 s2=4 l1=5 l2=9 L3=0 PK_end=2110
(fs_start=2071)

AATTT
CACTGAAGGACAGGCTAATTTTTTAGGGAA
CCCTT CCGG
GGCCCG
ACAAGGGGA

PK4: -22.820000(kcal/mol): PK_start=2089 sp=10 s1=7 s2=4 l1=4 l2=9 L3=0 PK_end=2123
(fs_start=2071)

CCAC
CAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
CCGGAGG GGAA
CCTTCA
CGGAAATTT

PK4B: -24.675000(kcal/mol): PK_start=2089 sp=10 s1=5 s2=4 l1=8 l2=35 L3=0
PK_end=2149 (fs_start=2071)

TCCCACAA
CAGGCTAATTTTTTAGGGAAAATTTGGCCT
CCGGA GGGG
CCCCGC
CGGAAATTTCTTCAGAACAGGCCAGAGCCAACAG

=====
(243) AB485657
=====

PK1: -13.740000(kcal/mol): PK_start=2051 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2079
(fs_start=2071)

CA
GAAGAGAAGGACACCAAATGAAAGACTG
GAC AGGAAGTC
TTTTTTAGGG
GCTAA

PK2: -20.580000(kcal/mol): PK_start=2056 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2093
(fs_start=2071)

C
GAAGGACACCAAATGAAAGACTGCACTGAAGGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -21.780000(kcal/mol): PK_start=2079 sp=0 s1=5 s2=4 l1=5 l2=9 L3=0 PK_end=2110
(fs_start=2071)

AATTT
CACTGAAGGACAGGCTAATTTTTTTAGGGAA
CCCTT CCGG
GGCCCG
ACAAGGGGA

PK4: -22.820000(kcal/mol): PK_start=2089 sp=10 s1=7 s2=4 l1=4 l2=9 L3=0 PK_end=2123
(fs_start=2071)

CCAC
CAGGCTAATTTTTTTAGGGAAAATTTGGCCTTC
CCGGAGG GGAA
CCTTCA
CGGAAATTT

PK4B: -24.675000(kcal/mol): PK_start=2089 sp=10 s1=5 s2=4 l1=8 l2=35 L3=0
PK_end=2149 (fs_start=2071)

TCCCACAA
CAGGCTAATTTTTTTAGGGAAAATTTGGCCT
CCGGA GGGG
CCCCGC
CGGAAATTTCTTCAGAACAGGCCAGAGCCAACAG

=====
(244) AB485658
=====

PK1: -12.360000(kcal/mol): PK_start=2077 sp=0 s1=3 s2=7 l1=1 l2=18 l3=0 PK_end=2115
(fs_start=2108)

A
CTGGAATGTGGAAAAGAAGGACACCAG
GTC AGAAAGT
TTTTTTAGG
CACTGAAAGACAGGCTAA

PK2: -21.980000(kcal/mol): PK_start=2093 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=2130
(fs_start=2108)

C
GAAGGACACCAGATGAAAGACTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -21.780000(kcal/mol): PK_start=2116 sp=0 s1=5 s2=4 l1=5 l2=9 l3=0 PK_end=2147
(fs_start=2108)

AATTT
CACTGAAAGACAGGCTAATTTTTTTAGGGAA
CCCTT CCGG
GGCCCG
ACAAGGGGA

PK4: -20.515000(kcal/mol): PK_start=2126 sp=10 s1=7 s2=4 l1=4 l2=9 l3=0 PK_end=2160
(fs_start=2108)

CCAC
CAGGCTAATTTTTTTAGGGAAAATTTGGCCTTC
CCGGAGG GGAA
TCTTCA
CGGAACTT

PK4B: -21.795000(kcal/mol): PK_start=2126 sp=10 s1=5 s2=4 l1=8 l2=35 l3=0
PK_end=2186 (fs_start=2108)

TCCCACAA
CAGGCTAATTTTTTTAGGGAAAATTTGGCCT
CCGGA GGGG
CTCCGC
CGGAACTTTCTTCAGAACAGACCAGAGCCAACAG

=====
(245) AB485659
=====

PK1: -12.360000(kcal/mol): PK_start=2077 sp=0 s1=3 s2=7 l1=1 l2=18 l3=0 PK_end=2115
(fs_start=2108)

A
CTGGAATGTGGAAAAGAAGGACACCAG
GTC AGAAAGT

TTTTTTAGG
CACTGAAAGACAGGCTAA
PK2: -21.980000(kcal/mol): PK_start=2093 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2130
(fs_start=2108)

C
GAAGGACACCAGATGAAAGACTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -21.780000(kcal/mol): PK_start=2116 sp=0 s1=5 s2=4 l1=5 l2=9 L3=0 PK_end=2147
(fs_start=2108)

AATTT
CACTGAAAGACAGGCTAATTTTTTTAGGGAA
CCCTT CCGG
GGCCCG
ACAAGGGGA

PK4: -20.515000(kcal/mol): PK_start=2126 sp=10 s1=7 s2=4 l1=4 l2=9 L3=0 PK_end=2160
(fs_start=2108)

CCAC
CAGGCTAATTTTTTTAGGGAAAATTTGGCCTTC
CCGGAGG GGAA
TCTTCA
CGGAAACTT

PK4B: -21.795000(kcal/mol): PK_start=2126 sp=10 s1=5 s2=4 l1=8 l2=35 L3=0
PK_end=2186 (fs_start=2108)

TCCCACAA
CAGGCTAATTTTTTTAGGGAAAATTTGGCCT
CCGGA GGGG
CTCCGC
CGGAAACTTCTTCAGAACAGACCAGAGCCAACAG

=====
(246) AB485660
=====

PK1: -11.460000(kcal/mol): PK_start=2103 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=2129
(fs_start=2123)

CACC
GAAAGGAGGGACATCAAATGAAAGACTG
GAC AGAAAG
TTTTTTAG
GCTAA

PK2: -17.220000(kcal/mol): PK_start=2110 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=2144
(fs_start=2123)

C
GGGACATCAAATGAAAGACTGCACCGAAAGA
TTTTTT A ATCGGA


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                                TGGCCTTC
          AGGGAAAATC
PK3:  -23.815000(kcal/mol): PK_start=2132 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2165
(fs_start=2123)
                                AAA
ACCGAAAGACAGGCTAATTTTTTTAGGGA
                                CCT   TCCGGTCT
                                AGGCCAGGGA
          AACAAGGGG

PK4:  -30.395000(kcal/mol): PK_start=2138 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2201
(fs_start=2123)
                                TCCAACAA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT
                                GGACCGGA   GGGG
                                CCCCAC
          GAATTTTATCCAGAACAGGCCAGAGCCAACAG

=====
(247) AB485661
=====
PK1:  -11.460000(kcal/mol): PK_start=2103 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=2129
(fs_start=2123)
                                CACC
GAAAGGAGGGACATCAAATGAAAGACTG
                                GAC   AGAAAG
                                TTTTTTAG
          GCTAA

PK2:  -17.220000(kcal/mol): PK_start=2110 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=2144
(fs_start=2123)
                                C
GGGACATCAAATGAAAGACTGCACCGAAAGA
                                TTTTTT A ATCGGA
                                TGGCCTTC
          AGGGAAAATC

PK3:  -23.815000(kcal/mol): PK_start=2132 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2165
(fs_start=2123)
                                AAA
ACCGAAAGACAGGCTAATTTTTTTAGGGA
                                CCT   TCCGGTCT
                                AGGCCAGGGA
          AACAAGGGG

PK4:  -30.395000(kcal/mol): PK_start=2138 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2201
(fs_start=2123)
                                TCCAACAA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT
                                GGACCGGA   GGGG

```

CCCCAC
GAATTTTATCCAGAACAGGCCAGAGCCAACAG

=====
(248) AB485662
=====

PK1: -11.460000(kcal/mol): PK_start=2088 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=2114
(fs_start=2108)

CACG
GAAAGGAGGGACATCAAATGAAAGACTG
GAC AGAAAG
TTTTTTAG
GCTAA

PK2: -18.800000(kcal/mol): PK_start=2095 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=2130
(fs_start=2108)

C
GGGACATCAAATGAAAGACTGCACGGAAAGA
TTTTTT AATCGGA
TTGGCCTTC
AGGGAAAAT

PK3: -20.285000(kcal/mol): PK_start=2117 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2150
(fs_start=2108)

AAA
ACGGAAAGACAGGCTAATTTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AACAAGGGG

PK4: -22.705000(kcal/mol): PK_start=2123 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2160
(fs_start=2108)

CAAC
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=2123 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2186
(fs_start=2108)

TCCAACAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCTTCAGAACAGGCCAGAGCCAACAG

=====
(249) AB485663
=====

PK1: -11.460000(kcal/mol): PK_start=2089 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=2115
(fs_start=2109)

CACG
GAAAGGAGGGACATCAAATGAAAGACTG

GAC AGAAAG
TTTTTTAG
GCTAA
PK2: -18.800000(kcal/mol): PK_start=2096 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=2131
(fs_start=2109)

C
GGGACATCAAATGAAAGACTGCACGGAAAGA
TTTTTT AATCGGA
TTGGCCTTC
AGGGAAAAT

PK3: -20.285000(kcal/mol): PK_start=2118 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2151
(fs_start=2109)

AAA
ACGGAAAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -22.705000(kcal/mol): PK_start=2124 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2161
(fs_start=2109)

CAAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=2124 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2187
(fs_start=2109)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCTTCAGAACAGGCCAGAGCCAACAG

=====
(250) AB485664
=====

PK1: -11.460000(kcal/mol): PK_start=2076 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=2102
(fs_start=2096)

CACA
GAAAGGAGGGACATCAAATGAAAGACTG
GAC AGAAAG
TTTTTTAG
GCTAA

PK2: -17.220000(kcal/mol): PK_start=2083 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=2117
(fs_start=2096)

C
GGGACATCAAATGAAAGACTGCACAGAAAGA

```

          TTTTTT A ATCGGA
                    TGGCCTTC
AGGGAAAATC

PK3:  -23.815000(kcal/mol): PK_start=2105 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2138
(fs_start=2096)
          AAA
ACAGAAAGACAGGCTAATTTTTTTAGGGA
          CCT   TCCGGTCT
                    AGGCCAGGAA
          AACAAGGGG

PK4:  -26.235000(kcal/mol): PK_start=2111 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2148
(fs_start=2096)
                    CAAC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
          GGACCGGAGG   GGAA
                    TCTTCA
          AAATTT

PK4B:  -30.395000(kcal/mol): PK_start=2111 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2174
(fs_start=2096)
                    TCCAACAA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT
          GGACCGGA   GGGG
                    CCCCCG
          AAATTTTCTTCAGAGCAGGCCAGAGCCAACAG

=====
(251) AB485665
=====
PK1:  -11.460000(kcal/mol): PK_start=2076 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=2102
(fs_start=2096)
          CACA
GAAAGGAGGGACATCAAATGAAAGACTG
          GAC   AGAAAG
                    TTTTTTAG
          GCTAA

PK2:  -17.220000(kcal/mol): PK_start=2083 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=2117
(fs_start=2096)
          C
GGGACATCAAATGAAAGACTGCACAGAAAGA
          TTTTTT A ATCGGA
                    TGGCCTTC
          AGGGAAAATC

PK3:  -23.815000(kcal/mol): PK_start=2105 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2138
(fs_start=2096)
          AAA
ACAGAAAGACAGGCTAATTTTTTTAGGGA

```

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          CCT      TCCGGTCT
                AGGCCAGGAA
          AACAAAGGGG

PK4:  -26.235000(kcal/mol): PK_start=2111 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2148
(fs_start=2096)
                CAAC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
                GGACCGGAGG      GGAA
                                TCTTCA
          AAATTT

PK4B:  -30.395000(kcal/mol): PK_start=2111 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2174
(fs_start=2096)
                TCCAACAA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT
                GGACCGGA      GGGG
                                CCCCCG
          AAATTTTCTTCAGAGCAGGCCAGAGCCAACAG

=====
(252) AB547463
=====

PK1:  -13.595000(kcal/mol): PK_start=1365 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1393
(fs_start=1385)
                A
GGCAGGAAGGACATCAAATGAAAGATTGT
                GACA      GAAAGTC
                                TTTTTAGGG
          GCTAAT

PK2:  -20.500000(kcal/mol): PK_start=1370 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1406
(fs_start=1385)
                C
GAAGGACATCAAATGAAAGATTGTACTGAAAGA
                GATTTTTT      A      ATCGGA
                                TGGCCTTC
          GGAAGCTC

PK3:  -26.110000(kcal/mol): PK_start=1393 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1427
(fs_start=1385)
                C
TACTGAAAGACAGGCTAATTTTTTTAGGGAAG
                CCCTTC      CGGTCT
                                GCCAGGGA
          ACAAGGGGAG

PK4:  -26.095000(kcal/mol): PK_start=1399 sp=6 s1=9 s2=4 l1=8 l2=6 L3=0 PK_end=1438
(fs_start=1385)
                TCCCACAA
AAGACAGGCTAATTTTTTTAGGGAAGCTCTGGCCT

```

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                GGGACCGGA    GGGG
                    CTTCAA
    AACTTC
PK4B:  -32.705000(kcal/mol): PK_start=1399 sp=6 s1=9 s2=4 l1=8 l2=31 L3=0 PK_end=1463
(fs_start=1385)
                    TCCCACAA
AAGACAGGCTAATTTTTTTAGGGAAGCTCTGGCCT
                GGGACCGGA    GGGG
                    CCCCAC
    AACTTCCTTCAAAGCCGACCAGAGCCAACAG

```

```

=====
(253) AB547464
=====

```

```

PK1:  -13.555000(kcal/mol): PK_start=1296 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1324
(fs_start=1316)

```

```

                    A
GGCAGGAAGGACATCAAATGAAAGATTGT
                GACA    GAGAGTC
                    TTTTTAGGG
    GCTAAT

```

```

PK2:  -20.460000(kcal/mol): PK_start=1301 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1337
(fs_start=1316)

```

```

                    C
GAAGGACATCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT  A  ATCGGA
                    TGGCCTTC
    GGAAGCTC

```

```

PK3:  -26.110000(kcal/mol): PK_start=1324 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1358
(fs_start=1316)

```

```

                    C
TACTGAGAGACAGGCTAATTTTTTTAGGGAAG
                CCCTTC    CGGTCT
                    GCCAGGGA
    ACAAGGGGAG

```

```

PK4:  -26.095000(kcal/mol): PK_start=1330 sp=6 s1=9 s2=4 l1=8 l2=6 L3=0 PK_end=1369
(fs_start=1316)

```

```

                    TCCCACAA
GAGACAGGCTAATTTTTTTAGGGAAGCTCTGGCCT
                GGGACCGGA    GGGG
                    CTTCAA
    AACTTC

```

```

PK4B:  -32.705000(kcal/mol): PK_start=1330 sp=6 s1=9 s2=4 l1=8 l2=31 L3=0 PK_end=1394
(fs_start=1316)

```

```

                    TCCCACAA
GAGACAGGCTAATTTTTTTAGGGAAGCTCTGGCCT

```

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GGGACCGGA    GGG
                CCCCAC
AACTTCCTTCAAAGCCGACCAGAGCCAACAG

=====
(254) AB564744
=====
PK1:  -13.205000(kcal/mol): PK_start=2083 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=2110
(fs_start=2102)
                A
AAAGGAAGGACACCAAATGAAAGAGTGT
                ACA    GAGAGTC
                TTTTTAGGG
GGTTAAT

PK2:  -16.970000(kcal/mol): PK_start=2087 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2123
(fs_start=2102)
                C
GAAGGACACCAAATGAAAGAGTGTACTGAGAGA
                GATTTTTT  A  ATTGGA
                TGGCCTTC
GGAAGATC

PK3:  -26.110000(kcal/mol): PK_start=2110 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=2144
(fs_start=2102)
                A
TACTGAGAGACAGGTTAATTTTTAGGGAAG
                CCCTTC    CGGTCT
                GCCAGGGA
ACAAGGGGAG

PK4:  -26.235000(kcal/mol): PK_start=2117 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2154
(fs_start=2102)
                CCAC
AGACAGGTTAATTTTTTAGGGAAGATCTGGCCTTC
                GGACCGGAGG    GGAA
                TCTTCA
GAACTT

PK4B:  -30.395000(kcal/mol): PK_start=2117 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2180
(fs_start=2102)
                TCCCACAA
AGACAGGTTAATTTTTTAGGGAAGATCTGGCCT
                GGACCGGA    GGG
                CCCCAC
GAACTTCTTCAGAGCAGACTAGAGCCATCAG

=====
(255) AB564745
=====

```

PK1: -13.555000(kcal/mol): PK_start=2113 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2141 (fs_start=2133)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GTTAAT

PK2: -16.970000(kcal/mol): PK_start=2118 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2154 (fs_start=2133)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATTGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=2141 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=2175 (fs_start=2133)

A
TACTGAGAGACAGGTTAATTTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=2148 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2185 (fs_start=2133)

CCAC
AGACAGGTTAATTTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAACTT

PK4B: -30.395000(kcal/mol): PK_start=2148 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2211 (fs_start=2133)

TCCCACAA
AGACAGGTTAATTTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAACTTTCTTCAGAGCAGACTAGAGCCATCAG

=====
(256) AB564746
=====

PK1: -10.640000(kcal/mol): PK_start=2088 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=2126 (fs_start=2119)

A
TTGGAAATGTGGAAAGGAAGGACACCAA
GTT AGAAAGT
TTTTTTAGG
CACGGAGAGACAGGTTAA

PK2: -13.790000(kcal/mol): PK_start=2106 sp=0 s1=6 s2=6 l1=1 l2=10 l3=1 PK_end=2140
(fs_start=2119)

C
AGGACACCAAATGAAAGATTGCACGGAGAGA
TTTTTT A ATTGGA
TGGCCTTC
AGGGAAGATC

PK3: -26.110000(kcal/mol): PK_start=2127 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=2161
(fs_start=2119)

A
CACGGAGAGACAGGTTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=2134 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=2171
(fs_start=2119)

CCAC
AGACAGGTTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAACTT

=====
(257) AB565478

=====
PK1: -13.555000(kcal/mol): PK_start=2074 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=2102
(fs_start=2094)

A
GAAAGGAAGGACATCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GTTAAT

PK2: -16.970000(kcal/mol): PK_start=2079 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=2115
(fs_start=2094)

C
GAAGGACATCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATTGGA
TGGCCTTC
GGAGAATC

PK3: -22.370000(kcal/mol): PK_start=2102 sp=0 s1=5 s2=6 l1=2 l2=11 l3=0 PK_end=2136
(fs_start=2094)

AA
TACTGAGAGACAGGTTAATTTTTTAGGGAG
CCTTC CGGTCT
GCCAGGGA
CACAAGGGAAG

PK4: -29.020000(kcal/mol): PK_start=2109 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=2146
(fs_start=2094)

CCAC
AGACAGGTTAATTTTTTAGGGAGAATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(258) AB565479
=====

PK1: -13.555000(kcal/mol): PK_start=2075 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=2103
(fs_start=2095)

A
GAAAGGAAGGACATCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GTTAAT

PK2: -16.970000(kcal/mol): PK_start=2080 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=2116
(fs_start=2095)

C
GAAGGACATCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATGGA
TGGCCTTC
GGAGAATC

PK3: -22.370000(kcal/mol): PK_start=2103 sp=0 s1=5 s2=6 l1=2 l2=11 l3=0 PK_end=2137
(fs_start=2095)

AA
TACTGAGAGACAGGTTAATTTTTTAGGGAG
CCTTC CGGTCT
GCCAGGGA
CACAAAGGAAG

PK4: -29.020000(kcal/mol): PK_start=2110 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=2147
(fs_start=2095)

CCAC
AGACAGGTTAATTTTTTAGGGAGAATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(259) AB565495
=====

PK1: -13.555000(kcal/mol): PK_start=2062 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=2090
(fs_start=2082)

A
GAAAAGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC

TTTTTAGGG
GCTAAT
PK2: -20.460000(kcal/mol): PK_start=2067 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2103
(fs_start=2082)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=2090 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2124
(fs_start=2082)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -28.540000(kcal/mol): PK_start=2097 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2134
(fs_start=2082)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=2097 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2160
(fs_start=2082)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(260) AB565496
=====

PK1: -13.555000(kcal/mol): PK_start=2063 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2091
(fs_start=2083)

A
GAAAAGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2068 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2104
(fs_start=2083)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA

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                                TGGCCTTC
          GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=2091 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2125
(fs_start=2083)
                                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTCT
                                AGGCCAGGGA
          ACAAGGGG
PK4:  -28.540000(kcal/mol): PK_start=2098 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2135
(fs_start=2083)
                                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAGG   GGAA
                                CCTTCA
          GAATTT
PK4B:  -30.395000(kcal/mol): PK_start=2098 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2161
(fs_start=2083)
                                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                                GGACCGGA   GGGG
                                CCCCAC
          GAATTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(261) AB565497
=====
PK1:  -13.065000(kcal/mol): PK_start=2050 sp=0 s1=3 s2=8 l1=5 l2=19 L3=0 PK_end=2095
(fs_start=2088)
                                CCAAA
GCTGTTGGAAATGTGGAAAGGAAGGACA
                                TGT   TAGAAAGT
                                ATTTTTTAGG
          AATAATGAGAGACAGGCTA
PK2:  -18.180000(kcal/mol): PK_start=2074 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=2109
(fs_start=2088)
                                C
GACACCAAATGAAAGATTGTAATAATGAGAGA
                                ATTTTTT   A   ATCGGA
                                TGGCCTTC
          GGGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=2096 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2130
(fs_start=2088)
                                AAA
TAATGAGAGACAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTCT

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                                AGGCCAGGGA
                ACAAGGGG
PK4:  -28.540000(kcal/mol): PK_start=2103 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2140
(fs_start=2088)
                                CCAC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAGG    GGAA
                                CCTTCA
                GAATTT

PK4B:  -30.395000(kcal/mol): PK_start=2103 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2166
(fs_start=2088)
                                TCCCACAA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT
                                GGACCGGA    GGGG
                                CCCCAC
                GAATTTCTTCAAAGCAGACCAGAGCCAACAG

=====
(262) AB565498
=====
PK1:  -13.065000(kcal/mol): PK_start=2050 sp=0 s1=3 s2=8 l1=5 l2=19 L3=0 PK_end=2095
(fs_start=2088)
                                CCAAA
GCTGTTGGAAATGTGGAAAGGAAGGACA
                                TGT    TAGAAAGT
                                ATTTTTTAGG
                AATAATGAGAGACAGGCTA

PK2:  -18.180000(kcal/mol): PK_start=2074 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=2109
(fs_start=2088)
                                C
GACACCAAATGAAAGATTGTAATAATGAGAGA
                                ATTTTTT A  ATCGGA
                                TGGCCTTC
                GGGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=2096 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2130
(fs_start=2088)
                                AAA
TAATGAGAGACAGGCTAATTTTTTTAGGGA
                                CCCT    TCCGGTCT
                                AGGCCAGGGA
                ACAAGGGG

PK4:  -28.540000(kcal/mol): PK_start=2103 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2140
(fs_start=2088)
                                CCAC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAGG    GGAA

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                                CCTTCA
          GAATTT
PK4B:  -30.395000(kcal/mol): PK_start=2103 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2166
(fs_start=2088)
                                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
          GGACCGGA      GGGG
                                CCCCAC
          GAATTTTCCTTCAAAGCAGACCAGAGCCAACAG

=====
(263) AB565499
=====
PK1:  -13.555000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2092
(fs_start=2084)
          A
GAAAGGAAGGACACCAAATGAAAGATTGT
          GACA      GAGAGTC
                                TTTTATAGGG
          GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2105
(fs_start=2084)
          C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
          GATTTTTT  A  ATCGGA
                                TGGCCTTC
          GGAAAATC

PK3:  -26.775000(kcal/mol): PK_start=2090 sp=0 s1=5 s2=8 l1=4 l2=7 L3=0 PK_end=2126
(fs_start=2084)
          AAAA
TGTAAGGAGAGACAGGCTAATTTTTTAGGG
          ATCCT      TCCGGTCT
                                AGGCCAGGAA
          CAAGGGG

PK4:  -28.540000(kcal/mol): PK_start=2099 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2136
(fs_start=2084)
                                CTAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
          GGACCGGAGG      GGAA
                                CCTTCA
          AAATTT

PK4B:  -30.395000(kcal/mol): PK_start=2099 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2162
(fs_start=2084)
                                TCCTACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
          GGACCGGA      GGGG

```

CCCCAC
AAATTCCTTCAGAGCAGACCAGAGCCAACAG

=====
(264) AB565500
=====

PK1: -13.555000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2092
(fs_start=2084)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2105
(fs_start=2084)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -26.775000(kcal/mol): PK_start=2090 sp=0 s1=5 s2=8 l1=4 l2=7 L3=0 PK_end=2126
(fs_start=2084)

AAAA
TGACTGAGAGACAGGCTAATTTTTTAGGG
ATCCT TCCGGTCT
AGGCCAGGAA
CAAGGGG

PK4: -28.540000(kcal/mol): PK_start=2099 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2136
(fs_start=2084)

CTAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
AAATTT

PK4B: -30.395000(kcal/mol): PK_start=2099 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2162
(fs_start=2084)

TCCTACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTCCTTCAGAGCAGACCAGAGCCAACAG

=====
(265) AB565501
=====

PK1: -14.235000(kcal/mol): PK_start=2063 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2091
(fs_start=2083)

A
GGAGGGAAGGACACCAAATGAAAGATTGT

AACA GAGAGTC
 TTTT TAGGG
 GCTAAT
 PK2: -15.82000(kcal/mol): PK_start=2068 sp=0 s1=8 s2=4 l1=3 l2=8 L3=1 PK_end=2102
 (fs_start=2083)
 CAA
 GAAGGACACCAAATGAAAGATTGTACTGAGAGA
 GATTTTTT A ATCG
 TGGCCT
 GGAAAATC

PK3: -27.27500(kcal/mol): PK_start=2091 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2125
 (fs_start=2083)
 AAA
 TACTGAGAGACAAGCTAATTTTTTAGGGA
 CCCT TCCGGTCT
 AGGCCAGGGA
 ACAAGGGA

PK4: -26.44500(kcal/mol): PK_start=2098 sp=7 s1=8 s2=5 l1=7 l2=4 L3=0 PK_end=2134
 (fs_start=2083)
 TCCCACA
 AGACAAGCTAATTTTTTAGGGAAAATCTGGCCT
 GGACCGGA AGGGA
 TTCCTCC
 GAAT

=====
 (266) AB565502
 =====

PK1: -14.23500(kcal/mol): PK_start=2063 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2091
 (fs_start=2083)
 A
 GGAGGGAAGGACACCAAATGAAAGATTGT
 AACA GAGAGTC
 TTTT TAGGG
 GCTAAT

PK2: -15.82000(kcal/mol): PK_start=2068 sp=0 s1=8 s2=4 l1=3 l2=8 L3=1 PK_end=2102
 (fs_start=2083)
 CAA
 GAAGGACACCAAATGAAAGATTGTACTGAGAGA
 GATTTTTT A ATCG
 TGGCCT
 GGAAAATC

PK3: -27.27500(kcal/mol): PK_start=2091 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2125
 (fs_start=2083)
 AAA
 TACTGAGAGACAAGCTAATTTTTTAGGGA


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          CCCT   TCCGGTCT
                AGGCCAGGGA
          ACAAGGGA

PK4:  -26.445000(kcal/mol): PK_start=2098 sp=7 s1=8 s2=5 l1=7 l2=4 L3=0 PK_end=2134
(fs_start=2083)
                TCCCACA
AGACAAGCTAATTTTTTAGGGAAAATCTGGCCT
                GGACCGGA   AGGGA
                TTCCTCC
          GAAT

=====
(267) AB565503
=====
PK1:  -15.100000(kcal/mol): PK_start=2075 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2103
(fs_start=2095)
                CA
GAAAGGAAGGACATCAACTGAAAGACTG
                GAC   AGAGAGTC
                TTTTTTAGGC
          GCTAA

PK2:  -21.940000(kcal/mol): PK_start=2080 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2117
(fs_start=2095)
                C
GAAGGACATCAACTGAAAGACTGCACTGAGAGA
                GATTTTTT   AATCGGA
                TTGGCCTTC
          GCAGGAT

PK3:  -11.740000(kcal/mol): PK_start=2106 sp=0 s1=3 s2=6 l1=1 l2=13 L3=0 PK_end=2137
(fs_start=2095)
                A
TGAGAGACAGGCTAATTTTTTAGGCAGG
                TTC   CGGTTT
                GCCGGGAA
          CCCACAAGGGAAG

PK4:  -21.195000(kcal/mol): PK_start=2110 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2147
(fs_start=2095)
                TCCCACA
AGACAGGCTAATTTTTTAGGCAGGATTTGGCCT
                GGGCCGGA   AGGGA
                TTCCTCA
          AAACT

=====
(268) AB565504
=====

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PK1: -15.10000(kcal/mol): PK_start=2076 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2104 (fs_start=2096)

CA
GAAAGGAAGGACATCAACTGAAAGACTG
GAC AGAGAGTC
TTTTTTTAGGC
GCTAA

PK2: -21.94000(kcal/mol): PK_start=2081 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2118 (fs_start=2096)

C
GAAGGACATCAACTGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GCAGGAT

PK3: -11.74000(kcal/mol): PK_start=2107 sp=0 s1=3 s2=6 l1=1 l2=13 L3=0 PK_end=2138 (fs_start=2096)

A
TGAGAGACAGGCTAATTTTTTAGGCAGG
TTC CGGTTT
GCCGGGAA
CCCACAAGGGAAG

PK4: -21.19500(kcal/mol): PK_start=2111 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2148 (fs_start=2096)

TCCCACA
AGACAGGCTAATTTTTTAGGCAGGATTTGGCCT
GGGCCGGA AGGGA
TTCCTCA
AAACT

=====
(269) AB604946
=====

PK1: -11.01500(kcal/mol): PK_start=2066 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=2093 (fs_start=2086)

AA
GACAGGTAGGACACCAAATGAAAGATTGT
GACA GAAAGT
TTTTTAGG
GCTAAT

PK2: -18.22000(kcal/mol): PK_start=2072 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=2107 (fs_start=2086)

C
TAGGACACCAAATGAAAGATTGTAATGAAAGA
ATTTTTT A ATCGGA
TGGCCTTC
GGGAGAGTC

PK3: -22.370000(kcal/mol): PK_start=2094 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=2128 (fs_start=2086)

AG
TAATGAAAGACAGGCTAATTTTTTTAGGGAG
CCTTC CGGTCT
GCCAGGGA
CACAAAGGGGAG

PK4: -28.540000(kcal/mol): PK_start=2101 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2138 (fs_start=2086)

CCAC
AGACAGGCTAATTTTTTTAGGGAGAGTCTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAACTT

PK4B: -30.395000(kcal/mol): PK_start=2101 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2164 (fs_start=2086)

TCCCACAA
AGACAGGCTAATTTTTTTAGGGAGAGTCTGGCCT
GGACCGGA GGGG
CCCCAC
GAACTTCCTTCAGAGCAGACCAGAACCAACAG

=====
(270) AB604947
=====

PK1: -11.015000(kcal/mol): PK_start=2066 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=2093 (fs_start=2086)

AA
GACAGGAAGGACACCAAATGAAAGATTGT
GACA GAAAGT
TTTTTAGG
GCTAAT

PK2: -18.220000(kcal/mol): PK_start=2072 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=2107 (fs_start=2086)

C
AAGGACACCAAATGAAAGATTGTAATGAAAGA
ATTTTTT A ATCGGA
TGGCCTTC
GGGAGAGTC

PK3: -22.370000(kcal/mol): PK_start=2094 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=2128 (fs_start=2086)

AG
TAATGAAAGACAGGCTAATTTTTTTAGGGAG
CCTTC CGGTCT
GCCAGGGA
CACAAAGGGGAG

PK4: -28.54000(kcal/mol): PK_start=2101 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2138
(fs_start=2086)

CCAC
AGACAGGCTAATTTTTTAGGGAGAGTCTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAACTT

PK4B: -30.395000(kcal/mol): PK_start=2101 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2164
(fs_start=2086)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAGAGTCTGGCCT
GGACCGGA GGGG
CCCCAC
GAACTTCCTTCAGAGCAGACCAGAACCAACAG

=====
(271) AB604948
=====

PK1: -10.795000(kcal/mol): PK_start=2062 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2090
(fs_start=2082)

A
GACAGGAAGGACACCAAATGAAAGATTGT
GACA GAGGGTC
TTTTTAGGG
GCTAAT

PK2: -17.700000(kcal/mol): PK_start=2067 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2103
(fs_start=2082)

C
GAAGGACACCAAATGAAAGATTGTACTGGGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=2090 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=2124
(fs_start=2082)

A
TACTGGGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=2097 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2134
(fs_start=2082)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAACTT

=====
(272) AB604949
=====

PK1: -10.640000(kcal/mol): PK_start=2088 sp=0 s1=3 s2=7 l1=1 l2=18 l3=0 PK_end=2126
(fs_start=2119)

A
TTGGAATGTGGAAAGGAAGGACACCAA
GTT AGAAAGT
TTTTTTAGG
CACGGAGAGACAGGTTAA

PK2: -13.790000(kcal/mol): PK_start=2106 sp=0 s1=6 s2=6 l1=1 l2=10 l3=1 PK_end=2140
(fs_start=2119)

C
AGGACACCAAATGAAAGATTGCACGGAGAGA
TTTTTT A ATTGGA
TGGCCTC
AGGGAAGATC

PK3: -26.110000(kcal/mol): PK_start=2127 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=2161
(fs_start=2119)

A
CACGGAGAGACAGGTTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=2134 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=2171
(fs_start=2119)

CCAC
AGACAGGTTAATTTTTTAGGGAAGATCTGGCCTC
GGACCGGAAG GGAA
TCTTCA
GAACTT

=====
(273) AB604950
=====

PK1: -13.355000(kcal/mol): PK_start=2073 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=2101
(fs_start=2093)

A
GAAAGGAAGGACATCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGAG
ATTCAT

PK2: -15.650000(kcal/mol): PK_start=2078 sp=0 s1=8 s2=5 l1=1 l2=4 l3=2 PK_end=2108
(fs_start=2093)

C
GAAGGACATCAAATGAAAGATTGTACTGAGAGA
GATTTTTT AC TTAGA

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                                AATCTGG
                                AGAA
PK3:  -20.180000(kcal/mol): PK_start=2103 sp=0 s1=3 s2=7 l1=2 l2=11 l3=0 PK_end=2135
(fs_start=2093)
                                AA
CTGAGAGACAGATTCATTTTTTTAGAGAA
                                CTT   CCGGTCT
                                GGCCAGGGA
                                CCACAAGGGAA

PK4:  -29.020000(kcal/mol): PK_start=2108 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=2145
(fs_start=2093)
                                CCAC
AGACAGATTCATTTTTTTAGAGAAAATCTGGCCTTC
                                GGACCGGAAG   GGAA
                                CCTTCA
                                GAATTT

=====
(274) AB604951
=====
PK1:  -13.355000(kcal/mol): PK_start=2073 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=2101
(fs_start=2093)
                                G
GAAAGGAAGGACATCAAATGAAAGATTGT
                                GACA   GAGAGTC
                                TTTTTAGAG
                                ACTCAT

PK2:  -7.540000(kcal/mol): PK_start=2090 sp=0 s1=3 s2=6 l1=1 l2=18 l3=1 PK_end=2126
(fs_start=2093)
                                A
ATGAAAGATTGTGCTGAGAGACAGACTC
                                GAG   A   TTTTTT
                                AAGGGAAG
                                AAAATCTGGCCTTCCCAC

PK3:  -20.180000(kcal/mol): PK_start=2103 sp=0 s1=3 s2=7 l1=2 l2=11 l3=0 PK_end=2135
(fs_start=2093)
                                AA
CTGAGAGACAGACTCATTTTTTTAGAGAA
                                CTT   CCGGTCT
                                GGCCAGGGA
                                CCACAAGGGAA

PK4:  -29.020000(kcal/mol): PK_start=2108 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=2145
(fs_start=2093)
                                CCAC
AGACAGACTCATTTTTTTAGAGAAAATCTGGCCTTC
                                GGACCGGAAG   GGAA

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                                CCTTCA
                                GAATTT

=====
(275) AB641836
=====
PK1:  -13.490000(kcal/mol): PK_start=2051 sp=0 s1=3 s2=10 l1=4 l2=10 L3=2 PK_end=2090
(fs_start=2085)
                                CAAA
CTGTTGGAAATGTGGAAAGGAAGGACAT
                                GTA  AC  GTTAGAAAGT
                                TAATTTTTTAGG
                                AGAGACAGGC

PK2:  -18.180000(kcal/mol): PK_start=2071 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=2106
(fs_start=2085)
                                C
AAGGACATCAAATGAAAGATTGCAATGAGAGA
                                ATTTTTT  A  ATCGGA
                                TGGCCTTC
                                GGAAGATC

PK3:  -25.440000(kcal/mol): PK_start=2093 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=2127
(fs_start=2085)
                                A
CAATGAGAGACAGGCTAATTTTTTAGGGAAG
                                CCCTTC  CGGTCT
                                GCCGGGAA
                                ACAAGGGGAG

PK4:  -25.565000(kcal/mol): PK_start=2100 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2137
(fs_start=2085)
                                CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
                                GGGCCGGAGG  GGAA
                                TCTTCA
                                AAATTT

PK4B:  -29.725000(kcal/mol): PK_start=2100 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2163
(fs_start=2085)
                                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
                                GGGCCGGA  GGGG
                                CCCCAC
                                AAATTTTCTTCAGAACAGACCAGAGCCAACAG

=====
(276) AB641837
=====
PK2:  -18.180000(kcal/mol): PK_start=2071 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=2106
(fs_start=2085)
                                C
AAGGACATCAAATGAAAGATTGCAATGAGAGA

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          ATTTTTT A ATCGGA
                    TGGCCTTC
GGGAAGATC
PK3:  -25.440000(kcal/mol): PK_start=2093 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=2127
(fs_start=2085)
          A
CAATGAGAGACAGGCTAATTTTTTTAGGGAAG
          CCCTTC   CGGTCT
                    GCCGGGAA
          ACAAGGGGAG
PK1:  -11.670000(kcal/mol): PK_start=9072 sp=0 s1=4 s2=6 l1=2 l2=8 L3=0 PK_end=9101
(fs_start=9092)
          GC
TACCTTTAAGACCAATGACTTACAAAGGA
          TTCT   AGATTT
                    TTTAAAAG
          AGCCATTT
PK4:  -25.565000(kcal/mol): PK_start=2100 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2137
(fs_start=2085)
                    CCAC
AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCTTC
          GGGCCGGAGG   GGAA
                    TCTTCA
          AAATTT
PK4B: -29.725000(kcal/mol): PK_start=2100 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2163
(fs_start=2085)
                    TCCCACAA
AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCT
          GGGCCGGA   GGGG
                    CCCCAC
          AAATTTTCTTCAGAACAGACCAGAGCCAACAG
=====
(277) AB646289
=====
PK1:  -13.555000(kcal/mol): PK_start=2086 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2114
(fs_start=2106)
          A
GAAAGGAAGGACATCAAATGAAAGATTGT
          GACA   GAGAGTC
                    TTTTTAGGG
          GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=2091 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2127
(fs_start=2106)
          C
GAAGGACATCAAATGAAAGATTGTACTGAGAGA

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          GATTTTTT A ATCGGA
                    TGGCCTTC
    GGAAGATC
PK3:  -26.110000(kcal/mol): PK_start=2114 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=2148
(fs_start=2106)
          A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
          CCCTTC   CGGTCT
                    GCCAGGGA
    ACAAGGGGAG
PK4:  -26.235000(kcal/mol): PK_start=2121 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2158
(fs_start=2106)
                    CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
          GGACCGGAGG   GGAA
                    TCTTCA
    GAATTT
PK4B: -30.395000(kcal/mol): PK_start=2121 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2184
(fs_start=2106)
                    TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
          GGACCGGA   GGGG
                    CCCCAC
    GAATTTTCTTCAGAGCAGACCAGAGCCAACAG
=====
(278) AB646691
=====
PK1:  -13.555000(kcal/mol): PK_start=2086 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2114
(fs_start=2106)
          A
GAAAGGAAGGACATCAAATGAAAGATTGT
          GACA   GAGAGTC
                    TTTTTAGGG
    GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=2091 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2127
(fs_start=2106)
          C
GAAGGACATCAAATGAAAGATTGTACTGAGAGA
          GATTTTTT A ATCGGA
                    TGGCCTTC
    GGAAGATC
PK3:  -26.110000(kcal/mol): PK_start=2114 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=2148
(fs_start=2106)
          A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG

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          CCCTTC   CGGTCT
                    GCCAGGGA
ACAAGGGGAG
PK4:  -26.235000(kcal/mol): PK_start=2121 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2158
(fs_start=2106)
                    CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
                    GGACCGGAGG   GGAA
                    TCTTCA
          GAATTT

PK4B:  -30.395000(kcal/mol): PK_start=2121 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2184
(fs_start=2106)
                    TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
                    GGACCGGA   GGGG
                    CCCCAC
          GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(279) AB703607
=====
PK1:  -15.100000(kcal/mol): PK_start=1272 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1300
(fs_start=1292)
                    CA
GGAARGAAGGACACCAAATGAAAGACTG
                    GAC   AGAGAGTC
                    TTTTTTAGGG
          GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1277 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1314
(fs_start=1292)
                    C
GAAGGACACCAAATGAAAGACTGCACTGAGAGA
                    GATTTTTT   AATCGGA
                    TTGGCCTTC
          GGAGAAT

PK3:  -18.840000(kcal/mol): PK_start=1300 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1334
(fs_start=1292)
                    AA
CACTGAGAGACAGGCTAATTTTTTAGGGAG
                    CCTTC   CGGTTT
                    GCCAGGAA
          CACAAGGGGAG

PK4:  -22.215000(kcal/mol): PK_start=1307 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1344
(fs_start=1292)
                    CCCACA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCTT

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GGACCGGAG GGGA
 TCCTCA
 AAATTT

PK4B: -26.865000(kcal/mol): PK_start=1307 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1370
 (fs_start=1292)

TCCCACAA
 AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT

GGACCGGA GGGG
 CCCCAC
 AAATTTTCCTCAGAGCAGACCAGAGCCAACAG

=====
 (280) AB703608
 =====

PK1: -15.140000(kcal/mol): PK_start=1272 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1300
 (fs_start=1292)

CA
 GGAAAGAAGGACACCAAATGAAAGACTG

GAC AGAAAGTC
 TTTTTTAGGG
 GCTAA

PK2: -21.980000(kcal/mol): PK_start=1277 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1314
 (fs_start=1292)

C
 GAAGGACACCAAATGAAAGACTGCACTGAAAGA

GATTTTTT AATCGGA
 TTGGCCTTC
 GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1301 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1334
 (fs_start=1292)

AAA
 ACTGAAAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT
 AGGCCAGGAA
 AACAAAGGGA

PK4: -22.915000(kcal/mol): PK_start=1307 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1344
 (fs_start=1292)

TCCAACA
 AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA AGGGA
 TTCCTCA
 AAATT

=====
 (281) AB703609
 =====

PK1: -15.10000(kcal/mol): PK_start=1272 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1300
(fs_start=1292)

CA
GGAAAGAAGGACACCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.94000(kcal/mol): PK_start=1277 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1314
(fs_start=1292)

C
GAAGGACACCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -18.56500(kcal/mol): PK_start=1301 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1334
(fs_start=1292)

AAA
ACTGAGAGACAGGCTAATTTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGAA
AACAAGGGG

PK4: -20.49500(kcal/mol): PK_start=1307 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1344
(fs_start=1292)

CCAACA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTT
GGGCCGGAG GGGA
TCCTCA
AAATTT

PK4B: -25.14500(kcal/mol): PK_start=1307 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1370
(fs_start=1292)

TCCAACAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
GGGCCGGA GGGG
CCCCAC
AAATTTTCCTCAGAGCAGACCAGAGCCAACAG

=====
(282) AB703610
=====

PK1: -15.10000(kcal/mol): PK_start=1269 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1297
(fs_start=1289)

CA
GGAAAGAAGGACACCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1311
(fs_start=1289)

C
GAAGGACACCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAGAAT

PK3: -18.840000(kcal/mol): PK_start=1297 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1331
(fs_start=1289)

AA
CACTGAGAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTTT
GCCAGGAA
AACAAAGGGAG

PK4: -21.815000(kcal/mol): PK_start=1304 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1341
(fs_start=1289)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
GGACCGGA GGG
TCCTCA
AAATTT

=====
(283) AB703611
=====

PK1: -15.100000(kcal/mol): PK_start=1272 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1300
(fs_start=1292)

CA
GGAGAGAAGGACACCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1277 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1314
(fs_start=1292)

C
GAAGGACACCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAGAAT

PK3: -18.840000(kcal/mol): PK_start=1300 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1334
(fs_start=1292)

AA
CACTGAGAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTTT
GCCAGGAA
AACAAAGGGAG

PK4: -22.215000(kcal/mol): PK_start=1307 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1344
(fs_start=1292)

CCAACA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCTT
GGACCGGAG GGGA
TCCTCA
AAATTT

PK4B: -26.865000(kcal/mol): PK_start=1307 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1370
(fs_start=1292)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCTT
GGACCGGA GGGG
CCCCAC
AAATTTTCCTCAGAGCAGACCAGAGCCAACAG

=====
(284) AB703612
=====

PK1: -15.100000(kcal/mol): PK_start=1275 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1303
(fs_start=1295)

CA
GGAAAGAAGGACACCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1280 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1317
(fs_start=1295)

C
GAAGGACACCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAATT

PK3: -22.355000(kcal/mol): PK_start=1304 sp=0 s1=3 s2=9 l1=2 l2=9 L3=0 PK_end=1338
(fs_start=1295)

AA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTTT
AGGCCAGGAAA
AACAAGGGG

PK4: -25.690000(kcal/mol): PK_start=1309 sp=6 s1=8 s2=5 l1=9 l2=5 L3=0 PK_end=1348
(fs_start=1295)

TCCAACAA
GAGACAGGCTAATTTTTTAGGGAAATTTGGCC
AGGACCGG AGGGG
TCCTCAG
AATTT

=====
(285) AB703613
=====

PK1: -15.10000(kcal/mol): PK_start=1272 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1300
(fs_start=1292)

CA
GGAAAGAAGGACACCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.94000(kcal/mol): PK_start=1277 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1314
(fs_start=1292)

C
GAAGGACACCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAAT

PK3: -20.28500(kcal/mol): PK_start=1301 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1334
(fs_start=1292)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AACAAGGGG

PK4: -22.21500(kcal/mol): PK_start=1307 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1344
(fs_start=1292)

CCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGAG GGGG
TCCTCA
AAATTT

PK4B: -26.86500(kcal/mol): PK_start=1307 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1370
(fs_start=1292)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTTCCTCAGAGCAGACCAGAGCCAACAG

=====
(286) AB703614
=====

PK1: -15.10000(kcal/mol): PK_start=1272 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1300
(fs_start=1292)

CA
GGAAAGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC

```

                TTTTTTAGGG
          GCTAA
PK2:  -21.940000(kcal/mol): PK_start=1277 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1314
(fs_start=1292)
                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT   AATCGGA
                TTGGCCTTC
          GGAAAAAT
PK3:  -20.285000(kcal/mol): PK_start=1301 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1334
(fs_start=1292)
                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                CCT   TCCGGTTT
                AGGCCAGGAA
          AACAAGGGG
PK4:  -22.215000(kcal/mol): PK_start=1307 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1344
(fs_start=1292)
                CCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
                GGACCGGAG   GGGA
                TCCTCA
          AAATTT
PK4B:  -26.865000(kcal/mol): PK_start=1307 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1370
(fs_start=1292)
                TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA   GGGG
                CCCCAC
          AAATTTTCCTCAGAGCAGACCAGAGCCAACAG
=====
(287) AB703615
=====
PK1:  -15.100000(kcal/mol): PK_start=1272 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1300
(fs_start=1292)
                CA
GGAAAGAAGGACACCAAATGAAAGACTG
                GAC   AGAGAGTC
                TTTTTTAGGG
          GCGAA
PK2:  -13.950000(kcal/mol): PK_start=1277 sp=0 s1=8 s2=4 l1=4 l2=6 L3=0 PK_end=1310
(fs_start=1292)
                CAGG
GAAGGACACCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT   AAGC

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                                TTTGGC
                GGAAAA
PK3:  -20.285000(kcal/mol): PK_start=1301 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1334
(fs_start=1292)
                                AAA
ACTGAGAGACAGGCGAATTTTTTAGGGA
                                CCT   TCCGGTTT
                                AGGCCAGGAA
                AACAAAGGGG
PK4:  -22.215000(kcal/mol): PK_start=1307 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1344
(fs_start=1292)
                                CCAACA
AGACAGGCGAATTTTTTAGGGAAAATTTGGCCTT
                                GGACCGGAG   GGGG
                                TCCTCA
                AAATTT
PK4B:  -26.865000(kcal/mol): PK_start=1307 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1370
(fs_start=1292)
                                TCCAACAA
AGACAGGCGAATTTTTTAGGGAAAATTTGGCCT
                                GGACCGGA   GGGG
                                CCCCAC
                AAATTTTCCTCAGAGCAGGCCAGAGCCGACAG
=====
(288) AB703616
=====
PK1:  -12.160000(kcal/mol): PK_start=1267 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1305
(fs_start=1298)
                                A
TTGGAATGTGGAAGGAAGGACATCAG
                                GTC   AGAAAGT
                                TTTTTTAGG
                CACTGAGAGACAGGCTAA
PK2:  -21.940000(kcal/mol): PK_start=1283 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1320
(fs_start=1298)
                                C
GAAGGACATCAGATGAAAGACTGCACTGAGAGA
                                GATTTTTT   AATCGGA
                                TTGGCCTTC
                GGAAAAT
PK3:  -20.285000(kcal/mol): PK_start=1307 sp=0 s1=3 s2=8 l1=3 l2=6 L3=0 PK_end=1337
(fs_start=1298)
                                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCT   TCCGGTTT

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AGGCCAGGGA

AAAGGA

PK4: -22.465000(kcal/mol): PK_start=1313 sp=7 s1=8 s2=4 l1=5 l2=6 L3=0 PK_end=1347
(fs_start=1298)

TCCAA

AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT

GGACCGGA AGGA

TCCTCA

GAATTT

=====
(289) AB731663
=====

PK1: -13.555000(kcal/mol): PK_start=2073 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2101
(fs_start=2093)

A

GAAAAGAAGGACACCAAATGAAGGATTGT

GACA GAGAGTC

TTTTTAGGG

ATTAAT

PK2: -15.650000(kcal/mol): PK_start=2078 sp=0 s1=8 s2=5 l1=1 l2=4 L3=2 PK_end=2108
(fs_start=2093)

C

GAAGGACACCAAATGAAGGATTGTACTGAGAGA

GATTTTTT AA TTAGA

AATCTGG

GGAA

PK3: -27.275000(kcal/mol): PK_start=2101 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2135
(fs_start=2093)

AAA

TACTGAGAGACAGATTAATTTTTTTAGGGA

CCCT TCCGGTCT

AGGCCAGGGA

ACAAGGGG

PK4: -27.515000(kcal/mol): PK_start=2108 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=2146
(fs_start=2093)

TCCCACAA

AGACAGATTAATTTTTTTAGGGAAAATCTGGCCT

GGACCGGA GGGG

CTCCAA

GAATTTT

=====
(290) AB731664
=====

PK1: -13.555000(kcal/mol): PK_start=2071 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2099
(fs_start=2091)

A

GAAAAGAAGGACACCAAATGAAGGATTGT

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          GACA    GAGAGTC
                TTTTATAGGG
    ATTAAT
PK2:  -15.65000(kcal/mol): PK_start=2076 sp=0 s1=8 s2=5 l1=1 l2=4 L3=2 PK_end=2106
(fs_start=2091)
                C
GAAGGACACCAAATGAAGGATTGTACTGAGAGA
                GATTTTTT AA TTAGA
                        AATCTGG
                GGAA
PK3:  -27.27500(kcal/mol): PK_start=2099 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2133
(fs_start=2091)
                AAA
TACTGAGAGACAGATTAATTTTTATAGGGA
                CCCT    TCCGGTCT
                        AGGCCAGGGA
                ACAAGGGG
PK4:  -27.51500(kcal/mol): PK_start=2106 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=2144
(fs_start=2091)
                TCCCACAA
AGACAGATTAATTTTTATAGGAAAATCTGGCCT
                GGACCGGA    GGGG
                        CTCCAA
                GAATTC
=====
(291) AB731665
=====
PK1:  -10.44500(kcal/mol): PK_start=2101 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=2128
(fs_start=2120)
                G
AAAGGAAGGACACCAAATGAAAGAGTGT
                ACA    GGGAGTC
                        TTTTTAGGG
                GGCTAAT
PK2:  -17.40000(kcal/mol): PK_start=2105 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2141
(fs_start=2120)
                C
GAAGGACACCAAATGAAAGAGTGTGCTGAGGGA
                GATTTTTT A ATCGGA
                        TGGCCTTC
                GGAAAATC
PK3:  -27.27500(kcal/mol): PK_start=2128 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2162
(fs_start=2120)
                AAA
TGCTGAGGGACAGGCTAATTTTTATAGGGA

```

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          CCCT   TCCGGTCT
                AGGCCAGGGA
ACAAGGGG
PK4:  -27.650000(kcal/mol): PK_start=2135 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=2173
(fs_start=2120)
                TTTCCACAA
GGACAGGCTAATTTTTTAGGGAAAATCTGGCC
                GGACCGG   AGGGG
                TCTCCAG
          GAACTT
PK4B:  -22.830000(kcal/mol): PK_start=2136 sp=8 s1=6 s2=4 l1=9 l2=33 L3=1 PK_end=2197
(fs_start=2120)
                TTTCCACAA
GACAGGCTAATTTTTTAGGGAAAATCTGGCC
                GACCGG   A   GGGG
                CTCCAC
          GAACTTTTCTCCAGAGCAGACCAGCCAACAG

=====
(292) AB731666
=====
PK1:  -10.445000(kcal/mol): PK_start=2101 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=2128
(fs_start=2120)
                G
AAAGGAAGGACACCAAATGAAAGAGTGT
                ACA   GGGAGTC
                TTTTTAGGG
          GGCTAAT
PK2:  -17.400000(kcal/mol): PK_start=2105 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2141
(fs_start=2120)
                C
GAAGGACACCAAATGAAAGAGTGTGCTGAGGGA
                GATTTTTT   A   ATCGGA
                TGGCCTTC
          GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=2128 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2162
(fs_start=2120)
                AAA
TGCTGAGGGACAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTCT
                AGGCCAGGGA
          ACAAGGGG
PK4:  -27.650000(kcal/mol): PK_start=2135 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=2173
(fs_start=2120)
                TTTCCACAA
GGACAGGCTAATTTTTTAGGGAAAATCTGGCC

```

GGACCGG AGGGG
TCTCCAG
GAACTT
PK4B: -22.830000(kcal/mol): PK_start=2136 sp=8 s1=6 s2=4 l1=9 l2=33 L3=1 PK_end=2197
(fs_start=2120)
TTCCCACAA
GACAGGCTAATTTTTTAGGGAAAATCTGGCC
GACCGG A GGGG
CTCCAC
GGAACCTTCTCCAGAGCAGACCAGAGCCAACAG

=====
(293) AB731667
=====

PK1: -13.555000(kcal/mol): PK_start=2075 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2103
(fs_start=2095)
A
GAGGGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGA
GCCAAT

PK2: -22.720000(kcal/mol): PK_start=2080 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2116
(fs_start=2095)
C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ACCGGA
TGGCCTTC
GAAAAATC

PK3: -24.015000(kcal/mol): PK_start=2103 sp=0 s1=3 s2=8 l1=4 l2=12 L3=0 PK_end=2140
(fs_start=2095)
AAAA
TACTGAGAGACAGGCCAATTTTTTAGGA
CCT TCCGGTCT
AGGCCAGGGA
CACAGCAAGGGA

PK4: -22.715000(kcal/mol): PK_start=2110 sp=7 s1=8 s2=5 l1=10 l2=4 L3=0 PK_end=2149
(fs_start=2095)
TCCCACAGCA
AGACAGGCCAATTTTTTAGGAAAATCTGGCCT
GGACCGGA AGGGA
TTTCTCC
GAAT

=====
(294) AB731668
=====

PK1: -13.555000(kcal/mol): PK_start=2075 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2103
(fs_start=2095)

A
GAGGGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGA
GCCAAT

PK2: -22.720000(kcal/mol): PK_start=2080 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2116
(fs_start=2095)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ACCGGA
TGGCCTTC
GAAAAATC

PK3: -24.015000(kcal/mol): PK_start=2103 sp=0 s1=3 s2=8 l1=4 l2=12 L3=0 PK_end=2140
(fs_start=2095)

AAAA
TACTGAGAGACAGGCCAATTTTTTAGGA
CCT TCCGGTCT
AGGCCAGGGA
CACAGCAAGGGA

PK4: -22.715000(kcal/mol): PK_start=2110 sp=7 s1=8 s2=5 l1=10 l2=4 L3=0 PK_end=2149
(fs_start=2095)

TCCCACAGCA
AGACAGGCCAATTTTTTAGGAAAAATCTGGCCT
GGACCGGA AGGGA
TTTCTCC
GAAT

=====
(295) AB731669
=====

PK1: -10.445000(kcal/mol): PK_start=2088 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=2115
(fs_start=2107)

G
AAAGGAAGGACACCAAATGAAAGAGTGT
ACA GGGAGTC
TTTTTAGGG
GGCTAAT

PK2: -17.400000(kcal/mol): PK_start=2092 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2128
(fs_start=2107)

C
GAAGGACACCAAATGAAAGAGTGTGCTGAGGGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAAATC

PK3: -27.275000(kcal/mol): PK_start=2115 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=2149
(fs_start=2107)

AAA
TGCTGAGGGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -27.515000(kcal/mol): PK_start=2122 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=2185
(fs_start=2107)

TCCCACAA
GGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CTCCAC
GAACTTTGTTTCAGAGCAGACCAGAGCCAACAG

=====
(296) AB731670
=====

PK1: -10.445000(kcal/mol): PK_start=2087 sp=0 s1=3 s2=7 l1=1 l2=7 l3=0 PK_end=2114
(fs_start=2106)

G
AAAGGAAGGACACCAAATGAAAGAGTGT
ACA GGGAGTC
TTTTTAGGG
GGCTAAT

PK2: -17.400000(kcal/mol): PK_start=2091 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=2127
(fs_start=2106)

C
GAAGGACACCAAATGAAAGAGTGTGCTGAGGGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=2114 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=2148
(fs_start=2106)

AAA
TGCTGAGGGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -27.515000(kcal/mol): PK_start=2121 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=2184
(fs_start=2106)

TCCCACAA
GGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CTCCAC
GAACTTTGTTTCAGAGCAGACCAGAGCCAACAG

=====
(297) AB746342
=====

PK1: -15.025000(kcal/mol): PK_start=1949 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1977
(fs_start=1969)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.370000(kcal/mol): PK_start=1954 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1991
(fs_start=1969)

C
GAAGGACACCAAATGAAAGACTGTACTGAAAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAAT

PK3: -23.745000(kcal/mol): PK_start=1977 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2011
(fs_start=1969)

AAA
TACTGAAAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAGGGGG

PK4: -25.035000(kcal/mol): PK_start=1984 sp=7 s1=10 s2=4 l1=4 l2=5 L3=0 PK_end=2020
(fs_start=1969)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAG GGGG
TCCTCC
GAATT

PK4B: -27.725000(kcal/mol): PK_start=1984 sp=7 s1=9 s2=4 l1=6 l2=32 L3=0 PK_end=2047
(fs_start=1969)

CCCACA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAG GGGG
CCCCGC
GAATTCCTCCAGAGCAGACCAGAGCCAACAG

=====
(298) AB746343
=====

PK1: -15.025000(kcal/mol): PK_start=1949 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1977
(fs_start=1969)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAAAGTC

TTTTTAGGG
GCTAAT
PK2: -20.370000(kcal/mol): PK_start=1954 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1991
(fs_start=1969)

C
GAAGGACACCAAATGAAAGACTGTACTGAAAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAAT

PK3: -23.745000(kcal/mol): PK_start=1977 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2011
(fs_start=1969)

AAA
TACTGAAAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAGGGGG

PK4: -25.035000(kcal/mol): PK_start=1984 sp=7 s1=10 s2=4 l1=4 l2=5 L3=0 PK_end=2020
(fs_start=1969)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAG GGGG
TCCTCC
GAATT

PK4B: -27.725000(kcal/mol): PK_start=1984 sp=7 s1=9 s2=4 l1=6 l2=32 L3=0 PK_end=2047
(fs_start=1969)

CCCACA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGAG GGGG
CCCCGc
GAATTTCTCCAGAGCAGACCAGAGCCAACAG

=====
(299) AB746344
=====

PK1: -12.445000(kcal/mol): PK_start=2047 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=2074
(fs_start=2067)

AA
GACAGGAAGGACACCAAATGAAAGACTGT
GACG GAAAGT
TTTTTAGG
GCGAAT

PK2: -6.235000(kcal/mol): PK_start=2061 sp=0 s1=3 s2=6 l1=1 l2=4 L3=0 PK_end=2083
(fs_start=2067)

C
CAAATGAAAGACTGTAATGAAAGGCAGG
TTT TTTAAG

```

                AGATTTTG
            AGGG
PK3:  -23.275000(kcal/mol): PK_start=2075 sp=0 s1=4 s2=9 l1=2 l2=8 L3=0 PK_end=2110
(fs_start=2067)
                GA
TAATGAAAGGCAGGCGAATTTTTTAGGGA
                CCCT    TCCGGTTTT
                AGGCCAGGGAA
            ACAAGGGG
PK4:  -19.785000(kcal/mol): PK_start=2081 sp=6 s1=9 s2=4 l1=8 l2=6 L3=0 PK_end=2120
(fs_start=2067)
                TCCCACAA
AAGGCAGGCGAATTTTTTAGGGAGATTTTGGCCT
                GGGACCGGA    GGGG
                CTCAG
            AATTTC
PK4B:  -26.395000(kcal/mol): PK_start=2081 sp=6 s1=9 s2=4 l1=8 l2=31 L3=0 PK_end=2145
(fs_start=2067)
                TCCCACAA
AAGGCAGGCGAATTTTTTAGGGAGATTTTGGCCT
                GGGACCGGA    GGGG
                CCCCAC
            AATTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(300) AB746345
=====
PK1:  -15.625000(kcal/mol): PK_start=2047 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2075
(fs_start=2067)
                A
GAAAGGAAGGACACCAAATGAAAGACTGT
                GACA    GAAAGTC
                TTTTTAGGG
            GCGAAT
PK2:  -13.990000(kcal/mol): PK_start=2052 sp=0 s1=8 s2=4 l1=4 l2=6 L3=0 PK_end=2085
(fs_start=2067)
                CAGG
GAAGGACACCAAATGAAAGACTGTACTGAAAGA
                GATTTTTT    AAGC
                TTTGGC
            GGAGAT
PK3:  -23.275000(kcal/mol): PK_start=2075 sp=0 s1=4 s2=9 l1=2 l2=8 L3=0 PK_end=2110
(fs_start=2067)
                GA
TACTGAAAGACAGGCGAATTTTTTAGGGA
                CCCT    TCCGGTTTT

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                                AGGCCAGGGAA
ACAAGGGG
PK4:  -19.785000(kcal/mol): PK_start=2081 sp=6 s1=9 s2=4 l1=8 l2=6 L3=0 PK_end=2120
(fs_start=2067)
                                TCCCACAA
AAGACAGGCGAATTTTTTAGGGAGATTTTGGCCT
                                GGGACCGGA    GGGG
                                CTCAG
AATTC
PK4B:  -26.395000(kcal/mol): PK_start=2081 sp=6 s1=9 s2=4 l1=8 l2=31 L3=0 PK_end=2145
(fs_start=2067)
                                TCCCACAA
AAGACAGGCGAATTTTTTAGGGAGATTTTGGCCT
                                GGGACCGGA    GGGG
                                CCCCAC
AATTCCTTCAGAGCAGACCAGAGCCAACAG

=====
(301) AB773884
=====
PK1:  -15.025000(kcal/mol): PK_start=2047 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2075
(fs_start=2067)
                                A
GAAAGGAAGGACACCAAATGAAAGACTGT
                                GACG    GAAAGTC
                                TTTTtaggg
GCGAAT
PK2:  -13.905000(kcal/mol): PK_start=2052 sp=0 s1=7 s2=5 l1=5 l2=5 L3=0 PK_end=2085
(fs_start=2067)
                                GCAGG
GAAGGACACCAAATGAAAGACTGTACTGAAAG
                                GATTTTT    TAAGC
                                ATTTGGC
GGAAA
PK3:  -23.745000(kcal/mol): PK_start=2075 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2109
(fs_start=2067)
                                AAA
TACTGAAAGGCAGGCGAATTTTTTAGGGA
                                CCCT    TCCGGTTT
                                AGGCCAGGGA
ACAAGGGG
PK4:  -23.985000(kcal/mol): PK_start=2082 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=2120
(fs_start=2067)
                                TCCCACAA
AGGCAGGCGAATTTTTTAGGGAAAATTTGGCCT
                                GGACCGGA    GGGG

```

CTCCAG

GAATTTTC

PK4B: -26.865000(kcal/mol): PK_start=2082 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2145
(fs_start=2067)

TCCCACAA

AGGCAGGCGAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG

CCCCAC

GAATTTCTCCAGAGCAGACCAGAGCCAACAG

=====

(302) AB773885

=====

PK1: -15.025000(kcal/mol): PK_start=2047 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2075
(fs_start=2067)

A

GAAAGGAAGGACACCAAATGAAAGACTGT

GACG GAAAGTC

TTTTTAGGG

GCGAAT

PK2: -13.905000(kcal/mol): PK_start=2052 sp=0 s1=7 s2=5 l1=5 l2=5 L3=0 PK_end=2085
(fs_start=2067)

GCAGG

GAAGGACACCAAATGAAAGACTGTACTGAAAG

GATTTTT TAAGC

ATTTGGC

GGAAA

PK3: -23.745000(kcal/mol): PK_start=2075 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2109
(fs_start=2067)

AAA

TACTGAAAGGCAGGCGAATTTTTTAGGGA

CCCT TCCGGTTT

AGGCCAGGGA

ACAAGGGG

PK4: -23.985000(kcal/mol): PK_start=2082 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=2120
(fs_start=2067)

TCCCACAA

AGGCAGGCGAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG

CTCCAG

GAATTTTC

PK4B: -26.865000(kcal/mol): PK_start=2082 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2145
(fs_start=2067)

TCCCACAA

AGGCAGGCGAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG

CCCCAC
GAATTTCCCTCCAGAGCAGACCAGAGCCAACAG

=====
(303) AF003887
=====

PK1: -13.555000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2092
(fs_start=2084)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2105
(fs_start=2084)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=2092 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=2126
(fs_start=2084)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=2099 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2136
(fs_start=2084)

CTAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(304) AF003888
=====

PK1: -13.555000(kcal/mol): PK_start=2043 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2071
(fs_start=2063)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2048 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2084
(fs_start=2063)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA
 TGGCCTTC
 GGAAGATC
 PK3: -25.060000(kcal/mol): PK_start=2071 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=2105
 (fs_start=2063)
 A
 TACTGAGAGACAGGCTAATTTTTTAGGGAAG
 TCCTTC CGGTCT
 GCCAGGGA
 ACAAGGGAAG
 PK4: -26.715000(kcal/mol): PK_start=2078 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2115
 (fs_start=2063)
 CTAC
 AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
 GGACCGGAAG GGAA
 TCTTCA
 GAATTT
 =====
 (305) AF004394
 =====
 PK1: -13.555000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2092
 (fs_start=2084)
 A
 GAAAGGAAGGACACCAAATGAAAGATTGT
 GACA GAGAGTC
 TTTTTAGGG
 GCTAAT
 PK2: -20.460000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2105
 (fs_start=2084)
 C
 GAAGGACACCAAATGAAAGATTGTACTGAGAGA
 GATTTTTT A ATCGGA
 TGGCCTTC
 GGAAGATC
 PK3: -26.110000(kcal/mol): PK_start=2092 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=2126
 (fs_start=2084)
 A
 TACTGAGAGACAGGCTAATTTTTTAGGGAAG
 CCCTTC CGGTCT
 GCCAGGGA
 ACAAGGGGAG
 PK4: -22.615000(kcal/mol): PK_start=2099 sp=7 s1=9 s2=4 l1=6 l2=5 L3=0 PK_end=2135
 (fs_start=2084)
 CCCACA
 AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTT

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                GGACCGGAG    GGGA
                    TTCTAC
            GAATT
PK4B:  -30.395000(kcal/mol): PK_start=2099 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2162
(fs_start=2084)
                    TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
                GGACCGGA    GGGG
                    CCCCAC
            GAATTTTCTACAGAGCAGACCAGAGCCAACAG

=====
(306) AF004885
=====
PK1:  -10.640000(kcal/mol): PK_start=1511 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1549
(fs_start=1542)
                    A
            TTGGAAATGTGGGAAGGAGGGACACCAA
                GTT    AGAAAGT
                    TTTTTTAGG
            CACTGAAAGACAGGCTAA

PK2:  -21.980000(kcal/mol): PK_start=1527 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1564
(fs_start=1542)
                    C
            GAGGGACACCAAATGAAAGATTGCACTGAAAGA
                GATTTTTT    AATCGGA
                    TTGGCCTTC
            GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1551 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1584
(fs_start=1542)
                    AAA
            ACTGAAAGACAGGCTAATTTTTTAGGGA
                CCT    TCCGGTTT
                    AGGCCAGGGA
            AGAAAGGGG

PK4:  -24.120000(kcal/mol): PK_start=1557 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=1595
(fs_start=1542)
                    TTCCAGAAA
            AGACAGGCTAATTTTTTAGGGAAAATTTGGCC
                GGACCGG    AGGGG
                    TCCTCAG
            GAATTT

PK4B:  -21.200000(kcal/mol): PK_start=1558 sp=8 s1=6 s2=4 l1=9 l2=33 L3=1 PK_end=1619
(fs_start=1542)
                    TTCCAGAAA
            GACAGGCTAATTTTTTAGGGAAAATTTGGCC

```

GACCGG A GGGG
CTCCAC
GGAATTTTCCTCAGAACAGACTGGAACCAACAG

=====
(307) AF005494
=====

PK1: -15.100000(kcal/mol): PK_start=1392 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1420
(fs_start=1412)

CA
GAAGAGAGGGACACCAAATGAAGGACTG

GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1397 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1434
(fs_start=1412)

C
GAGGGACACCAAATGAAGGACTGCACTGAGAGA

GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -18.320000(kcal/mol): PK_start=1421 sp=0 s1=4 s2=4 l1=5 l2=10 L3=0 PK_end=1451
(fs_start=1412)

AATTT
ACTGAGAGACAGGCTAATTTTTTAGGGAA

CCTT CCGG
GGCCCG
AACAAAGGGGA

PK4: -18.065000(kcal/mol): PK_start=1430 sp=10 s1=5 s2=4 l1=8 l2=6 L3=0 PK_end=1461
(fs_start=1412)

TCCAACAA
CAGGCTAATTTTTTAGGGAAAATTTGGCCT

CCGGA GGGG
CTTCAT
CGGAAA

PK4B: -24.675000(kcal/mol): PK_start=1430 sp=10 s1=5 s2=4 l1=8 l2=35 L3=0
PK_end=1490 (fs_start=1412)

TCCAACAA
CAGGCTAATTTTTTAGGGAAAATTTGGCCT

CCGGA GGGG
CCCCGC
CGGAACTTCATCCAGAACAGGCCAGAGCCGTCAG

=====
(308) AF005495
=====

PK1: -13.555000(kcal/mol): PK_start=1416 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1444
(fs_start=1436)

A
GAAAGGAAGGACACCAGATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1421 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1457
(fs_start=1436)

C
GAAGGACACCAGATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1444 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1478
(fs_start=1436)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -29.020000(kcal/mol): PK_start=1451 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1488
(fs_start=1436)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(309) AF005496
=====

PK1: -12.160000(kcal/mol): PK_start=1403 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1441
(fs_start=1434)

A
TTGGAAATGTGGAAGAGAAGGACATCAG
GTC AGAAAGT
TTTTTTAGG
CACAGAGAGACAGGCTAA

PK2: -18.660000(kcal/mol): PK_start=1421 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1456
(fs_start=1434)

C
AGGACATCAGATGAAAGACTGCACAGAGAGA
TTTTTT AATCGGA
TTGGCCTTC
AGGGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1443 sp=0 s1=3 s2=8 l1=3 l2=9 l3=0 PK_end=1476
(fs_start=1434)

AAA
ACAGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AGCAAAGGG

PK4: -19.960000(kcal/mol): PK_start=1449 sp=7 s1=7 s2=4 l1=10 l2=6 l3=0 PK_end=1486
(fs_start=1434)

TTCCAGCAAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCC
GGACCGG AGGG
TCTCCA
AAATTT

=====
(310) AF033819
=====

PK1: -13.555000(kcal/mol): PK_start=1610 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1638
(fs_start=1630)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1615 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1651
(fs_start=1630)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1638 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1672
(fs_start=1630)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1645 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1682
(fs_start=1630)

CTAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(311) AF042100
=====

PK1: -13.595000(kcal/mol): PK_start=2063 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2091
(fs_start=2083)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=2068 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2104
(fs_start=2083)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -24.390000(kcal/mol): PK_start=2091 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=2125
(fs_start=2083)

A
TACTGAAAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCGGGAA
ACAAGGGAAG

PK4: -26.045000(kcal/mol): PK_start=2098 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2135
(fs_start=2083)

CTAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGCCGGAAG GGAA
TCTTCA
AAATTT

=====
(312) AF042101
=====

PK1: -13.555000(kcal/mol): PK_start=2069 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2097
(fs_start=2089)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2074 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2110
(fs_start=2089)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA

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                                TGGCCTTC
                GGAAGATC
PK3:  -26.110000(kcal/mol): PK_start=2097 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=2131
(fs_start=2089)
                                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                CCCTTC      CGGTCT
                                GCCAGGGA
                ACAAGGGAAG

PK4:  -26.715000(kcal/mol): PK_start=2104 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2141
(fs_start=2089)
                                CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
                GGACCGGAAG      GGAA
                                TCTTCA
                GAATTT

=====
(313) AF042102
=====
PK1:  -13.555000(kcal/mol): PK_start=1422 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1450
(fs_start=1442)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                GACA      GAGAGTC
                                TTTTTAGGG
                GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1427 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1463
(fs_start=1442)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT      A      ATCGGA
                                TGGCCTTC
                GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1450 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1484
(fs_start=1442)
                                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                CCCT      TCCGGTCT
                                AGGCCAGGGA
                ACAAGGGG

PK4:  -26.235000(kcal/mol): PK_start=1457 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1494
(fs_start=1442)
                                CCAC
AGACAGGCTAATTTTTTAGGAAAATCTGGCCTTC
                GGACCGGAGG      GGAA

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                                TCTTCA
                                GAACTT

PK4B:  -30.875000(kcal/mol): PK_start=1457 sp=7 s1=8 s2=5 l1=7 l2=32 L3=0 PK_end=1521
(fs_start=1442)
                                TCCCACA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT
                                GGACCGGA    GGGGA
                                CCCCTct
                                GAACTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(314) AF042104
=====

PK1:  -13.555000(kcal/mol): PK_start=1398 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1426
(fs_start=1418)
                                A
GAAAGGTAGGACACCAAATGATAGATTGT
                                GACA    GAGAGTC
                                TTTTtaggg
                                GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1403 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1439
(fs_start=1418)
                                C
GTAGGACACCAAATGATAGATTGTTACTGAGAGA
                                GATTTTTT  A  ATCGGA
                                TGGCCTTC
                                GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1426 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1460
(fs_start=1418)
                                AAA
TACTGAGAGACAGGCTAATTTTTTTAGGGA
                                CCCT    TCCGGTCT
                                AGGCCAGGGA
                                ACAAGGGG

PK4:  -26.235000(kcal/mol): PK_start=1433 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1470
(fs_start=1418)
                                CCAC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAGG    GGAA
                                TCTTCA
                                GAATTT

PK4B:  -30.395000(kcal/mol): PK_start=1433 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1496
(fs_start=1418)
                                TCCCACAA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT
                                GGACCGGA    GGGG

```

CCCCAC
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(315) AF042106
=====

PK1: -13.555000(kcal/mol): PK_start=1881 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1909
(fs_start=1901)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1886 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1922
(fs_start=1901)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1909 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1943
(fs_start=1901)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1916 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1953
(fs_start=1901)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAACTT

PK4B: -30.875000(kcal/mol): PK_start=1916 sp=7 s1=8 s2=5 l1=7 l2=32 L3=0 PK_end=1980
(fs_start=1901)

TCCCACA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGGA
CCCCtct
GAACTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(316) AF049337
=====

PK1: -15.100000(kcal/mol): PK_start=1433 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1461
(fs_start=1453)

CA
GAAAGGAGGGACATCAAATGAAAGACTG

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          GAC   AGAGAGTC
                TTTTTTAGGG
    GCTAA
PK2:  -20.460000(kcal/mol): PK_start=1438 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1474
(fs_start=1453)
                C
GAGGGACATCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT A  ATCGGA
                                TGGCCTTC
                GGAGAATG
PK3:  -21.005000(kcal/mol): PK_start=1462 sp=0 s1=3 s2=6 l1=5 l2=9 L3=0 PK_end=1493
(fs_start=1453)
                GAATG
ACTGAGAGACAGGCTAATTTTTTAGGGA
                CCT   TCCGGT
                                AGGCCAGG
                AGCAAAGGG
PK4:  -20.695000(kcal/mol): PK_start=1470 sp=9 s1=8 s2=4 l1=4 l2=5 L3=0 PK_end=1502
(fs_start=1453)
                CAGC
ACAGGCTAATTTTTTAGGGAGAATGTGGCCTTC
                ACCGGAGG   GAAA
                                TTTTCT
                GGAAA
=====
(317) AF049494
=====
PK1:  -13.065000(kcal/mol): PK_start=1596 sp=0 s1=3 s2=8 l1=5 l2=16 L3=0 PK_end=1638
(fs_start=1631)
                CCAAA
GCTGTTGGAAATGTGGAAAGGAAGGACA
                TGT   TAGAAAGT
                                ATTTTTTAGG
                ATTGAGAGCCAGGCTA
PK2:  -17.160000(kcal/mol): PK_start=1616 sp=0 s1=7 s2=6 l1=2 l2=8 L3=2 PK_end=1651
(fs_start=1631)
                CC
GAAGGACACCAAATGAAAGATTGTATTGAGAG
                GATTTTTT TA  ATCGGA
                                TGGCCTTC
                GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1639 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1673
(fs_start=1631)
                AAA
TATTGAGAGCCAGGCTAATTTTTTAGGGA

```

CCCT TCCGGTCT
 AGGCCAGGGA
 ACAAGGGA
 PK4: -29.02000(kcal/mol): PK_start=1646 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1683
 (fs_start=1631)

CCAC
 AGCCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
 GGACCGGAAG GGAA
 CCTTCA
 GAATTT

=====
 (318) AF049495
 =====

PK1: -10.765000(kcal/mol): PK_start=1617 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1645
 (fs_start=1637)

A
 GAAAGGAAGGACACCAAATGAAAGATTGT
 GACA GAAAGTT
 TTTTTAGGG
 GCTAAT

PK2: -18.470000(kcal/mol): PK_start=1622 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1658
 (fs_start=1637)

C
 GAAGGACACCAAATGAAAGATTGTATTGAAAGA
 GATTTTTT A ATCGGA
 TGGCCTTC
 GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1645 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1679
 (fs_start=1637)

AAA
 TATTGAAAGACAGGCTAATTTTTTAGGGA
 CCCT TCCGGTCT
 AGGCCAGGGA
 ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1652 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1689
 (fs_start=1637)

CCAC
 AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
 GGACCGGAAG GGAA
 TCTTCA
 GAATTT

=====
 (319) AF061640
 =====

PK1: -11.460000(kcal/mol): PK_start=1469 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=1495
(fs_start=1489)

 CACG
GAAAGGAGGGACATCAAATGAAAGACTG
 GAC AGAAAG
 TTTTTTAG
 GCTAA

PK2: -18.800000(kcal/mol): PK_start=1476 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1511
(fs_start=1489)

 C
GGGACATCAAATGAAAGACTGCACGGAAAGA
 TTTTTT AATCGGA
 TTGGCCTTC
 AGGGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1498 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1531
(fs_start=1489)

 AAA
ACGGAAAGACAGGCTAATTTTTTTAGGGA
 CCT TCCGGTTT
 AGGCCAGGGA
 AACAAGGGG

PK4: -22.705000(kcal/mol): PK_start=1504 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1541
(fs_start=1489)

 CAAC
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTC
 GGACCGGAGG GGAA
 TCTTCA
 GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1504 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1567
(fs_start=1489)

 TCCAACAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
 GGACCGGA GGGG
 CCCCAC
 GAATTTTCTTCAGAACAGGCCAGAGCCAACAG

=====
(320) AF061642
=====

PK1: -11.420000(kcal/mol): PK_start=1470 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=1496
(fs_start=1490)

 CACG
GAAAGGAAGGACATCAAATGAAAGACTG
 GAC AGAGAG
 TTTTTTAG
 GCTAA

PK2: -18.76000(kcal/mol): PK_start=1477 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1512
(fs_start=1490)

C
AGGACATCAAATGAAAGACTGCACGGAGAGA
TTTTTT AATCGGA
TTGGCCTTC
AGGGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1499 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1532
(fs_start=1490)

AAA
ACGGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AACAAGGGG

PK4: -22.705000(kcal/mol): PK_start=1505 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1542
(fs_start=1490)

CAAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1505 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1568
(fs_start=1490)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCTTCAGAACAGGACAGAACCAACAG

=====
(321) AF063223
=====

PK1: -10.795000(kcal/mol): PK_start=1412 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1440
(fs_start=1432)

A
GGAAGGAGGGACACCAAATGAAAGATTGT
GACA GGGAGTC
TTTTTAGGG
GCTAAT

PK2: -19.180000(kcal/mol): PK_start=1417 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1454
(fs_start=1432)

C
GAGGGACACCAAATGAAAGATTGTACTGAGGGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1441 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1474
(fs_start=1432)

AAA
ACTGAGGGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AGCAAGGGG

PK4: -22.215000(kcal/mol): PK_start=1447 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1484
(fs_start=1432)

CCAGCA
GGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGAG GGGA
TCCTCA
AAATTT

PK4B: -26.865000(kcal/mol): PK_start=1447 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1510
(fs_start=1432)

TCCAGCAA
GGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGA GGGG
CCCCAC
AAATTTTCCTCAAAGCAGACCGGAACCAACAG

=====
(322) AF063224
=====

PK1: -15.585000(kcal/mol): PK_start=1413 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1441
(fs_start=1433)

A
GGAAGGAGGGACATCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -21.940000(kcal/mol): PK_start=1418 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1455
(fs_start=1433)

C
GAGGGACATCAAATGAAAGACTGTACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1442 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1475
(fs_start=1433)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AGCAAGGGG

PK4: -22.215000(kcal/mol): PK_start=1448 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1485
(fs_start=1433)

CCAGCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGAG GGGA
TCCTCA
AAATTT

PK4B: -26.865000(kcal/mol): PK_start=1448 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1511
(fs_start=1433)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGA GGGG
CCCCAC
AAATTTTCCTCAAAGCAGACCGGAACCAACAG

=====
(323) AF064699
=====

PK1: -10.425000(kcal/mol): PK_start=2086 sp=0 s1=4 s2=6 l1=2 l2=5 L3=0 PK_end=2112
(fs_start=2106)

AC
GAAAGGAGGGACATCAAATGAAAGATTGT
GACA GAGAGA
TTTTTTAG
GCTAA

PK2: -17.180000(kcal/mol): PK_start=2093 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=2127
(fs_start=2106)

C
GGGACATCAAATGAAAGATTGTACAGAGAGA
TTTTTT A ATCGGA
TGGCCTTC
AGGGAAAATC

PK3: -23.815000(kcal/mol): PK_start=2115 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2148
(fs_start=2106)

AAA
ACAGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTCT
AGGCCAGGGA
AACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=2121 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2158
(fs_start=2106)

CAAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=2121 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2184
(fs_start=2106)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCTTCAGAACAGGCCAGAGCCAACAG

=====
(324) AF067154
=====

PK1: -14.985000(kcal/mol): PK_start=1428 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1456
(fs_start=1448)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1433 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1470
(fs_start=1448)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1456 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1490
(fs_start=1448)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1463 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1500
(fs_start=1448)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -27.345000(kcal/mol): PK_start=1463 sp=7 s1=8 s2=5 l1=7 l2=32 L3=0 PK_end=1527
(fs_start=1448)

TCCCACA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGGA
CCCCTCC
GAATTTCTTCAGAACAGACCAGAGCCAACAG

=====
(325) AF067156
=====

PK1: -14.985000(kcal/mol): PK_start=1428 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1456
(fs_start=1448)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1433 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1470
(fs_start=1448)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAAT

PK3: -23.745000(kcal/mol): PK_start=1456 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1490
(fs_start=1448)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1463 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1500
(fs_start=1448)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1463 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1526
(fs_start=1448)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCGC
GAATTTCTTCAGAACAGACCAGAGCCAACAG

=====
(326) AF067157
=====

PK1: -14.985000(kcal/mol): PK_start=1427 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1455
(fs_start=1447)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC

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          TTTTtaggg
    GCTAAT
PK2:  -20.330000(kcal/mol): PK_start=1432 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1469
(fs_start=1447)
          C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
          GATTTTTT   AATCGGA
          TTGGCCTTC
    GGAAAAT
PK3:  -23.745000(kcal/mol): PK_start=1455 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1489
(fs_start=1447)
          AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
          CCCT   TCCGGTTT
          AGGCCAGGGA
    ACAAGGGG
PK4:  -23.985000(kcal/mol): PK_start=1462 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1500
(fs_start=1447)
          TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
          GGACCGGA   GGGG
          CTCCAG
    GAATTTTC
PK4B:  -26.865000(kcal/mol): PK_start=1462 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1525
(fs_start=1447)
          TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
          GGACCGGA   GGGG
          CCCCAC
    GAATTTCTCCAGAGCAGACCAGAGCCGACAG
=====
(327) AF067158
=====
PK1:  -14.985000(kcal/mol): PK_start=1427 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1455
(fs_start=1447)
          A
GAAAGGAAGGACACCAAATGAAAGACTGT
          GACG   GAGAGTC
          TTTTtaggg
    GCTAAT
PK2:  -20.330000(kcal/mol): PK_start=1432 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1469
(fs_start=1447)
          C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
          GATTTTTT   AATCGGA

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TTGGCCTTC

GGAAAAAT

PK3: -23.745000(kcal/mol): PK_start=1455 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1489
(fs_start=1447)

AAA

TACTGAGAGGCAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT

AGGCCAGGGA

ACAAGGGG

PK4: -23.985000(kcal/mol): PK_start=1462 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1500
(fs_start=1447)

TCCCACAA

AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG

CTCCAG

GAATTTTC

PK4B: -26.865000(kcal/mol): PK_start=1462 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1525
(fs_start=1447)

TCCCACAA

AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG

CCCCAC

GAATTTCTCCAGAGCAGACCAGAGCCAACAG

=====
(328) AF067159
=====

PK1: -14.985000(kcal/mol): PK_start=1418 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1446
(fs_start=1438)

A

GAAAGGAAGGACACCAAATGAAAGACTGT

GACG GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1423 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1460
(fs_start=1438)

C

GAAGGACACCAAATGAAAGACTGTACTGAGAGG

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAAT

PK3: -23.745000(kcal/mol): PK_start=1446 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1480
(fs_start=1438)

AAA

TACTGAGAGGCAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT


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                                AGGCCAGGGA
                ACAAGGGG
PK4:  -23.985000(kcal/mol): PK_start=1453 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1491
(fs_start=1438)
                                TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
                                GGACCGGA    GGGG
                                CTCCAG
                GAATTTTC

PK4B:  -26.865000(kcal/mol): PK_start=1453 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1516
(fs_start=1438)
                                TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
                                GGACCGGA    GGGG
                                CCCCAC
                GAATTTCTCCAGAGCAGACCAGAGCCAACAG

=====
(329) AF069140
=====
PK1:  -13.555000(kcal/mol): PK_start=2061 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2089
(fs_start=2081)
                                A
GAAAGGAAGGACATCAAATGAAAGATTGT
                                GACA    GAGAGTC
                                TTTTTAGGG
                GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=2066 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2102
(fs_start=2081)
                                C
GAAGGACATCAAATGAAAGATTGTACTGAGAGA
                                GATTTTTT  A  ATCGGA
                                TGGCCTTC
                GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=2089 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2123
(fs_start=2081)
                                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCCT    TCCGGTCT
                                AGGCCAGGGA
                ACAAGGAA

PK4:  -25.045000(kcal/mol): PK_start=2096 sp=7 s1=9 s2=5 l1=5 l2=5 L3=0 PK_end=2133
(fs_start=2081)
                                CCCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT
                                GGACCGGAA    AGGAA

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                                TTCTTCA
                                GAATT
=====
(330) AF069669
=====
PK1:  -15.140000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
(fs_start=1283)
                                CA
GGAAGGAAGGGCACCAAATGAAAGACTG
                                GAC   AGAAAGTC
                                TTTTTTAGGG
                                GCTAA

PK2:  -21.980000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)
                                C
GAAGGGCACCAAATGAAAGACTGCACTGAAAGA
                                GATTTTTT   AATCGGA
                                TTGGCCTTC
                                GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1292 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1325
(fs_start=1283)
                                AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
                                CCT   TCCGGTTT
                                AGGCCAGGAA
                                AGCAAAGGG

PK4:  -21.815000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1335
(fs_start=1283)
                                TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                                GGACCGGA   GGG
                                TCCTCA
                                AAATTT

=====
(331) AF069670
=====
PK1:  -15.140000(kcal/mol): PK_start=1268 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1296
(fs_start=1288)
                                CA
GGAAAGAGGGACCAAATGAAGGACTG
                                GAC   AGAAAGTC
                                TTTTTTAGGG
                                GCTAA

PK2:  -20.500000(kcal/mol): PK_start=1273 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1309
(fs_start=1288)
                                C
GAGGGACACCAAATGAAGGACTGCACTGAAAGA

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          GATTTTTT A ATCGGA
                    TGGCCTTC
    GGAAAATG
PK3:  -21.005000(kcal/mol): PK_start=1297 sp=0 s1=3 s2=6 l1=5 l2=9 L3=0 PK_end=1328
(fs_start=1288)
          AAATG
ACTGAAAGACAGGCTAATTTTTTAGGGA
          CCT   TCCGGT
                    AGGCCAGG
    AGCAAGGGG
PK4:  -22.335000(kcal/mol): PK_start=1305 sp=9 s1=7 s2=4 l1=6 l2=8 L3=0 PK_end=1340
(fs_start=1288)
                    CCAGCA
ACAGGCTAATTTTTTAGGGAAAATGTGGCCTT
          ACCGGAG   GGGA
                    TCCTCA
    GGAAATTT
PK4B: -26.985000(kcal/mol): PK_start=1305 sp=9 s1=6 s2=4 l1=8 l2=34 L3=0 PK_end=1366
(fs_start=1288)
                    TCCAGCAA
ACAGGCTAATTTTTTAGGGAAAATGTGGCCTT
          ACCGGA   GGGG
                    CCCCAC
    GGAAATTTTCCTCAGAGCAGACCGGAGCCAACAG
=====
(332) AF069671
=====
PK1:  -15.625000(kcal/mol): PK_start=1287 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1315
(fs_start=1307)
          A
GAAAGGAGGGACACCAAATGAAAGACTGT
          GACA   GAAAGTC
                    TTTTTAGGG
    GCTAAT
PK2:  -21.980000(kcal/mol): PK_start=1292 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1329
(fs_start=1307)
          C
GAGGGACACCAAATGAAAGACTGTACTGAAAGA
          GATTTTTT   AATCGGA
                    TTGGCCTTC
    GGAGAAT
PK3:  -17.120000(kcal/mol): PK_start=1315 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1349
(fs_start=1307)
          AA
TACTGAAAGACAGGCTAATTTTTTAGGGAG

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          CCTTC   CGGTTT
                GCCGGGAA
          AGCAAGGGGAG

PK4:  -20.495000(kcal/mol): PK_start=1322 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1359
(fs_start=1307)
                CCAGCA
AGACAGGCTAATTTTTTTAGGGAGAATTTGGCCTT
                GGGCCGGAG   GGGA
                TCCTCA
          AAATTT

PK4B:  -25.145000(kcal/mol): PK_start=1322 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1385
(fs_start=1307)
                TCCAGCAA
AGACAGGCTAATTTTTTTAGGGAGAATTTGGCCT
                GGGCCGGA   GGGG
                CCCCAC
          AAATTTTCCTCAGAGCAGACTGGAGCCAACAG

=====
(333) AF069672
=====
PK1:  -15.140000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
(fs_start=1283)
                CA
GGAAGGAGGGACATCAAATGAAAGACTG
                GAC   AGAAAGTC
                TTTTTTAGGG
          GCTAA

PK2:  -21.980000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)
                C
GAGGGACATCAAATGAAAGACTGCACTGAAAGA
                GATTTTTT   AATCGGA
                TTGGCCTTC
          GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1292 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1325
(fs_start=1283)
                AAA
ACTGAAAGACAGGCTAATTTTTTTAGGGA
                CCT   TCCGGTTT
                AGGCCAGGAA
          AGCAAAGGG

PK4:  -21.815000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1335
(fs_start=1283)
                TCCAGCAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT

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                GGACCGGA    GGGA
                    TCCTCA
AAATTT

=====
(334) AF069673
=====
PK1:  -15.14000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
(fs_start=1283)
                CA
GGAAGGAAGGACATCAAATGAAAGACTG
                GAC    AGAAAGTC
                    TTTTTTAGGG
                GCTAA

PK2:  -21.98000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)
                C
GAAGGACATCAAATGAAAGACTGCACTGAAAGA
                GATTTTTT    AATCGGA
                    TTGGCCTTC
                GGAAAAT

PK3:  -20.28500(kcal/mol): PK_start=1292 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1325
(fs_start=1283)
                AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
                CCT    TCCGGTTT
                    AGGCCAGGAA
                AACAGGGGG

PK4:  -25.03500(kcal/mol): PK_start=1298 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1335
(fs_start=1283)
                CAAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
                GGACCGGAGG    GGGA
                    TCCTCA
                AAATTT

PK4B:  -27.72500(kcal/mol): PK_start=1298 sp=7 s1=9 s2=4 l1=6 l2=32 L3=0 PK_end=1361
(fs_start=1283)
                CCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
                GGACCGGAG    GGGG
                    CCCCAC
                AAATTTTCCTCAGAGCAGACCGGAGCCAACAG

=====
(335) AF070521
=====

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PK1: -13.555000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2092
(fs_start=2084)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2105
(fs_start=2084)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=2092 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=2126
(fs_start=2084)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=2099 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2136
(fs_start=2084)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(336) AF071474
=====

PK1: -10.640000(kcal/mol): PK_start=1255 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1293
(fs_start=1286)

A
TTGGAAATGTGGGAAGGAGGGACACCAA
GTT AGAAAGT
TTTTTTAGG
CACTGAGAGACAGGCTAA

PK2: -20.460000(kcal/mol): PK_start=1271 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1307
(fs_start=1286)

C
GAGGGACACCAAATGAAAGATTGCACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -23.815000(kcal/mol): PK_start=1295 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1328
(fs_start=1286)

AAA
ACTGAGAGACAGGCTAATTTTTTTAGGGA
CCT TCCGGTCT
AGGCCAGGAA
AGCAAGGGG

PK4: -25.745000(kcal/mol): PK_start=1301 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1338
(fs_start=1286)

CCAGCA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTT
GGACCGGAG GGGG
TCCTCA
AAATTT

PK4B: -30.395000(kcal/mol): PK_start=1301 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1364
(fs_start=1286)

TCCAGCAA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTTCCTCAGAGCAGACTGGAGCCAACAG

=====
(337) AF075701
=====

PK1: -10.640000(kcal/mol): PK_start=1380 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1418
(fs_start=1411)

A
TTGGAAGTGTGGAAGGAAGGACACCAA
GTT AGAAAGT
TTTTTTAGG
CACGGAAGACAGGCTAA

PK2: -18.800000(kcal/mol): PK_start=1398 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1433
(fs_start=1411)

C
AGGACACCAAATGAAAGATTGCACGGAAAGA
TTTTTT AATCGGA
TTGGCCTTC
AGGGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1420 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1453
(fs_start=1411)

AAA
ACGGAAAGACAGGCTAATTTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AGCAAGGGA

PK4: -25.490000(kcal/mol): PK_start=1426 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1463
(fs_start=1411)

CAGC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

PK4B: -25.015000(kcal/mol): PK_start=1426 sp=7 s1=9 s2=4 l1=6 l2=33 L3=0 PK_end=1490
(fs_start=1411)

CCAGCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAA GGGAA
CCCTCC
GAATTTCCCTTCAGAGCAGACCAGAGCCAACAGC

=====
(338) AF075702
=====

PK1: -10.390000(kcal/mol): PK_start=1375 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1413
(fs_start=1406)

A
TTGGAAATGTGGAAGGGAAGGACACCAG
GTT AGAAAGT
TTTTTTAGG
CACTGAAAGACAGGCTAA

PK2: -20.500000(kcal/mol): PK_start=1391 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1427
(fs_start=1406)

C
GAAGGACACCAGATGAAAGATTGCACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATA

PK3: -24.465000(kcal/mol): PK_start=1414 sp=0 s1=4 s2=6 l1=5 l2=8 L3=0 PK_end=1446
(fs_start=1406)

AGATA
CACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGT
AGGCCAGG
ACAAGGGA

PK4: -25.710000(kcal/mol): PK_start=1423 sp=9 s1=8 s2=4 l1=4 l2=8 L3=0 PK_end=1458
(fs_start=1406)

CCAC
ACAGGCTAATTTTTTAGGGAAGATATGGCCTTC
ACCGGAAG GGAA
CCTTCA
GGGAATTT

=====
(339) AF076474
=====

PK1: -11.420000(kcal/mol): PK_start=1427 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=1453
(fs_start=1447)

CACG
GAAAGGAAGGCCATCAAATGAAAGACTG
GAC AGAGAG
TTTTTTAG
GCTAA

PK2: -18.760000(kcal/mol): PK_start=1434 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1469
(fs_start=1447)

C
AGGCCATCAAATGAAAGACTGCACGGAGAGA
TTTTTT AATCGGA
TTGGCCTC
AGGGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1456 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1489
(fs_start=1447)

AAA
ACGGAGAGACAGGCTAATTTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AACAAGGGG

PK4: -18.485000(kcal/mol): PK_start=1462 sp=7 s1=9 s2=4 l1=6 l2=5 L3=0 PK_end=1498
(fs_start=1447)

CCAACA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTT
GGACCGGAG GGGA
TTCTCC
GAATT

PK4B: -26.865000(kcal/mol): PK_start=1462 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1525
(fs_start=1447)

TCCAACAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCTCCAGAACAGACCAGAGCCAACAG

=====
(340) AF076475
=====

PK1: -12.160000(kcal/mol): PK_start=1391 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1429
(fs_start=1422)

A
TTGGAAATGTGGGAAGGAAGGACATCAG
GTC AGAAAGT

TTTTTTAGG
CACTGAGAGACAGGCTAA

PK2: -21.940000(kcal/mol): PK_start=1407 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1444
(fs_start=1422)

C
GAAGGACATCAGATGAAAGACTGCACTGAGAGA

GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1431 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1464
(fs_start=1422)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT
AGGCCGGGAA
AACAAAGGG

PK4: -18.355000(kcal/mol): PK_start=1439 sp=9 s1=6 s2=4 l1=8 l2=8 L3=0 PK_end=1474
(fs_start=1422)

TCCAACAA
ACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GCCGGA GGA
TCTTCA
GGAAATTT

=====
(341) AF076998
=====

PK1: -9.510000(kcal/mol): PK_start=1419 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1447
(fs_start=1439)

CA
GAAGAGAAGGACACCAAATGAAAGACTG

GAC AGGGAGTT
TTTTTTAGGG
GCTAA

PK2: -14.470000(kcal/mol): PK_start=1424 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1461
(fs_start=1439)

C
GAAGGACACCAAATGAAAGACTGCATTGAGGGA

GATTTTTT AATCGGA
TTGGCTTTC
GGAGAGT

PK3: -20.800000(kcal/mol): PK_start=1447 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1481
(fs_start=1439)

G
CATTGAGGGACAGGCTAATTTTTTAGGGAGA

CCCTTT CGGTTT

GCCAGGGA

ACAAGGGAAG

PK4: -22.335000(kcal/mol): PK_start=1454 sp=7 s1=9 s2=4 l1=6 l2=25 L3=0 PK_end=1510
(fs_start=1439)

CCCACA

GGACAGGCTAATTTTTTAGGGAGAGTTTGGCTTT

GGACCGGAA GGGA

CCCTCA

GAATTTCTCCAGAGCAGGCCAGAA

=====

(342) AF077336

=====

PK1: -15.140000(kcal/mol): PK_start=1401 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1429
(fs_start=1421)

CA

GAAGAGAAGGACACCAAATGAAAGACTG

GAC AGAAAGTC

TTTTTTAGGG

GCTAA

PK2: -21.980000(kcal/mol): PK_start=1406 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1443
(fs_start=1421)

C

GAAGGACACCAAATGAAAGACTGCACTGAAAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -18.320000(kcal/mol): PK_start=1430 sp=0 s1=4 s2=4 l1=5 l2=10 L3=0 PK_end=1460
(fs_start=1421)

AATTT

ACTGAAAGACAGGCTAATTTTTTAGGGAA

CCTT CCGG

GGCCCG

AACAAGGGGA

PK4: -22.820000(kcal/mol): PK_start=1439 sp=10 s1=7 s2=4 l1=4 l2=9 L3=0 PK_end=1473
(fs_start=1421)

CAAC

CAGGCTAATTTTTTAGGGAAAATTTGGCCTTC

CCGGAGG GGAA

CCTTCA

CGGAAATTT

PK4B: -24.675000(kcal/mol): PK_start=1439 sp=10 s1=5 s2=4 l1=8 l2=35 L3=0
PK_end=1499 (fs_start=1421)

TCCAACAA

CAGGCTAATTTTTTAGGGAAAATTTGGCCT

CCGGA GGGG

CCCCAC
CGGAAATTTTCCTTCAGAGCAGACCAGAGCCAACAG

=====
(343) AF082394
=====

PK1: -15.100000(kcal/mol): PK_start=1384 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1412
(fs_start=1404)

CA
GAAAGGAAGGACACCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1389 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1426
(fs_start=1404)

C
GAAGGACACCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAGAT

PK3: -19.120000(kcal/mol): PK_start=1413 sp=0 s1=5 s2=6 l1=1 l2=11 L3=0 PK_end=1446
(fs_start=1404)

A
ACTGAGAGACAGGCTAATTTTTTTAGGGAAG
CCTTC CGGTTT
GCCAGGGA
AGCAAAGGGAG

PK4: -19.960000(kcal/mol): PK_start=1419 sp=7 s1=7 s2=4 l1=10 l2=6 L3=0 PK_end=1456
(fs_start=1404)

TTCCAGCAAA
AGACAGGCTAATTTTTTTAGGGAAGATTTGGCC
GGACCGG AGGG
TCTCCA
GAACTT

=====
(344) AF082395
=====

PK1: -15.100000(kcal/mol): PK_start=1385 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1413
(fs_start=1405)

CA
GAAAGGAAGGACACCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1390 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1427
(fs_start=1405)

C
GAAGGACACCAAATGAAAGACTGCACTGAGAGA

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          GATTTTTT   AATCGGA
                    TTGGCCTTC
      GGAAGAT
PK3:  -19.120000(kcal/mol): PK_start=1414 sp=0 s1=5 s2=6 l1=1 l2=11 L3=0 PK_end=1447
(fs_start=1405)
          A
ACTGAGAGACAGGCTAATTTTTTTAGGGAAG
          CCTTC   CGGTTT
                    GCCAGGGA
      AGCAAAGGGAG
PK4:  -19.960000(kcal/mol): PK_start=1420 sp=7 s1=7 s2=4 l1=10 l2=6 L3=0 PK_end=1457
(fs_start=1405)
                    TTCCAGCAAA
AGACAGGCTAATTTTTTTAGGGAAGATTTGGCC
          GGACCGG   AGGG
                    TCTCCA
      GAATTT
=====
(345) AF084936
=====
PK1:  -10.925000(kcal/mol): PK_start=2017 sp=0 s1=3 s2=7 l1=4 l2=18 L3=0 PK_end=2058
(fs_start=2051)
          CAAA
CTGTTGAAATGTGGAAAGGAGGGACAT
          GTA   AGAAAGT
                    TTTTTTAGG
      CACAGAAAGACAGGCTAA
PK2:  -18.700000(kcal/mol): PK_start=2038 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=2073
(fs_start=2051)
          C
GGGACATCAAATGAAAGAATGCACAGAAAGA
          TTTTTT   AATCGGA
                    TTGGCCTTC
      AGGGAAAAT
PK3:  -20.285000(kcal/mol): PK_start=2060 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2093
(fs_start=2051)
          AAA
ACAGAAAGACAGGCTAATTTTTTTAGGGA
          CCT   TCCGGTTT
                    AGGCCAGGGA
      AACAAAGGGG
PK4:  -25.010000(kcal/mol): PK_start=2066 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2103
(fs_start=2051)
                    CAAC
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTTC

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                GGACCGGAGG    GGAA
                                CCTTCA
          GAATTT
PK4B:  -26.865000(kcal/mol): PK_start=2066 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2129
(fs_start=2051)
                                TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA    GGGG
                                CCCCAC
          GAATTTCC TTCAGAACAGGCCAGAGCCAACAG

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=====
(346) AF086817
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PK1:  -13.595000(kcal/mol): PK_start=2063 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2091
(fs_start=2083)
                                A
GAAAAGAAGGACATCAAATGAAAGATTGT
                GACA    GAAAGTC
                                TTTTTAGGG
          GCTAAT

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PK2:  -20.500000(kcal/mol): PK_start=2068 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2104
(fs_start=2083)
                                C
GAAGGACATCAAATGAAAGATTGTACTGAAAGA
                GATTTTTT    A    ATCGGA
                                TGGCCTTC
          GGAAAATC

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PK3:  -27.275000(kcal/mol): PK_start=2091 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2125
(fs_start=2083)
                                AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
                CCCT    TCCGGTCT
                                AGGCCAGGAA
          ACAAGGAA

```

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PK4:  -25.045000(kcal/mol): PK_start=2098 sp=7 s1=9 s2=5 l1=5 l2=5 L3=0 PK_end=2135
(fs_start=2083)
                                CCCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT
                GGACCGGAA    AGGAA
                                TTCTTCA
          AAATT

```

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=====
(347) AF107770
=====

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PK1: -13.555000(kcal/mol): PK_start=1436 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1464 (fs_start=1456)

A
GGAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -21.940000(kcal/mol): PK_start=1441 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1478 (fs_start=1456)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1465 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1498 (fs_start=1456)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AGCAAGGGG

PK4: -22.215000(kcal/mol): PK_start=1471 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1508 (fs_start=1456)

CCAGCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGAG GGGA
TCCTCA
AAATTT

PK4B: -26.865000(kcal/mol): PK_start=1471 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1534 (fs_start=1456)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCGC
AAATTTTCCTCAGAGCAGACCGGAACCAACAG

=====
(348) AF107771
=====

PK1: -15.625000(kcal/mol): PK_start=1454 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1482 (fs_start=1474)

A
GGAAGGAGGGACACCAAATGAAAGACTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -21.98000(kcal/mol): PK_start=1459 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1496
(fs_start=1474)

C
GAGGGACACCAAATGAAAGACTGTACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -22.02500(kcal/mol): PK_start=1482 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1516
(fs_start=1474)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCGGGAA
ACAAGGGG

PK4: -20.49500(kcal/mol): PK_start=1489 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1526
(fs_start=1474)

CCCACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGGCCGGAG GGGA
TCCTCA
AAATTT

PK4B: -25.14500(kcal/mol): PK_start=1489 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1552
(fs_start=1474)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA GGGG
CCCCAC
AAATTTTCCTCAGAGCAGACCGGAGCCATCAG

=====
(349) AF110959
=====

PK1: -15.02500(kcal/mol): PK_start=1542 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1570
(fs_start=1562)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.37000(kcal/mol): PK_start=1547 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1584
(fs_start=1562)

C
GAAGGACACCAAATGAAAGACTGTACTGAAAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1570 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1604
(fs_start=1562)

AAA
TACTGAAAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGA

PK4: -25.490000(kcal/mol): PK_start=1577 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1614
(fs_start=1562)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(350) AF110960
=====

PK1: -15.025000(kcal/mol): PK_start=1542 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1570
(fs_start=1562)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.370000(kcal/mol): PK_start=1547 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1584
(fs_start=1562)

C
GAAGGACACCAAATGAAAGACTGTACTGAAAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1570 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1604
(fs_start=1562)

AAA
TACTGAAAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGA

PK4: -25.490000(kcal/mol): PK_start=1577 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1614
(fs_start=1562)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(351) AF110961
=====

PK1: -15.025000(kcal/mol): PK_start=1542 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1570
(fs_start=1562)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.370000(kcal/mol): PK_start=1547 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1584
(fs_start=1562)

C
GAAGGACACCAAATGAAAGACTGTACTGAAAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAAT

PK3: -23.745000(kcal/mol): PK_start=1570 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1604
(fs_start=1562)

AAA
TACTGAAAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGA

PK4: -25.490000(kcal/mol): PK_start=1577 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1614
(fs_start=1562)

CCAC
AGGCAGGCTAATTTTTTAGGAAAATTTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(352) AF110962
=====

PK1: -14.985000(kcal/mol): PK_start=1542 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1570
(fs_start=1562)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1547 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1584
(fs_start=1562)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAAT

PK3: -23.745000(kcal/mol): PK_start=1570 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1604
(fs_start=1562)

AAA

TACTGAGAGGCAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT

AGGCCAGGGA

ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1577 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1614
(fs_start=1562)

CCAC

AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC

GGACCGGAGG GGAA

CCTTCA

GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1577 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1640
(fs_start=1562)

TCCCACAA

AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG

CCCCAC

GAATTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(353) AF110963
=====

PK1: -14.985000(kcal/mol): PK_start=1542 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1570
(fs_start=1562)

A

GAAAGGAAGGACACCAAATGAAAGACTGT

GACG GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1547 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1584
(fs_start=1562)

C

GAAGGACACCAAATGAAAGACTGTACTGAGAGG

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAAT

PK3: -23.745000(kcal/mol): PK_start=1570 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1604
(fs_start=1562)

AAA

TACTGAGAGGCAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT

```

                                AGGCCAGGGA
ACAAGGGG
PK4:  -25.010000(kcal/mol): PK_start=1577 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1614
(fs_start=1562)
                                CCAC
AGGCAGGCTAATTTTTTTAGGGAAAATTTGGCCTTC
                                GGACCGGAGG    GGAA
                                CCTTCA
                                GAATTT

PK4B:  -26.865000(kcal/mol): PK_start=1577 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1640
(fs_start=1562)
                                TCCCACAA
AGGCAGGCTAATTTTTTTAGGGAAAATTTGGCCT
                                GGACCGGA    GGGG
                                CCCCAC
                                GAATTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(354) AF110964
=====
PK1:  -15.585000(kcal/mol): PK_start=1542 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1570
(fs_start=1562)
                                A
GAAAGGAAGGACACCAAATGAAAGACTGT
                                GACA    GAGAGTC
                                TTTTTAGGG
                                GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1547 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1583
(fs_start=1562)
                                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
                                GATTTTTT A  ATCGGA
                                TGGCCTTC
                                GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1570 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1604
(fs_start=1562)
                                AAA
TACTGAGAGACAGGCTAATTTTTTTAGGGA
                                CCCT    TCCGGTCT
                                AGGCCAGGGA
                                ACAAGGGG

PK4:  -28.540000(kcal/mol): PK_start=1577 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1614
(fs_start=1562)
                                CCAC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAGG    GGAA

```

CCTTCA

GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1577 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1640
(fs_start=1562)

TCCCACAA

AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT

GGACCGGA GGGG

CCCCAC

GAATTTCCCTCAGAGCAGACCAGAGCCAACAG

=====

(355) AF110965

=====

PK1: -14.985000(kcal/mol): PK_start=1542 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1570
(fs_start=1562)

A

GAAAGGAAGGACACCAAATGAAAGACTGT

GACG GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1547 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1584
(fs_start=1562)

C

GAAGGACACCAAATGAAAGACTGTACTGAGAGG

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1570 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1604
(fs_start=1562)

AAA

TACTGAGAGGCAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT

AGGCCAGGGA

ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1577 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1614
(fs_start=1562)

CCAC

AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC

GGACCGGAGG GGAA

CCTTCA

GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1577 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1640
(fs_start=1562)

TCCCACAA

AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG

CCCCAC
GAATTTCCCTTCAGAGCAGACCAGAGCCAACAG

=====
(356) AF110966
=====

PK1: -15.025000(kcal/mol): PK_start=1541 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1569
(fs_start=1561)

A
GAAAGGAAGGACACCAAATGAAAGACTGT

GACG GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.370000(kcal/mol): PK_start=1546 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1583
(fs_start=1561)

C
GAAGGACACCAAATGAAAGACTGTACTGAAAGG

GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1569 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1603
(fs_start=1561)

AAA
TACTGAAAGGCAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1576 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1613
(fs_start=1561)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC

GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1576 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1639
(fs_start=1561)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG
CCCCAC
GAATTTCCCTTCAGAGCAGACCAGAGCCAACAG

=====
(357) AF110967
=====

PK1: -15.585000(kcal/mol): PK_start=1539 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1567
(fs_start=1559)

A
GAAAAGAAGGACACCAAATGAAAGACTGT

GACA GAGAGTC
TTTTTAGGG
GCTAAT
PK2: -21.940000(kcal/mol): PK_start=1544 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1581
(fs_start=1559)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1567 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1601
(fs_start=1559)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -23.985000(kcal/mol): PK_start=1574 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1612
(fs_start=1559)

TCCCACAA
AGACAGGCTAATTTTTTAGGAAAATTTGGCCT
GGACCGGA GGGG
CTCCAG
GAATTTT

PK4B: -26.865000(kcal/mol): PK_start=1574 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1637
(fs_start=1559)

TCCCACAA
AGACAGGCTAATTTTTTAGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAA
GAATTTCTCCAGAACAGATCAGAGCCAGCAG

=====
(358) AF110968
=====

PK1: -15.585000(kcal/mol): PK_start=1539 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1567
(fs_start=1559)

A
GAAAAGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -21.940000(kcal/mol): PK_start=1544 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1581
(fs_start=1559)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA

GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT
PK3: -23.745000(kcal/mol): PK_start=1567 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1601
(fs_start=1559)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -23.985000(kcal/mol): PK_start=1574 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1612
(fs_start=1559)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG
CTCCAG
GAATTTT

PK4B: -26.865000(kcal/mol): PK_start=1574 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1637
(fs_start=1559)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG
CCCCAA
GAATTTCTCCAGAACAGATCAGAGCCAGCAG

=====
(359) AF110969
=====

PK1: -14.315000(kcal/mol): PK_start=1442 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1470
(fs_start=1462)

A
GAAAGGAAGGACACCAAATGAAAGACTGT

GGCG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.360000(kcal/mol): PK_start=1447 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1484
(fs_start=1462)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG

GATTTTTT AATCGGG
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1470 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1504
(fs_start=1462)

AAA
TACTGAGAGGCGGGCTAATTTTTTAGGGA


```

          CCCT   TCCGGTTT
                AGGCCAGGGA
ACAAGGGG

PK4:  -25.010000(kcal/mol): PK_start=1477 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1514
(fs_start=1462)
                CCAC
AGGCGGGCTAATTTTTTAGGGAAAATTTGGCCTTC
                GGACCGGAGG   GGAA
                                CCTTCA
                GAATTT

PK4B:  -26.865000(kcal/mol): PK_start=1477 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1540
(fs_start=1462)
                TCCCACAA
AGGCGGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA   GGGG
                                CCCAC
                GAATTCCTTCAGAGCAGACCGGAGCCAACAG

=====
(360) AF110970
=====
PK1:  -14.985000(kcal/mol): PK_start=1442 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1470
(fs_start=1462)
                A
GAAAGGAAGGACACCAAATGAAAGACTGT
                GACG   GAGAGTC
                                TTTTTAGGG
                GCTAAT

PK2:  -20.330000(kcal/mol): PK_start=1447 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1484
(fs_start=1462)
                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
                GATTTTTT   AATCGGA
                                TTGGCCTTC
                GGAAAAT

PK3:  -23.745000(kcal/mol): PK_start=1470 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1504
(fs_start=1462)
                AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTTT
                                AGGCCAGGGA
                ACAAGGGG

PK4:  -25.010000(kcal/mol): PK_start=1477 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1514
(fs_start=1462)
                CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC

```

GGACCGGAGG GGAA
 CCTTCA
 GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1477 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1540
 (fs_start=1462)

TCCCACAA
 AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG
 CCCCAC
 GAATTTCTTCAGAGCAGACCGGAGCCAACAG

=====
 (361) AF110971
 =====

PK1: -14.985000(kcal/mol): PK_start=1442 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1470
 (fs_start=1462)

A
 GAAAGGGAGGACACCAAATGAAAGACTGT

GACG GAGAGTC
 TTTTTAGGG
 GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1447 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1484
 (fs_start=1462)

C
 GGAGGACACCAAATGAAAGACTGTACTGAGAGG

GATTTTTT AATCGGA
 TTGGCCTTC
 GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1470 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1504
 (fs_start=1462)

AAA
 TACTGAGAGGCAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT
 AGGCCAGGGA
 ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1477 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1514
 (fs_start=1462)

CCAC
 AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC

GGACCGGAGG GGAA
 CCTTCA
 GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1477 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1540
 (fs_start=1462)

TCCCACAA
 AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG
CCCCAC
GAATTCCTTCAGAGCAGACCGGAGCCAACAG

=====
(362) AF110972
=====

PK1: -16.280000(kcal/mol): PK_start=1427 sp=0 s1=6 s2=7 l1=5 l2=14 L3=1 PK_end=1471
(fs_start=1465)

CCAAA
AGGGCTGTTGGAAATGTGGAAAGGAAGGACA

TCTTGT C AGAAAGT
TTTTTTAGG
GAAGGACAGGCTAA

PK2: -21.140000(kcal/mol): PK_start=1448 sp=0 s1=10 s2=7 l1=1 l2=5 L3=0 PK_end=1487
(fs_start=1465)

C
AGGAAGGACACCAAATGAAAGACTGTTCTGAAGGA

GGGATTTTTT AATCGGA
TTGGCCTTC
AAAAT

PK3: -23.745000(kcal/mol): PK_start=1473 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1507
(fs_start=1465)

AAA
TTCTGAAGGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1480 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1517
(fs_start=1465)

CCAC
GGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC

GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1480 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1543
(fs_start=1465)

TCCCACAA
GGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG
CCCCAC
GAATTCCTTCAGAGCAGACCAGAGCCATCAG

=====
(363) AF110973
=====

PK1: -14.985000(kcal/mol): PK_start=1542 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1570 (fs_start=1562)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1547 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1584 (fs_start=1562)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAGAT

PK3: -22.580000(kcal/mol): PK_start=1570 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1604 (fs_start=1562)

A
TACTGAGAGGCAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTTT
GCCAGGGA
ACAAGGGAAG

PK4: -25.490000(kcal/mol): PK_start=1577 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1614 (fs_start=1562)

CCAC
AGGCAGGCTAATTTTTTAGGGAAGATTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(364) AF110974
=====

PK1: -14.985000(kcal/mol): PK_start=1543 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1571 (fs_start=1563)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1548 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1585 (fs_start=1563)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAGAT

PK3: -22.580000(kcal/mol): PK_start=1571 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1605
(fs_start=1563)

A
TACTGAGAGGCAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTTT
GCCAGGGA
ACAAGGGAAG

PK4: -25.490000(kcal/mol): PK_start=1578 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1615
(fs_start=1563)

CCAC
AGGCAGGCTAATTTTTTAGGGAAGATTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(365) AF110975
=====

PK1: -14.985000(kcal/mol): PK_start=1543 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1571
(fs_start=1563)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1548 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1585
(fs_start=1563)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAGAT

PK3: -22.580000(kcal/mol): PK_start=1571 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1605
(fs_start=1563)

A
TACTGAGAGGCAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTTT
GCCAGGGA
ACAAGGGAAG

PK4: -25.490000(kcal/mol): PK_start=1578 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1615
(fs_start=1563)

CCAC
AGGCAGGCTAATTTTTTAGGGAAGATTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(366) AF110977
=====

PK1: -15.585000(kcal/mol): PK_start=1542 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1570
(fs_start=1562)

A
GACAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1547 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1583
(fs_start=1562)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGGAAATC

PK3: -27.075000(kcal/mol): PK_start=1571 sp=0 s1=4 s2=8 l1=2 l2=8 L3=0 PK_end=1604
(fs_start=1562)

AA
ACTGAGAGACAGGCTAATTTTTTAGGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -28.540000(kcal/mol): PK_start=1577 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1614
(fs_start=1562)

CCAC
AGACAGGCTAATTTTTTAGGGGAAATCTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1577 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1640
(fs_start=1562)

TCCCACAA
AGACAGGCTAATTTTTTAGGGGAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(367) AF110978
=====

PK1: -15.025000(kcal/mol): PK_start=1541 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1569
(fs_start=1561)

A
GACAGGAAGGACACCAAATGAAAGACTGT
GACG GAAAGTC

TTTTTAGGG
GCTGAT
PK2: -17.460000(kcal/mol): PK_start=1546 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1582
(fs_start=1561)

C
GAAGGACACCAAATGAAAGACTGTACTGAAAGG
GATTTTTT A GTCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1569 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1603
(fs_start=1561)

AAA
TACTGAAAGGCAGGCTGATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -28.540000(kcal/mol): PK_start=1576 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1613
(fs_start=1561)

CCAC
AGGCAGGCTGATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1576 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1639
(fs_start=1561)

TCCCACAA
AGGCAGGCTGATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(368) AF110981
=====

PK1: -12.745000(kcal/mol): PK_start=1418 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1445
(fs_start=1437)

A
GAAAGGAAGGACACCAAATGAAAGATGT
ACG GAAAGTC
TTTTTAGGG
GGCTAAT

PK2: -20.370000(kcal/mol): PK_start=1422 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1459
(fs_start=1437)

C
GGAAGGACACCAAATGAAAGATGTACTGAAAGG
GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAAT

PK3: -23.745000(kcal/mol): PK_start=1445 sp=0 s1=4 s2=8 l1=3 l2=11 l3=0 PK_end=1482
(fs_start=1437)

AAA

TACTGAAAGGCAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT

AGGCCAGGGA

ACAAGGGGGGG

PK4: -33.500000(kcal/mol): PK_start=1454 sp=9 s1=9 s2=4 l1=5 l2=34 l3=0 PK_end=1518
(fs_start=1437)

CACAA

GCAGGCTAATTTTTTAGGGAAAAATTTGGCCTTCC

ACCGGAGGG GGGG

CCCCAC

GGGAATTCCTTCAGAACAGGCCAGAGCCAACAG

=====
(369) AF119820
=====

PK1: -15.100000(kcal/mol): PK_start=2084 sp=0 s1=3 s2=8 l1=2 l2=5 l3=0 PK_end=2112
(fs_start=2104)

CA

GAAAGGAAGGACATCAAATGAAAGACTG

GAC AGAGAGTC

TTTTTTTAGGG

GCTAA

PK2: -20.460000(kcal/mol): PK_start=2089 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=2125
(fs_start=2104)

C

GAAGGACATCAAATGAAAGACTGCACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAGAATG

PK3: -19.505000(kcal/mol): PK_start=2113 sp=0 s1=3 s2=6 l1=5 l2=9 l3=0 PK_end=2144
(fs_start=2104)

GAATG

ACTGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGT

AGGCCGGG

AGCAAAGGA

PK4: -20.275000(kcal/mol): PK_start=2121 sp=9 s1=8 s2=4 l1=4 l2=5 l3=0 PK_end=2153
(fs_start=2104)

CAGC

ACAGGCTAATTTTTTAGGGAGAATGTGGCCTTC

GCCGGAAG GAAA


```

                                TTTTCT
                                GGGAA

=====
(370) AF146728
=====
PK1:  -13.555000(kcal/mol): PK_start=1408 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1436
(fs_start=1428)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                                GACA    GAGAGTC
                                TTTTTAGGG
                                GCTAAT

PK2:  -19.080000(kcal/mol): PK_start=1413 sp=0 s1=8 s2=5 l1=2 l2=8 L3=1 PK_end=1448
(fs_start=1428)
                                CA
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                                GATTTTTT  A  ATCGG
                                TGGCCCT
                                GGAAGATC

PK3:  -24.730000(kcal/mol): PK_start=1436 sp=0 s1=4 s2=7 l1=3 l2=9 L3=1 PK_end=1469
(fs_start=1428)
                                AGA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCCT  C  CCGGTCT
                                GGCCAGGGA
                                ACAAGGGAA

PK4:  -23.190000(kcal/mol): PK_start=1443 sp=7 s1=7 s2=6 l1=8 l2=4 L3=0 PK_end=1480
(fs_start=1428)
                                CTCCCACA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCC
                                GGACCGG    AAGGGA
                                TTTCTTCA
                                GAAC

=====
(371) AF164485
=====
PK1:  -15.100000(kcal/mol): PK_start=2078 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2106
(fs_start=2098)
                                CA
GGAAGGAAGGACATCAAATGAAAGACTG
                                GAC    AGAGAGTC
                                TTTTTTAGGG
                                GCTAA

PK2:  -21.940000(kcal/mol): PK_start=2083 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2120
(fs_start=2098)
                                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA

```

GATTTTTT AATCGGA
 TTGGCCTTC
 GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=2107 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2140
 (fs_start=2098)

AAA
 ACTGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT
 AGGCCGGGAA
 AACAAAGGGA

PK4: -21.195000(kcal/mol): PK_start=2113 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2150
 (fs_start=2098)

TCCAACA
 AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGGCCGGA AGGGA
 TTCCTCA
 AAATT

=====
 (372) AF184155
 =====

PK1: -15.100000(kcal/mol): PK_start=1280 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1308
 (fs_start=1300)

CA
 GGAAAGAAGGACACCAAATGAAAGACTG

GAC AGAGAGTC
 TTTTTTAGGG
 GCTAA

PK2: -21.940000(kcal/mol): PK_start=1285 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1322
 (fs_start=1300)

C
 GAAGGACACCAAATGAAAGACTGCACTGAGAGA

GATTTTTT AATCGGA
 TTGGCCTTC
 GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1309 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1342
 (fs_start=1300)

AAA
 ACTGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT
 AGGCCAGGGA
 AACAAAGGG

PK4: -21.815000(kcal/mol): PK_start=1315 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1352
 (fs_start=1300)

TCCAACAA
 AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

```

                GGACCGGA    GGA
                TCCTCA
    GAACTT
=====
(373) AF190127
=====
PK1:  -12.36000(kcal/mol): PK_start=1448 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1486
(fs_start=1479)
                A
    TTGGAAATGTGGACAGGAAGGACACCAG
                GTC    AGAAAGT
                TTTTTTAGG
    CACAGGAAGACAGGCTAA
PK2:  -17.32000(kcal/mol): PK_start=1467 sp=0 s1=5 s2=7 l1=1 l2=9 L3=1 PK_end=1500
(fs_start=1479)
                C
    GGACACCAGATGAAAGACTGCACAGGAAGA
                TTTTT T  AATCGGA
                TTGGCCTTC
    AGGGAAAAT
PK3:  -20.28500(kcal/mol): PK_start=1488 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1521
(fs_start=1479)
                AAA
    ACAGGAAGACAGGCTAATTTTTTAGGGA
                CCT    TCCGGTTT
                AGGCCAGGGA
    AGCAAGGGA
PK4:  -24.34500(kcal/mol): PK_start=1494 sp=7 s1=8 s2=4 l1=8 l2=5 L3=0 PK_end=1530
(fs_start=1479)
                TCCAGCAA
    AGACAGGCTAATTTTTTAGGAAAATTTGGCCT
                GGACCGGA    AGGG
                TCCCCC
    GAATT
=====
(374) AF190128
=====
PK1:  -11.42000(kcal/mol): PK_start=1394 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=1420
(fs_start=1414)
                CACA
    GAAGGGAAGGACATCAGATGAAGGACTG
                GAC    AGAGAG
                TTTTTTAG
    GCTAA

```

PK2: -17.180000(kcal/mol): PK_start=1401 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=1435
(fs_start=1414)

C
AGGACATCAGATGAAGGACTGCACAGAGAGA
TTTTTT A ATCGGA
TGGCCTTC
AGGGAAAATC

PK3: -23.815000(kcal/mol): PK_start=1423 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1456
(fs_start=1414)

AAA
ACAGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTCT
AGGCCAGGAA
AGCAAAGGG

PK4: -23.490000(kcal/mol): PK_start=1429 sp=7 s1=7 s2=4 l1=10 l2=6 L3=0 PK_end=1466
(fs_start=1414)

TTCCAGCAAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCC
GGACCGG AGGG
TCTCCA
AAATTT

=====
(375) AF192135

=====
PK1: -11.420000(kcal/mol): PK_start=1454 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=1480
(fs_start=1474)

CACA
GAAAAGAAGGACATCAAATGAAGGACTG
GAC AGAGAG
TTTTTTAG
GCTAA

PK2: -18.660000(kcal/mol): PK_start=1461 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1496
(fs_start=1474)

C
AGGACATCAAATGAAGGACTGCACAGAGAGA
TTTTTT AATCGGA
TTGGCCTTC
AGGGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1483 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1516
(fs_start=1474)

AAA
ACAGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AACAAGGGA

PK4: -21.465000(kcal/mol): PK_start=1489 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1526
(fs_start=1474)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA AGGG
TCTCCA
GAATTT

=====
(376) AF193253
=====

PK1: -17.185000(kcal/mol): PK_start=1446 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1474
(fs_start=1466)

A
GGAGAGAAGGACACCAAATGAAAGACTGC
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1451 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1488
(fs_start=1466)

C
GAAGGACACCAAATGAAAGACTGCACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAGT

PK3: -23.745000(kcal/mol): PK_start=1474 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1508
(fs_start=1466)

AAG
CACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -24.945000(kcal/mol): PK_start=1481 sp=7 s1=9 s2=4 l1=6 l2=25 L3=0 PK_end=1537
(fs_start=1466)

CCCACA
AGGCAGGCTAATTTTTTAGGGAAAGTTTGGCCTT
GGACCGGAG GGGA
CCCTCA
GAACTTCCTCCAGAGCAGACCGGAG

PK4B: -26.865000(kcal/mol): PK_start=1481 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1544
(fs_start=1466)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAGTTTGGCCT
GGACCGGA GGGG
CCCCGC
GAACTTCCTCCAGAGCAGACCGGAGCCCTCAG

=====
(377) AF193275
=====

PK1: -15.10000(kcal/mol): PK_start=1434 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1462
(fs_start=1454)

CA
GAAAGGAAGGCCATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGA
GCTAA

PK2: -21.94000(kcal/mol): PK_start=1439 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1476
(fs_start=1454)

C
GAAGGCCATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GAAGAAT

PK3: -19.32000(kcal/mol): PK_start=1462 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1496
(fs_start=1454)

AA
CACTGAGAGACAGGCTAATTTTTTTAGGAAG
CCTTC CGGTTT
GCCAGGAA
AGCAAAGGGAG

PK4: -21.81500(kcal/mol): PK_start=1469 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1506
(fs_start=1454)

TCCAGCAA
AGACAGGCTAATTTTTTTAGGAAGAATTTGGCCT
GGACCGGA GGGG
TCCTCA
AAATTT

=====
(378) AF193276
=====

PK1: -15.10000(kcal/mol): PK_start=1290 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1318
(fs_start=1310)

CA
GAAAGGAAGGCCATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.94000(kcal/mol): PK_start=1295 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1332
(fs_start=1310)

C
GAAGGCCATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA

TTGGCCTTC

GGAGAAT

PK3: -18.840000(kcal/mol): PK_start=1318 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1352
(fs_start=1310)

AA

CACTGAGAGACAGGCTAATTTTTTAGGGAG

CCTTC CGGTTT

GCCAGGAA

AGCAAAGGGAG

PK4: -21.815000(kcal/mol): PK_start=1325 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1362
(fs_start=1310)

TCCAGCAA

AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT

GGACCGGA GGG

TCCTCA

AAATTT

=====
(379) AF193277
=====

PK1: -12.520000(kcal/mol): PK_start=1434 sp=0 s1=3 s2=7 l1=3 l2=5 L3=0 PK_end=1461
(fs_start=1454)

CAA

GAAAGGAAGGCCATCAAATGAAAGACTG

GAC AGAGAGT

TTTTTTTAGG

GCTAA

PK2: -19.660000(kcal/mol): PK_start=1440 sp=0 s1=7 s2=7 l1=1 l2=8 L3=0 PK_end=1476
(fs_start=1454)

C

AAGGCCATCAAATGAAAGACTGCAATGAGAGA

ATTTTTT AATCGGA

TTGGCCTTC

GGGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1463 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1496
(fs_start=1454)

AAA

AATGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT

AGGCCAGGAA

AGCAAAGGG

PK4: -21.815000(kcal/mol): PK_start=1469 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1506
(fs_start=1454)

TCCAGCAA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGG

```

                                TCCTCA
                                AAATTT
=====
(380) AF197338
=====
PK1:  -15.100000(kcal/mol): PK_start=2017 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2045
(fs_start=2037)
                                CA
GGAAGGAGGGCCATCAAATGAAAGACTG
                                GAC   AGAGAGTC
                                TTTTTTAGGG
                                GCTAA

PK2:  -21.940000(kcal/mol): PK_start=2022 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2059
(fs_start=2037)
                                C
GAGGGCCATCAAATGAAAGACTGCACTGAGAGA
                                GATTTTTT   AATCGGA
                                TTGGCCTTC
                                GGAAATT

PK3:  -20.635000(kcal/mol): PK_start=2046 sp=0 s1=3 s2=9 l1=2 l2=9 L3=0 PK_end=2080
(fs_start=2037)
                                AA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCT   TCCGGTTTT
                                AGGCCGGGAAA
                                AACAAGGGA

PK4:  -22.765000(kcal/mol): PK_start=2051 sp=6 s1=9 s2=5 l1=7 l2=4 L3=0 PK_end=2089
(fs_start=2037)
                                TCCAACA
GAGACAGGCTAATTTTTTAGGGAAATTTTGGCCT
                                AGGCCCGGA   AGGGA
                                TTCCTCA
                                AATT

=====
(381) AF197339
=====
PK1:  -15.100000(kcal/mol): PK_start=2016 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2044
(fs_start=2036)
                                CA
GGAAGGAAGGACATCAAATGAAAGACTG
                                GAC   AGAGAGTC
                                TTTTTTAGGG
                                GCTAA

PK2:  -21.940000(kcal/mol): PK_start=2021 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2058
(fs_start=2036)
                                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA

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          GATTTTTT   AATCGGA
                    TTGGCCTTC
      GGAAAAT
PK3:  -18.565000(kcal/mol): PK_start=2045 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2078
(fs_start=2036)
          AAA
ACTGAGAGACAGGCTAATTTTTTTAGGGA
          CCT   TCCGGTTT
                    AGGCCGGGGA
      AACAAAGGA
PK4:  -20.745000(kcal/mol): PK_start=2051 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=2088
(fs_start=2036)
                    TCCAACAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
          GGGCCGGA   AGGA
                    TCCTCA
      GAATTT

=====
(382) AF197340
=====
PK1:  -15.100000(kcal/mol): PK_start=2013 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2041
(fs_start=2033)
          CA
GGCAGGAAGGACATCAAATGAAAGACTG
          GAC   AGAGAGTC
                    TTTTTTAGGG
      GCTAA
PK2:  -21.940000(kcal/mol): PK_start=2018 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2055
(fs_start=2033)
          C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
          GATTTTTT   AATCGGA
                    TTGGCCTCT
      GGAAAAT
PK3:  -19.360000(kcal/mol): PK_start=2041 sp=0 s1=4 s2=7 l1=3 l2=10 L3=0 PK_end=2075
(fs_start=2033)
          AAA
CACTGAGAGACAGGCTAATTTTTTTAGGGA
          CTCT   CCGGTTT
                    GGCCAGGGA
      AACAAAGGGGA
PK4:  -24.585000(kcal/mol): PK_start=2048 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=2085
(fs_start=2033)
                    TCAACA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTC

```

GGACCGGAG GGGA
 TCCTCA
 GAATTT

PK4B: -26.865000(kcal/mol): PK_start=2048 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2111
 (fs_start=2033)

CTCAACAA
 AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG
 CCCCAC
 GAATTTTCCTCAGAGCAGACTAGAGCCAACAG

=====
 (383) AF197341
 =====

PK1: -15.100000(kcal/mol): PK_start=2001 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2029
 (fs_start=2021)

CA
 GGAAGGAAGGACACCAAATGAAAGACTG

GAC AGAGAGTC
 TTTTTTAGGG
 GCTAA

PK2: -21.940000(kcal/mol): PK_start=2006 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2043
 (fs_start=2021)

C
 GAAGGACACCAAATGAAAGACTGCACTGAGAGA

GATTTTTT AATCGGA
 TTGGCCTTC
 GGAGAAT

PK3: -18.840000(kcal/mol): PK_start=2029 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=2063
 (fs_start=2021)

AA
 CACTGAGAGACAGGCTAATTTTTTAGGGAG

CCTTC CGGTTT
 GCCAGGGA
 AGCAAGGGGAG

PK4: -22.215000(kcal/mol): PK_start=2036 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=2073
 (fs_start=2021)

CCAGCA
 AGACAGGCTAATTTTTTAGGGAGAATTTGGCCTT

GGACCGGAG GGGA
 TCCTCA
 GAATTT

PK4B: -26.865000(kcal/mol): PK_start=2036 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2099
 (fs_start=2021)

TCCAGCAA
 AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT

GGACCGGA GGGG
CCCCAC
GAATTTTCCTCAGAGCAGACCAGAGCCAACAG

=====
(384) AF224507
=====

PK1: -13.555000(kcal/mol): PK_start=1611 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1639
(fs_start=1631)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCCAAT

PK2: -22.720000(kcal/mol): PK_start=1616 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1652
(fs_start=1631)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ACCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1639 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1673
(fs_start=1631)

A
TACTGAGAGACAGGCCAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -29.020000(kcal/mol): PK_start=1646 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1683
(fs_start=1631)

CCAC
AGACAGGCCAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(385) AF256204
=====

PK1: -13.555000(kcal/mol): PK_start=2063 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2091
(fs_start=2083)

A
GAAAGGAGGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2068 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2104
(fs_start=2083)

C
GAGGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=2091 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2125
(fs_start=2083)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAGGGGA

PK4: -29.045000(kcal/mol): PK_start=2098 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2135
(fs_start=2083)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGGA
TCCTCA
GAATTT

PK4B: -31.325000(kcal/mol): PK_start=2098 sp=7 s1=9 s2=4 l1=6 l2=32 L3=0 PK_end=2161
(fs_start=2083)

CCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT
GGACCGGAA GGGG
CCCCAC
GAATTTTCCTCAGAACAGACTAGAGCCAACAG

=====
(386) AF256205
=====

PK1: -13.555000(kcal/mol): PK_start=2063 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2091
(fs_start=2083)

A
GAAAGGAGGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2068 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2104
(fs_start=2083)

C
GAGGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=2091 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2125
(fs_start=2083)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -25.745000(kcal/mol): PK_start=2098 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=2135
(fs_start=2083)

CCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT
GGACCGGAG GGGA
TCCTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=2098 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2161
(fs_start=2083)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCCTCAGAACAGACTAGAGCCAACAG

=====
(387) AF256206
=====

PK1: -13.555000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2092
(fs_start=2084)

A
GAAAGGAGGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2105
(fs_start=2084)

C
GAGGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=2092 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2126
(fs_start=2084)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAGGGGA

PK4: -29.045000(kcal/mol): PK_start=2099 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2136
(fs_start=2084)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGGG
TCCTCA
GAATTT

PK4B: -31.325000(kcal/mol): PK_start=2099 sp=7 s1=9 s2=4 l1=6 l2=32 L3=0 PK_end=2162
(fs_start=2084)

CCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAA GGGG
CCCCAC
GAATTTTCCTCAGAACAGACTAGAGCCAACAG

=====
(388) AF256207
=====

PK1: -13.555000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2092
(fs_start=2084)

A
GAAAGGAGGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2105
(fs_start=2084)

C
GAGGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=2092 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2126
(fs_start=2084)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAGGGGA

PK4: -29.045000(kcal/mol): PK_start=2099 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2136
(fs_start=2084)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGGG
TCCTCA
GAATTT

PK4B: -31.325000(kcal/mol): PK_start=2099 sp=7 s1=9 s2=4 l1=6 l2=32 L3=0 PK_end=2162
(fs_start=2084)

CCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT
GGACCGGAA GGGG
CCCCAC
GAATTTTCCTCAGAACAGACTAGAGCCAACAG

=====
(389) AF256208
=====

PK1: -13.555000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2092
(fs_start=2084)

A
GAAAGGAGGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2105
(fs_start=2084)

C
GAGGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=2092 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2126
(fs_start=2084)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAGGGGA

PK4: -29.045000(kcal/mol): PK_start=2099 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2136
(fs_start=2084)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGGG
TCCTCA
GAATTT

PK4B: -31.325000(kcal/mol): PK_start=2099 sp=7 s1=9 s2=4 l1=6 l2=32 L3=0 PK_end=2162
(fs_start=2084)

CCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT
GGACCGGAA GGGG
CCCCAC
GAATTTTCCTCAGAACAGACTAGAGCCAACAG

=====
(390) AF256209
=====

PK1: -13.555000(kcal/mol): PK_start=2063 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2091
(fs_start=2083)

A
GAAAGGAGGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2068 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2104
(fs_start=2083)

C
GAGGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=2091 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2125
(fs_start=2083)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAGGGGA

PK4: -29.045000(kcal/mol): PK_start=2098 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2135
(fs_start=2083)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGGA
TCCTCA
GAATTT

PK4B: -31.325000(kcal/mol): PK_start=2098 sp=7 s1=9 s2=4 l1=6 l2=32 L3=0 PK_end=2161
(fs_start=2083)

CCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAA GGGG
CCCCAC
GAATTTTCCTCAGAACAGACTAGAGCCAACAG

=====
(391) AF256210
=====

PK1: -13.555000(kcal/mol): PK_start=2063 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2091
(fs_start=2083)

A
GAAAGGAGGGACACCAAATGAAAGATTGT
GACA GAGAGTC

TTTTTAGGG
GCTAAT
PK2: -20.460000(kcal/mol): PK_start=2068 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2104
(fs_start=2083)

C
GAGGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=2091 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2125
(fs_start=2083)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAGGGGA

PK4: -29.045000(kcal/mol): PK_start=2098 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2135
(fs_start=2083)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGGG
TCCTCA
GAATTT

PK4B: -31.325000(kcal/mol): PK_start=2098 sp=7 s1=9 s2=4 l1=6 l2=32 L3=0 PK_end=2161
(fs_start=2083)

CCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT
GGACCGGAA GGGG
CCCCAC
GAATTTTCCTCAGAACAGGCTAGAGCCAACAG

=====
(392) AF256211
=====

PK1: -13.555000(kcal/mol): PK_start=2063 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2091
(fs_start=2083)

A
GAAAGGAGGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2068 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2104
(fs_start=2083)

C
GAGGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA

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                                TGGCCTTC
          GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=2091 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2125
(fs_start=2083)
                                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTCT
                                AGGCCAGGGA
          ACAAGGGG
PK4:  -25.745000(kcal/mol): PK_start=2098 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=2135
(fs_start=2083)
                                CCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT
                                GGACCGGAG   GGGG
                                TCCTCA
          GAATTT
PK4B:  -30.395000(kcal/mol): PK_start=2098 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2161
(fs_start=2083)
                                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                                GGACCGGA   GGGG
                                CCCCAC
          GAATTTTCCTCAGAACAGACTAGAGCCAACAG

=====
(393) AF259954
=====
PK1:  -15.100000(kcal/mol): PK_start=2074 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2102
(fs_start=2094)
                                CA
GGAAGGAAGGACATCAAATGAAAGACTG
                                GAC   AGAGAGTC
                                TTTTTTAGGG
          GCTAA
PK2:  -21.940000(kcal/mol): PK_start=2079 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2116
(fs_start=2094)
                                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                                GATTTTTT   AATCGGA
                                TTGGCCTTC
          GGAAAAT
PK3:  -18.565000(kcal/mol): PK_start=2103 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2136
(fs_start=2094)
                                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCT   TCCGGTTT

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AGGCCGGGGA

AACAAAGGGA

PK4: -21.195000(kcal/mol): PK_start=2109 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2146
(fs_start=2094)

TCCAACA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGGCCGGA AGGGA

TTCCTCA

GAATT

=====
(394) AF259955
=====

PK1: -15.100000(kcal/mol): PK_start=2074 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2102
(fs_start=2094)

CA

GGAAGGAAGGACATCAAATGAAAGACTG

GAC AGAGAGTC

TTTTTTAGGG

GCTAA

PK2: -21.940000(kcal/mol): PK_start=2079 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2116
(fs_start=2094)

C

GAAGGACATCAAATGAAAGACTGCACTGAGAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=2103 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2136
(fs_start=2094)

AAA

ACTGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT

AGGCCGGGGA

AACAAAGGGA

PK4: -21.195000(kcal/mol): PK_start=2109 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2146
(fs_start=2094)

TCCAACA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGGCCGGA AGGGA

TTCCTCA

GAATT

=====
(395) AF286223
=====

PK1: -14.985000(kcal/mol): PK_start=1397 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1425
(fs_start=1417)

A

GGCAAGAAGGACACCAAATGAAAGACTGT

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          GACG      GAGAGTC
                TTTTATAGGG
      GCTAAT
PK2:  -20.330000(kcal/mol): PK_start=1402 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1439
(fs_start=1417)
                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
                GATTTTTT      AATCGGA
                TTGGCCTTC
      GGAAAAT
PK3:  -23.745000(kcal/mol): PK_start=1425 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1459
(fs_start=1417)
                AAA
TACTGAGAGGCAGGCTAATTTTTATAGGGA
                CCCT      TCCGGTTT
                AGGCCAGGGA
      ACAAGGGG
PK4:  -25.010000(kcal/mol): PK_start=1432 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1469
(fs_start=1417)
                CCAC
AGGCAGGCTAATTTTTATAGGAAAATTTGGCCTTC
                GGACCGGAGG      GGAA
                CCTTCA
      GAATTT
PK4B:  -26.865000(kcal/mol): PK_start=1432 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1495
(fs_start=1417)
                TCCCACAA
AGGCAGGCTAATTTTTATAGGAAAATTTGGCCT
                GGACCGGA      GGGG
                CCCAC
      GAATTTCTTCAAACAGGCCAGAGCCAACAG

=====
(396) AF286224
=====
PK1:  -14.985000(kcal/mol): PK_start=1405 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1433
(fs_start=1425)
                A
GAAAGGAGGGACACCAAATGAAAGACTGT
                GACG      GAGAGTC
                TTTTATAGGG
      GCTAAT
PK2:  -20.330000(kcal/mol): PK_start=1410 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1447
(fs_start=1425)
                C
GAGGGACACCAAATGAAAGACTGTACTGAGAGG

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                GATTTTTT   AATCGGA
                    TTGGCCTTC
        GGAAAAT

PK3:  -23.745000(kcal/mol): PK_start=1433 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1467
(fs_start=1425)
                AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA

                CCCT   TCCGGTTT
                    AGGCCAGGGA
        ACAAGGGA

PK4:  -25.490000(kcal/mol): PK_start=1440 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1477
(fs_start=1425)
                    CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC

                GGACCGGAAG   GGAA
                    CCTTCA
        GAATTT

=====
(397) AF286225
=====
PK1:  -15.585000(kcal/mol): PK_start=1398 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1426
(fs_start=1418)
                A
GAAAGGAAGGACACCAAATGAAAGACTGT

                GACA   GAGAGTC
                    TTTTTAGGG
        GCTAAT

PK2:  -21.940000(kcal/mol): PK_start=1403 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1440
(fs_start=1418)
                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA

                GATTTTTT   AATCGGA
                    TTGGCCTTC
        GGAAAAT

PK3:  -22.025000(kcal/mol): PK_start=1426 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1460
(fs_start=1418)
                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA

                CCCT   TCCGGTTT
                    AGGCCGGGGA
        AGAAGGGG

PK4:  -27.240000(kcal/mol): PK_start=1433 sp=7 s1=11 s2=4 l1=2 l2=7 L3=0 PK_end=1471
(fs_start=1418)
                CA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTCC

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GGGCCGGAGGG    GAAG
                CTTCAG
    GAACTTC
PK4B:  -25.145000(kcal/mol): PK_start=1433 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1496
(fs_start=1418)
                TCCCAGAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGGCCGGA    GGGG
                CCCCAC
    GAACTTCCTTCAGAACAGACCAGAGCCAACAG

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=====
(398) AF286226
=====

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PK1:  -13.555000(kcal/mol): PK_start=1396 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1424
(fs_start=1416)
                A
GAAAAGAAGGACACCAAATGAAAGATTGT
                GACA    GAGAGTC
                TTTTTAGGG
    GCCAAT

```

```

PK2:  -21.340000(kcal/mol): PK_start=1401 sp=0 s1=8 s2=5 l1=2 l2=8 L3=1 PK_end=1436
(fs_start=1416)
                CA
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT    A    ACCGG
                TGGCCCT
    GGAAAATC

```

```

PK3:  -24.730000(kcal/mol): PK_start=1424 sp=0 s1=4 s2=7 l1=3 l2=9 L3=1 PK_end=1457
(fs_start=1416)
                AAA
TACTGAGAGACAGGCCAATTTTTTAGGGA
                CCCT    C    CCGGTCT
                GGCCAGGGA
    ACAAGGGAA

```

```

PK4:  -23.190000(kcal/mol): PK_start=1431 sp=7 s1=7 s2=6 l1=8 l2=4 L3=0 PK_end=1468
(fs_start=1416)
                CTCCCACA
AGACAGGCCAATTTTTTAGGGAAAATCTGGCC
                GGACCGG    AAGGGA
                TTTCTTCA
    GAAT

```

```

=====
(399) AF286227
=====

```

PK1: -17.225000(kcal/mol): PK_start=1404 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1432 (fs_start=1424)

A
GAAAGGAAGGACACCAAATGAAAGACTGC
GACG GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -18.760000(kcal/mol): PK_start=1409 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1445 (fs_start=1424)

C
GAAGGACACCAAATGAAAGACTGCACTGAAAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAGAATC

PK3: -22.370000(kcal/mol): PK_start=1432 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1466 (fs_start=1424)

AA
CACTGAAAGGCAGGCTAATTTTTTAGGGAG
CCTTC CGGTCT
GCCAGGGA
CACAAAGGGGAG

PK4: -28.540000(kcal/mol): PK_start=1439 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1476 (fs_start=1424)

CCAC
AGGCAGGCTAATTTTTTAGGGAGAATCTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1439 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1502 (fs_start=1424)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAGAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(400) AF286228
=====

PK1: -12.955000(kcal/mol): PK_start=1402 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1430 (fs_start=1422)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1407 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1444 (fs_start=1422)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1430 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1464 (fs_start=1422)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGAA
ACAAGGGG

PK4: -23.985000(kcal/mol): PK_start=1437 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1475 (fs_start=1422)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CTCCAG
AAATTTTC

PK4B: -26.865000(kcal/mol): PK_start=1437 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1500 (fs_start=1422)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTCCCTCCAGAGCAGACCAGGCCATCAG

=====
(401) AF286229
=====

PK1: -15.025000(kcal/mol): PK_start=1408 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1436 (fs_start=1428)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.370000(kcal/mol): PK_start=1413 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1450 (fs_start=1428)

C
GAAGGACACCAAATGAAAGACTGTACTGAAAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1436 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1470
(fs_start=1428)

AAA
TACTGAAAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -23.985000(kcal/mol): PK_start=1443 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1481
(fs_start=1428)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CTCCAG
GAATTTTC

PK4B: -26.865000(kcal/mol): PK_start=1443 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1506
(fs_start=1428)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCCTCCAGAGCAGACCAGAGCCAACAG

=====
(402) AF286230
=====

PK1: -13.555000(kcal/mol): PK_start=1396 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1424
(fs_start=1416)

A
GAAAAGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCCAAT

PK2: -21.340000(kcal/mol): PK_start=1401 sp=0 s1=8 s2=5 l1=2 l2=8 L3=1 PK_end=1436
(fs_start=1416)

CA
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ACCGG
TGGCCCT
GGAAAATC

PK3: -24.730000(kcal/mol): PK_start=1424 sp=0 s1=4 s2=7 l1=3 l2=9 L3=1 PK_end=1457
(fs_start=1416)

AAA
TACTGAGAGACAGGCCAATTTTTTAGGGA
CCCT C CCGGTCT
GGCCAGGGA
ACAAGGGAA

PK4: -23.190000(kcal/mol): PK_start=1431 sp=7 s1=7 s2=6 l1=8 l2=4 L3=0 PK_end=1468
(fs_start=1416)

CTCCCACA
AGACAGGCCAATTTTTTAGGGAAAATCTGGCC
GGACCGG AAGGGA
TTTCTTCA
GAAT

=====
(403) AF286231
=====

PK1: -14.985000(kcal/mol): PK_start=1401 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1429
(fs_start=1421)

G
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.030000(kcal/mol): PK_start=1406 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1443
(fs_start=1421)

C
GAAGGACACCAAATGAAAGACTGTGCTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1429 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1463
(fs_start=1421)

AAA
TGCTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1436 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1473
(fs_start=1421)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1436 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1499
(fs_start=1421)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCTTCAGAACAGGCCAGAGCCAACAG

=====
(404) AF286232
=====

PK1: -15.585000(kcal/mol): PK_start=1397 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1425
(fs_start=1417)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1402 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1438
(fs_start=1417)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAGAATC

PK3: -22.370000(kcal/mol): PK_start=1425 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1459
(fs_start=1417)

AA
TACTGAGAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTCT
GCCAGGGA
CACAAAGGGGAG

PK4: -27.515000(kcal/mol): PK_start=1432 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1470
(fs_start=1417)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAGAATCTGGCCT
GGACCGGA GGGG
CTCCAG
GAATTC

PK4B: -28.125000(kcal/mol): PK_start=1432 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1495
(fs_start=1417)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAGAATCTGGCCT
GGACCGGA GGGG
TCCCACAA
GAATTCCTCCAGAGCAGACCAGAGCCAACAG

=====
(405) AF286233
=====

PK1: -13.305000(kcal/mol): PK_start=1399 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1426
(fs_start=1418)

A
AAAAGAAGGACACCAAATGAAAGAATGT
ACA GAGAGTC

```

                TTTTtaggg
      GGCTAAT
PK2:  -21.940000(kcal/mol): PK_start=1403 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1440
(fs_start=1418)
                C
GAAGGACACCAAATGAAAGAATGTACTGAGAGA
                GATTTTTT   AATCGGA
                TTGGCCTTC
      GGAAAAAT
PK3:  -23.745000(kcal/mol): PK_start=1426 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=1460
(fs_start=1418)
                AAA
TACTGAGAGACAGGCTAATTTTTTtaggga
                CCCT   TCCGGTTT
                AGGCCAGGGA
      ACAAGGGG
PK4:  -25.010000(kcal/mol): PK_start=1433 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1470
(fs_start=1418)
                CCAC
AGACAGGCTAATTTTTTtaggaaaatttggccttc
                GGACCGGAGG   GGAA
                CCTTCA
      GAATTT
PK4B: -26.865000(kcal/mol): PK_start=1433 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=1496
(fs_start=1418)
                TCCCACAA
AGACAGGCTAATTTTTTtaggaaaatttggcct
                GGACCGGA   GGGG
                CCCCAC
      GAATTTccttcagagcagaccagagccaacag
=====
(406) AF286234
=====
PK1:  -14.985000(kcal/mol): PK_start=1398 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1426
(fs_start=1418)
                A
GAAGGGAAGGACACCAAATGAAAGACTGT
                GACG   GAGAGTC
                TTTTtaggg
      GCTAAT
PK2:  -20.330000(kcal/mol): PK_start=1403 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1440
(fs_start=1418)
                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
                GATTTTTT   AATCGGA

```

TTGGCCTTC

GGAAAAAT

PK3: -23.745000(kcal/mol): PK_start=1426 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1460
(fs_start=1418)

AAA

TACTGAGAGGCAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT

AGGCCAGGAA

ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1433 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1470
(fs_start=1418)

CCAC

AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC

GGACCGGAGG GGAA

CCTTCA

AAATTT

PK4B: -26.865000(kcal/mol): PK_start=1433 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1496
(fs_start=1418)

TCCCACAA

AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG

CCCCAC

AAATTTCTTCAGGGCAGGCCAGAGCCAACAG

=====
(407) AF286235
=====

PK1: -14.985000(kcal/mol): PK_start=1412 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1440
(fs_start=1432)

A

GAAAGGAAGGACACCAAATGAAAGACTGT

GACG GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1417 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1454
(fs_start=1432)

C

GAAGGACACCAAATGAAAGACTGTACTGAGAGG

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAAT

PK3: -23.745000(kcal/mol): PK_start=1440 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1474
(fs_start=1432)

AAA

TACTGAGAGGCAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT

```

                                AGGCCAGGGA
                                ACAAGGGA

PK4:  -23.185000(kcal/mol): PK_start=1447 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1484
(fs_start=1432)
                                CCAC
AGGCAGGCTAATTTTTTTAGGGAAAATTTGGCCTTC
                                GGACCGGAAG    GGAA
                                TCTTCA
                                GAATTT

=====
(408) AF286236
=====

PK1:  -15.100000(kcal/mol): PK_start=1556 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1584
(fs_start=1576)
                                CA
GAAGGGAAGGACACCAAATGAAAGACTG
                                GAC    AGAGAGTC
                                TTTTTTAGGG
                                GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1561 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1598
(fs_start=1576)
                                C
GAAGGACACCAAATGAAAGACTGCACTGAGAGA
                                GATTTTTT    AATCGGA
                                TTGGCCTTC
                                GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1585 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1618
(fs_start=1576)
                                AAA
ACTGAGAGACAGGCTAATTTTTTTAGGGA
                                CCT    TCCGGTTT
                                AGGCCAGGGA
                                AACAAGGGG

PK4:  -22.705000(kcal/mol): PK_start=1591 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1628
(fs_start=1576)
                                CAAC
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTTC
                                GGACCGGAGG    GGAA
                                TCTTCA
                                GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1591 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1654
(fs_start=1576)
                                TCCAACAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
                                GGACCGGA    GGGG

```

CCCCAC
GAATTTTCTTCAGAACAGACCAGAGCCAACAG

=====
(409) AF286237
=====

PK1: -10.440000(kcal/mol): PK_start=1410 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1448
(fs_start=1441)

A
CTGGAAATGTGGAAAGGAAGGACATCAA

GTT AGAAAGT
TTTTTTAGG
CACTGAGAGACAGGCTAA

PK2: -21.940000(kcal/mol): PK_start=1426 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1463
(fs_start=1441)

C
GAAGGACATCAAATGAAAGATTGCACTGAGAGA

GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1450 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1483
(fs_start=1441)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT
AGGCCAGGAA
AACAAAGGG

PK4: -21.815000(kcal/mol): PK_start=1456 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1493
(fs_start=1441)

TCCAACAA
AGACAGGCTAATTTTTTAGGAAAATTTGGCCT

GGACCGGA GGA
TCCTCA
AAATTT

=====
(410) AF286238
=====

PK1: -15.100000(kcal/mol): PK_start=1423 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1451
(fs_start=1443)

CA
GGAAGGAAGGACATCAAATGAAAGACTG

GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1428 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1465
(fs_start=1443)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA

```

                GATTTTTT   AATCGGA
                        TTGGCCTTC
GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1452 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1485
(fs_start=1443)
                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                CCT   TCCGGTTT
                        AGGCCAGGGA
                AACAAAGGG

PK4:  -21.815000(kcal/mol): PK_start=1458 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1495
(fs_start=1443)
                        TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA   GGA
                        TCCTCA
                GAATTT

PK4B:  -20.650000(kcal/mol): PK_start=1458 sp=7 s1=7 s2=4 l1=1 l2=41 L3=9 PK_end=1521
(fs_start=1443)
                T
AGACAGGCTAATTTTTTAGGGAAAATTTGGCC
                GGACCGG   AGGGAAACA   ACCT
                        TGGAGG
                GAATTTTCCTCAGAGCAGGACAGAGCCAACAGCCCCACCAA

=====
(411) AF286239
=====
PK1:  -15.100000(kcal/mol): PK_start=1427 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1455
(fs_start=1447)
                CA
GGAAGGAAGGACATCAAATGAAAGACTG
                GAC   AGAGAGTC
                        TTTTTTAGGG
                GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1432 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1469
(fs_start=1447)
                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT   AATCGGA
                        TTGGCCTTC
                GGAAAAT

PK3:  -23.745000(kcal/mol): PK_start=1455 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1489
(fs_start=1447)
                AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA

```



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          CCCT   TCCGGTTT
                AGGCCAGGGA
ACAGCGGG
PK4:  -20.990000(kcal/mol): PK_start=1462 sp=7 s1=7 s2=4 l1=10 l2=6 L3=0 PK_end=1499
(fs_start=1447)
                TTTCCACAGC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCC
          GGACCGG   AGGG
                TCCTCA
          GAATTT

```

=====
(412) AF286365
=====

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PK1:  -13.555000(kcal/mol): PK_start=2063 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2091
(fs_start=2083)
                A
GAAAGGAAGGACACCAAATGAAGGATTGT
          GACA   GAGAGTC
                TTTTTAGGG
          GCCAAT

```

```

PK2:  -22.720000(kcal/mol): PK_start=2068 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2104
(fs_start=2083)
                C
GAAGGACACCAAATGAAGGATTGTACTGAGAGA
          GATTTTTT A  ACCGGA
                TGGCCTTC
          GGAAAATC

```

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PK3:  -27.275000(kcal/mol): PK_start=2091 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2125
(fs_start=2083)
                AAA
TACTGAGAGACAGGCCAATTTTTTAGGGA
          CCCT   TCCGGTCT
                AGGCCAGGGA
          ACAAGGGA

```

```

PK4:  -29.020000(kcal/mol): PK_start=2098 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2135
(fs_start=2083)
                CCAC
AGACAGGCCAATTTTTTAGGGAAAATCTGGCCTTC
          GGACCGGAAG   GGAA
                CCTTCA
          GAATTT

```

=====
(413) AF289548
=====

PK1: -10.640000(kcal/mol): PK_start=1432 sp=0 s1=3 s2=7 l1=1 l2=21 l3=0 PK_end=1473
(fs_start=1466)

C
TTGGAATGTGGAAGGGAAGGACACCAA
GTT AGAAAGT
TTTTTTAGG
CCCAGAAAGAAGACAGGCTAA

PK2: -18.700000(kcal/mol): PK_start=1450 sp=0 s1=6 s2=7 l1=4 l2=9 l3=0 PK_end=1488
(fs_start=1466)

AGAC
AGGACACCAACTGAAAGATTGCCAGAAAGA
TTTTTT AATCGGA
TTGGCCTTC
AGGGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1475 sp=0 s1=3 s2=8 l1=3 l2=9 l3=0 PK_end=1508
(fs_start=1466)

AAA
GAAAGAAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AACAAAGGA

PK4: -23.395000(kcal/mol): PK_start=1481 sp=7 s1=8 s2=5 l1=7 l2=5 l3=0 PK_end=1518
(fs_start=1466)

TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA AGGAA
TCCTTCA
GAACT

=====
(414) AF289549
=====

PK1: -10.640000(kcal/mol): PK_start=1430 sp=0 s1=3 s2=7 l1=1 l2=18 l3=0 PK_end=1468
(fs_start=1461)

A
TTGGAATGTGGAAGGGAAGGACACCAA
GTT AGAAAGT
TTTTTTAGG
CACTGAAAGACAGGCTAA

PK2: -21.980000(kcal/mol): PK_start=1446 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1483
(fs_start=1461)

C
GAAGGACACCAAATGAAAGATTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1469 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=1503
(fs_start=1461)

AAA
CACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGA

PK4: -25.490000(kcal/mol): PK_start=1476 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1513
(fs_start=1461)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAACTT

=====
(415) AF289550
=====

PK1: -10.640000(kcal/mol): PK_start=1430 sp=0 s1=3 s2=7 l1=1 l2=18 l3=0 PK_end=1468
(fs_start=1461)

A
TTGGGAATGTGGAAGGAAGGACACCAA
GTT AGAAAGT
TTTTTTAGG
CACTGAAAGACAGGCCAA

PK2: -24.240000(kcal/mol): PK_start=1446 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1483
(fs_start=1461)

C
GAAGGACACCAAATGAAAGATTGCACTGAAAGA
GATTTTTT AACCGGA
TTGGCCTTC
GGAGAAT

PK3: -18.840000(kcal/mol): PK_start=1469 sp=0 s1=5 s2=6 l1=2 l2=11 l3=0 PK_end=1503
(fs_start=1461)

AA
CACTGAAAGACAGGCCAATTTTTTAGGGAG
CCTTC CGGTTT
GCCAGGGA
AACAAAGGAAG

PK4: -23.395000(kcal/mol): PK_start=1476 sp=7 s1=8 s2=5 l1=7 l2=5 l3=0 PK_end=1513
(fs_start=1461)

TCCAACA
AGACAGGCCAATTTTTTAGGGAGAATTTGGCCT
GGACCGGA AGGAA
TCCTTCA
GAACT

=====
(416) AF290027
=====

PK1: -14.985000(kcal/mol): PK_start=2063 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2091
(fs_start=2083)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -18.720000(kcal/mol): PK_start=2068 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2104
(fs_start=2083)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=2091 sp=0 s1=4 s2=8 l1=3 l2=11 L3=0 PK_end=2128
(fs_start=2083)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAAGGGGGG

PK4: -35.060000(kcal/mol): PK_start=2098 sp=7 s1=12 s2=4 l1=3 l2=6 L3=0 PK_end=2138
(fs_start=2083)

ACA
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTCCC
GGACCGGAGGGG GGAA
CCTTCA
GAATTT

PK4B: -33.650000(kcal/mol): PK_start=2098 sp=7 s1=10 s2=4 l1=7 l2=32 L3=0
PK_end=2164 (fs_start=2083)

CCACAAA
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGGG
CCCCAC
GAATTTCTTCAGAGCAGGCCAGAGCCAACAG

=====
(417) AF290028
=====

PK1: -14.985000(kcal/mol): PK_start=2055 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2083
(fs_start=2075)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC

```

                TTTT TAGGG
      GCTAAT
PK2:  -18.720000(kcal/mol): PK_start=2060 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2096
(fs_start=2075)
                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
                GATTTTTT A  ATCGGA
                TGGCCTTC
      GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=2083 sp=0 s1=4 s2=8 l1=3 l2=11 L3=0 PK_end=2120
(fs_start=2075)
                AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTCT
                AGGCCAGGGA
      ACAAAGGGGGG
PK4:  -35.060000(kcal/mol): PK_start=2090 sp=7 s1=12 s2=4 l1=3 l2=6 L3=0 PK_end=2130
(fs_start=2075)
                ACA
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTCCC
                GGACCGGAGGG   GGAA
                CCTTCA
      GAATTT
PK4B:  -33.650000(kcal/mol): PK_start=2090 sp=7 s1=10 s2=4 l1=7 l2=32 L3=0
PK_end=2156 (fs_start=2075)
                CCACAAA
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                GGACCGGAGG   GGGG
                CCCCAC
      GAATTTCTTCAGAGCAGGCCAGAGCCAACAG

=====
(418) AF290029
=====
PK1:  -14.985000(kcal/mol): PK_start=2055 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2083
(fs_start=2075)
                A
GAAAGGAAGGACACCAAATGAAAGACTGT
                GACG   GAGAGTC
                TTTT TAGGG
      GCTAAT
PK2:  -20.330000(kcal/mol): PK_start=2060 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2097
(fs_start=2075)
                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
                GATTTTTT   AATCGGA

```

TTGGCCTTC
GGAAAAAT
PK3: -23.745000(kcal/mol): PK_start=2083 sp=0 s1=4 s2=8 l1=3 l2=11 l3=0 PK_end=2120
(fs_start=2075)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAAGGGGGG

PK4: -31.530000(kcal/mol): PK_start=2090 sp=7 s1=12 s2=4 l1=3 l2=6 l3=0 PK_end=2130
(fs_start=2075)

ACA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTCCC
GGACCGGAGGGG GGAA
CCTTCA
GAATTT

PK4B: -30.120000(kcal/mol): PK_start=2090 sp=7 s1=10 s2=4 l1=7 l2=32 l3=0
PK_end=2156 (fs_start=2075)

CCACAAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGGG
CCCCAC
GAATTTCTTCAGAGCAGGCCAGAGCCAACAG

=====
(419) AF290030
=====

PK1: -14.985000(kcal/mol): PK_start=2055 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=2083
(fs_start=2075)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -18.720000(kcal/mol): PK_start=2060 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=2096
(fs_start=2075)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=2083 sp=0 s1=4 s2=8 l1=3 l2=11 l3=0 PK_end=2120
(fs_start=2075)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT

AGGCCAGGGA

ACAAAGGGGG

PK4: -35.060000(kcal/mol): PK_start=2090 sp=7 s1=12 s2=4 l1=3 l2=6 l3=0 PK_end=2130
(fs_start=2075)

ACA

AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTCCC

GGACCGGAGGGG GGAA

CCTTCA

GAATTT

PK4B: -33.650000(kcal/mol): PK_start=2090 sp=7 s1=10 s2=4 l1=7 l2=32 l3=0
PK_end=2156 (fs_start=2075)

CCACAAA

AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAGG GGGG

CCCCAC

GAATTTCTTCAGAGCAGGCCAGAGCCAACAG

=====
(420) AF316544
=====

PK1: -15.100000(kcal/mol): PK_start=1292 sp=0 s1=3 s2=8 l1=2 l2=5 l3=0 PK_end=1320
(fs_start=1312)

CA

GAAAAGAAGGACACCAAATGAAAGACTG

GAC AGAGAGTC

TTTTTTAGGG

GCTAA

PK2: -21.940000(kcal/mol): PK_start=1297 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1334
(fs_start=1312)

C

GAAGGACACCAAATGAAAGACTGCACTGAGAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1321 sp=0 s1=3 s2=8 l1=3 l2=9 l3=0 PK_end=1354
(fs_start=1312)

AAA

ACTGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT

AGGCCAGGGA

AACAAAGGG

PK4: -19.885000(kcal/mol): PK_start=1327 sp=7 s1=9 s2=4 l1=6 l2=6 l3=0 PK_end=1364
(fs_start=1312)

CCAACA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT

GGACCGGAG GGAA

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                                TCTTCA
                                GAATTT

=====
(421) AF321523
=====
PK1:  -14.985000(kcal/mol): PK_start=2055 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2083
(fs_start=2075)
                                A
GAAAGGAAGGACACCAAATGAAAGACTGT
                                GACG   GAGAGTC
                                TTTTtaggg
                                GCTAAT

PK2:  -18.720000(kcal/mol): PK_start=2060 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2096
(fs_start=2075)
                                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
                                GATTTTTT A  ATCGGA
                                TGGCCTTC
                                GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=2083 sp=0 s1=4 s2=8 l1=3 l2=11 L3=0 PK_end=2120
(fs_start=2075)
                                AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTCT
                                AGCCAGGGA
                                ACAAAGGGggg

PK4:  -35.060000(kcal/mol): PK_start=2090 sp=7 s1=12 s2=4 l1=3 l2=6 L3=0 PK_end=2130
(fs_start=2075)
                                ACA
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTCCC
                                GGACCGGAgggG   GGAA
                                CCTTCA
                                GAATTT

PK4B:  -33.650000(kcal/mol): PK_start=2090 sp=7 s1=10 s2=4 l1=7 l2=32 L3=0
PK_end=2156 (fs_start=2075)
                                CCACAAA
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAgg   gGGG
                                CCCCAC
                                GAATTTCTTCAGAGCAGGCCAGAGCCAACAG

=====
(422) AF332867
=====
PK1:  -15.140000(kcal/mol): PK_start=1583 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1611
(fs_start=1603)
                                CA
GAAAAGAAGGACACCAAATGAAAGACTG

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          GAC   AGAAAGTC
                TTTTTTAGGG
      GCTAA
PK2:  -21.980000(kcal/mol): PK_start=1588 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1625
(fs_start=1603)
                C
GAAGGACACCAAATGAAAGACTGCACTGAAAGA
                GATTTTTT   AATCGGA
                        TTGGCCTTC
      GGAAAAT
PK3:  -18.720000(kcal/mol): PK_start=1612 sp=0 s1=4 s2=4 l1=5 l2=10 L3=0 PK_end=1642
(fs_start=1603)
                AATTT
ACTGAAAGACAGGCTAATTTTTTAGGGAA
                CCTT   CCGG
                        GCCTG
      AACAAAGGGGA
PK4:  -22.820000(kcal/mol): PK_start=1621 sp=10 s1=7 s2=4 l1=4 l2=9 L3=0 PK_end=1655
(fs_start=1603)
                CAAC
CAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
                CCGGAGG   GGAA
                        CCTTCA
      TGGAAATTT
PK4B:  -24.675000(kcal/mol): PK_start=1621 sp=10 s1=5 s2=4 l1=8 l2=35 L3=0
PK_end=1681 (fs_start=1603)
                TCCAACAA
CAGGCTAATTTTTTAGGGAAAATTTGGCCT
                CCGGA   GGGG
                        CCCCCG
      TGGAAATTTCTTTCAGAACAGGCCAGAGCCAACAG
=====
(423) AF361871
=====
PK1:  -12.155000(kcal/mol): PK_start=1259 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1287
(fs_start=1279)
                A
GGAAGGAAGGACACCAAATGAAAGACTGT
                GACG   GAGAGTT
                        TTTTTTAGGG
      GCTAAT
PK2:  -18.300000(kcal/mol): PK_start=1264 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1301
(fs_start=1279)
                C
GAAGGACACCAAATGAAAGACTGTATTGAGAGG

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                GATTTTTT   AATCGGA
                    TTGGCCTTC
GGAAAAT
PK3:  -23.745000(kcal/mol): PK_start=1287 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1321
(fs_start=1279)
                AAA
TATTGAGAGGCAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTTT
                    AGGCCAGGGA
                AGAAGGGG
PK4:  -28.960000(kcal/mol): PK_start=1294 sp=7 s1=11 s2=4 l1=2 l2=7 L3=0 PK_end=1332
(fs_start=1279)
                    CA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTCC
                GGACCGGAGGG   GAAG
                    CTCAG
                GAATTTTC
PK4B:  -26.865000(kcal/mol): PK_start=1294 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1357
(fs_start=1279)
                    TCCCAGAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA   GGGG
                    CCCCAC
                GAATTTCTTCAGAACAGGCCAGGCAACAG
=====
(424) AF361872
=====
PK1:  -10.640000(kcal/mol): PK_start=1248 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1286
(fs_start=1279)
                A
TTGGAAATGTGGGAAGGAGGGACACCAA
                GTT   AGAAAGT
                    TTTTTTAGG
                CACTGAAAGACAGGCTAA
PK2:  -21.980000(kcal/mol): PK_start=1264 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1301
(fs_start=1279)
                C
GAGGGACACCAAATGAAAGATTGCACTGAAAGA
                GATTTTTT   AATCGGA
                    TTGGCCTTC
                GGAAAAT
PK3:  -20.285000(kcal/mol): PK_start=1288 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1321
(fs_start=1279)
                AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA

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          CCT   TCCGGTTT
                AGGCCAGGGA
AGCAAAGGG

PK4:  -21.815000(kcal/mol): PK_start=1294 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1331
(fs_start=1279)
                TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA   GGGA
                TCCTCA
          GAATTT

=====
(425) AF361873
=====
PK1:  -15.100000(kcal/mol): PK_start=1425 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1453
(fs_start=1445)
                CA
GGAAGGAGGGACACCAAATGAAAGACTG
                GAC   AGAGAGTC
                TTTTTTAGGG
          GCTAA

PK2:  -20.460000(kcal/mol): PK_start=1430 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1466
(fs_start=1445)
                C
GAGGGACACCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT   A   ATCGGA
                TGGCCTTC
          GGAAAATC

PK3:  -23.815000(kcal/mol): PK_start=1454 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1487
(fs_start=1445)
                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                CCT   TCCGGTCT
                AGGCCAGGGA
          AGCAAGGGG

PK4:  -25.745000(kcal/mol): PK_start=1460 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1497
(fs_start=1445)
                CCAGCA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT
                GGACCGGAG   GGGA
                TCCTCA
          GAATTT

PK4B:  -30.395000(kcal/mol): PK_start=1460 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1523
(fs_start=1445)
                TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT

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GGACCGGA GGGG
CCCCAC
GAATTTTCCTCAGAGCAGACCAGAGCCAACAG

=====
(426) AF361874
=====

PK1: -14.985000(kcal/mol): PK_start=1253 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1281
(fs_start=1273)

A
GAATGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1258 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1295
(fs_start=1273)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1281 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1315
(fs_start=1273)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGAA
ACAAGGGG

PK4: -22.705000(kcal/mol): PK_start=1288 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1325
(fs_start=1273)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
AAACTT

PK4B: -26.865000(kcal/mol): PK_start=1288 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1351
(fs_start=1273)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
AAACTTTCAGAACAGACCAGAGCCAACAG

=====
(427) AF361875
=====

PK1: -15.625000(kcal/mol): PK_start=1259 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1287
(fs_start=1279)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAAAGTC
TTTTTAGGG
GCCAAT

PK2: -24.240000(kcal/mol): PK_start=1264 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1301
(fs_start=1279)

C
GAAGGACACCAAATGAAAGACTGTACTGAAAGA
GATTTTTT AACCGGA
TTGCGCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1287 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1321
(fs_start=1279)

AAA
TACTGAAAGACAGGCCAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
AGAAGGGG

PK4: -28.960000(kcal/mol): PK_start=1294 sp=7 s1=11 s2=4 l1=2 l2=7 L3=0 PK_end=1332
(fs_start=1279)

CA
AGACAGGCCAATTTTTTAGGGAAAATTTGGCCTTCC
GGACCGGAGGG GAAG
CTTCAG
GAATTTT

PK4B: -26.865000(kcal/mol): PK_start=1294 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1357
(fs_start=1279)

TCCCAGAA
AGACAGGCCAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCTTCAGAGCAGGCCAGCCAACAG

=====
(428) AF361876
=====

PK1: -15.585000(kcal/mol): PK_start=1261 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1289
(fs_start=1281)

A
GAAAGGAGGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1266 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1302
(fs_start=1281)

C
GAGGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -23.815000(kcal/mol): PK_start=1290 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1323
(fs_start=1281)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTCT
AGGCCAGGGA
AGCAAGGGG

PK4: -28.540000(kcal/mol): PK_start=1296 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1333
(fs_start=1281)

CAGC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1296 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1359
(fs_start=1281)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCCTTCAGAGCAGACCAGAGCCAACAG

=====
(429) AF361877
=====

PK1: -14.985000(kcal/mol): PK_start=1259 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1287
(fs_start=1279)

A
GAAAGGAAGGACACCAGATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -18.720000(kcal/mol): PK_start=1264 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1300
(fs_start=1279)

C
GAAGGACACCAGATGAAAGACTGTACTGAGAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1287 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1321
(fs_start=1279)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -28.540000(kcal/mol): PK_start=1294 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1331
(fs_start=1279)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1294 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1357
(fs_start=1279)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCCTTCAGAGCAGACCAGAGCCAACAG

=====
(430) AF361878
=====

PK1: -15.025000(kcal/mol): PK_start=1252 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1280
(fs_start=1272)

A
GAAAGGAAGGACATCAAATGAAAGACTGT
GACG GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.370000(kcal/mol): PK_start=1257 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1294
(fs_start=1272)

C
GAAGGACATCAAATGAAAGACTGTACTGAAAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1280 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1314
(fs_start=1272)

AAA
TACTGAAAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGA

PK4: -25.490000(kcal/mol): PK_start=1287 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1324
(fs_start=1272)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAACTT

=====
(431) AF361879
=====

PK1: -14.985000(kcal/mol): PK_start=1266 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1294
(fs_start=1286)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCCAAT

PK2: -22.590000(kcal/mol): PK_start=1271 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1308
(fs_start=1286)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AACCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1294 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1328
(fs_start=1286)

AAA
TACTGAGAGGCAGGCCAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1301 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1338
(fs_start=1286)

CCAC
AGGCAGGCCAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1301 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1364
(fs_start=1286)

TCCCACAA
AGGCAGGCCAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCGC
GAATTTCTTCAGAACAGGCCAGAGCCAACAG

=====
(432) AF362994
=====

PK1: -13.555000(kcal/mol): PK_start=1296 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1324
(fs_start=1316)

A
GAAAGGAAGGACATCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1301 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1337
(fs_start=1316)

C
GAAGGACATCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1324 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1358
(fs_start=1316)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1331 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1368
(fs_start=1316)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(433) AF377954
=====

PK1: -13.555000(kcal/mol): PK_start=1254 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1282
(fs_start=1274)

A
GGAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -21.940000(kcal/mol): PK_start=1259 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1296
(fs_start=1274)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAAT

PK3: -20.285000(kcal/mol): PK_start=1283 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1316
(fs_start=1274)

AAA

ACTGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT

AGGCCAGGGA

AGCAAGGGG

PK4: -22.215000(kcal/mol): PK_start=1289 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1326
(fs_start=1274)

CCAGCA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT

GGACCGGAG GGGG

TCCTCA

GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1289 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1352
(fs_start=1274)

TCCAGCAA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG

CCCCAC

GAATTTTCCTCAGAGCAGACCAGAACCAACAG

=====
(434) AF377955
=====

PK1: -15.625000(kcal/mol): PK_start=1254 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1282
(fs_start=1274)

A

GGAAGGAGGGACACCAAATGAAAGACTGT

GACA GAAAGTC

TTTTTAGGG

GCTAAT

PK2: -21.980000(kcal/mol): PK_start=1259 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1296
(fs_start=1274)

C

GAGGGACACCAAATGAAAGACTGTACTGAAAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAAT

PK3: -20.285000(kcal/mol): PK_start=1283 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1316
(fs_start=1274)

AAA

ACTGAAAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT

```

                                AGGCCAGGAA
                        AGCAAGGGG

PK4:  -22.215000(kcal/mol): PK_start=1289 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1326
(fs_start=1274)
                                CCAGCA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTT
                                GGACCGGAG    GGGA
                                TCCTCA
                        AAATTT

PK4B:  -26.865000(kcal/mol): PK_start=1289 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1352
(fs_start=1274)
                                TCCAGCAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTT
                                GGACCGGA    GGGG
                                CCCCCG
                        AAATTTTCCTCAAAGCAGACCAGAACCAACAG

=====
(435) AF377956
=====
PK1:  -15.100000(kcal/mol): PK_start=1254 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1282
(fs_start=1274)
                                CA
GAAAGGAAGGACACCAAATGAAAGACTG
                                GAC    AGAGAGTC
                                TTTTTTAGGG
                        GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1259 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1296
(fs_start=1274)
                                C
GAAGGACACCAAATGAAAGACTGCACTGAGAGA
                                GATTTTTT    AATCGGA
                                TTGGCCTTC
                        GGAAAAT

PK3:  -18.720000(kcal/mol): PK_start=1283 sp=0 s1=4 s2=4 l1=5 l2=10 L3=0 PK_end=1313
(fs_start=1274)
                                AATTT
ACTGAGAGACAGGCTAATTTTTTTAGGGAA
                                CCTT    CCGG
                                GGCCTG
                        AACAAAGGGGA

PK4:  -20.515000(kcal/mol): PK_start=1292 sp=10 s1=7 s2=4 l1=4 l2=9 L3=0 PK_end=1326
(fs_start=1274)
                                CAAC
CAGGCTAATTTTTTTAGGGAAAATTTGGCCTTC
                                CCGGAGG    GGAA

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                                TCTTCA
          TGGAAATTT
PK4B:  -24.675000(kcal/mol): PK_start=1292 sp=10 s1=5 s2=4 l1=8 l2=35 L3=0
PK_end=1352 (fs_start=1274)
                                TCCAACAA
CAGGCTAATTTTTTAGGGAAAATTTGGCCT
                                CCGGA   GGGG
                                CCCCCG
          TGGAAATTTTCTTCAGAACAGACCAGAGCCAACAG

=====
(436) AF377957
=====
PK1:  -15.140000(kcal/mol): PK_start=1281 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1309
(fs_start=1301)
                                CA
GGAAGGAAGGACACCAAATGAAAGACTG
                                GAC   AGAAAGTC
                                TTTTTTAGGG
          GCTAA

PK2:  -21.980000(kcal/mol): PK_start=1286 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1323
(fs_start=1301)
                                C
GAAGGACACCAAATGAAAGACTGCACTGAAAGA
                                GATTTTTT   AATCGGA
                                TTGGCCTTC
          GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1310 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1343
(fs_start=1301)
                                AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
                                CCT   TCCGGTTT
                                AGGCCAGGAA
          AGCAAGGGG

PK4:  -22.215000(kcal/mol): PK_start=1316 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1353
(fs_start=1301)
                                CCAGCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
                                GGACCGGAG   GGGA
                                TCCTCA
          AAATTT

PK4B:  -26.865000(kcal/mol): PK_start=1316 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1379
(fs_start=1301)
                                TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                                GGACCGGA   GGGG

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CCCCAC
AAATTTTCCTCAGAGCAGACCGGAGCCAACAG

=====
(437) AF377958
=====

PK1: -15.100000(kcal/mol): PK_start=1251 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1279
(fs_start=1271)

CA
GGAAGGAAGGACACCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1256 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1293
(fs_start=1271)

C
GAAGGACACCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAGAAT

PK3: -18.840000(kcal/mol): PK_start=1279 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1313
(fs_start=1271)

AA
CACTGAGAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTTT
GCCAGGAA
AGCAAGGGGAG

PK4: -22.215000(kcal/mol): PK_start=1286 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1323
(fs_start=1271)

CCAGCA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCTT
GGACCGGAG GGGA
TCCTCA
AAATTT

PK4B: -26.865000(kcal/mol): PK_start=1286 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1349
(fs_start=1271)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
GGACCGGA GGGG
CCCCGC
AAATTTTCCTCAGAGCAGACCAGAACCAACAG

=====
(438) AF377959
=====

PK1: -15.100000(kcal/mol): PK_start=1260 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1288
(fs_start=1280)

CA
GGAAGGAAGGACATCAAATGAAAGACTG

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                GAC    AGAGAGTC
                TTTTTTAGGG
        GCTAA
PK2:  -21.94000(kcal/mol): PK_start=1265 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1302
(fs_start=1280)
                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT    AATCGGA
                TTGGCCTTC
        GGAAAAT
PK3:  -20.285000(kcal/mol): PK_start=1289 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1322
(fs_start=1280)
                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                CCT    TCCGGTTT
                AGGCCAGGGA
        AACAAGGGG
PK4:  -18.485000(kcal/mol): PK_start=1295 sp=7 s1=9 s2=4 l1=6 l2=5 L3=0 PK_end=1331
(fs_start=1280)
                CCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
                GGACCGGAG    GGGA
                TTCTCC
        GAACT
PK4B:  -26.865000(kcal/mol): PK_start=1295 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1358
(fs_start=1280)
                TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA    GGGG
                CCCAC
        GAACTTTCTCCAGAACAAACCAGAGCCAACAG
=====
(439) AF385934
=====
PK1:  -15.140000(kcal/mol): PK_start=2090 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2118
(fs_start=2110)
                CA
GAAAAGAAGGACACCAAATGAAAGACTG
                GAC    AGAAAGTC
                TTTTTTAGGG
        GCTAA
PK2:  -21.980000(kcal/mol): PK_start=2095 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2132
(fs_start=2110)
                C
GAAGGACACCAAATGAAAGACTGCACTGAAAGA

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                GATTTTTT   AATCGGA
                        TTGGCCTTC
        GGAGAAT

PK3:  -18.355000(kcal/mol): PK_start=2119 sp=0 s1=4 s2=4 l1=5 l2=10 L3=0 PK_end=2149
(fs_start=2110)
                AATTT
ACTGAAAGACAGGCTAATTTTTTTAGGGAG
                CCTT   CCGG
                        GGCTG
                AACAAAGGGA

PK4:  -18.385000(kcal/mol): PK_start=2128 sp=10 s1=7 s2=4 l1=4 l2=6 L3=0 PK_end=2159
(fs_start=2110)
                CAAC
CAGGCTAATTTTTTTAGGGAGAATTTGGCCTTC
                CCGGAGG   GAAA
                        TTTTCT
                TGGAAA

=====
(440) AF385935
=====
PK1:  -15.140000(kcal/mol): PK_start=2069 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2097
(fs_start=2089)
                CA
GAAGAGAAGGACATCAAATGAAAGACTG
                GAC   AGAAAGTC
                        TTTTTTAGGG
                GCTAA

PK2:  -21.980000(kcal/mol): PK_start=2074 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2111
(fs_start=2089)
                C
GAAGGACATCAAATGAAAGACTGCACTGAAAGA
                GATTTTTT   AATCGGA
                        TTGGCCTTC
                GGAAAAT

PK3:  -18.565000(kcal/mol): PK_start=2098 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2131
(fs_start=2089)
                AAA
ACTGAAAGACAGGCTAATTTTTTTAGGGA
                CCT   TCCGGTTT
                        AGGCCGGGGA
                AACAAAGGGG

PK4:  -23.290000(kcal/mol): PK_start=2104 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2141
(fs_start=2089)
                CAAC
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTTC

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GGGCCGGAGG    GGAA
                CCTTCA
    GAACTT
PK4B:  -25.145000(kcal/mol): PK_start=2104 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2167
(fs_start=2089)
                TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGGCCGGA    GGGG
                CCCCCG
    GAACTTCCTTCAGAACAGGCCAGAGCCAACAG

=====
(441) AF385936
=====
PK1:  -18.400000(kcal/mol): PK_start=2069 sp=0 s1=3 s2=9 l1=1 l2=5 L3=0 PK_end=2098
(fs_start=2089)
                C
GAAAAGAAGGACACCAAATGAAAGACTG
                GAC    AGAAAGTCC
                TTTTTTAGGGA
    GCTAA
PK2:  -28.200000(kcal/mol): PK_start=2072 sp=0 s1=10 s2=7 l1=1 l2=5 L3=0 PK_end=2111
(fs_start=2089)
                C
AAGAAGGACACCAAATGAAAGACTGCCCTGAAAGA
                GGGATTTTTT    AATCGGA
                TTGGCCTTC
    AAAAT
PK3:  -18.320000(kcal/mol): PK_start=2098 sp=0 s1=4 s2=4 l1=5 l2=10 L3=0 PK_end=2128
(fs_start=2089)
                AATTT
CCTGAAAGACAGGCTAATTTTTTAGGGAA
                CCTT    CCGG
                GGCCCG
    AACAAGGGGA
PK4:  -22.820000(kcal/mol): PK_start=2107 sp=10 s1=7 s2=4 l1=4 l2=9 L3=0 PK_end=2141
(fs_start=2089)
                CAAC
CAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
                CCGGAGG    GGAA
                CCTTCA
    CGGAAATTT
PK4B:  -24.675000(kcal/mol): PK_start=2107 sp=10 s1=5 s2=4 l1=8 l2=35 L3=0
PK_end=2167 (fs_start=2089)
                TCCAACAA
CAGGCTAATTTTTTAGGGAAAATTTGGCCT

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          CCGGA   GGGG
                CCCCCG
          CGGAAATTTTCCTTCAGAACAGGCCAGAGCCAACAG

=====
(442) AF408626
=====
PK1:  -15.140000(kcal/mol): PK_start=1485 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1513
(fs_start=1505)
                CA
GGCAAGAAAGACACCAAATGAAAGACTG

                GAC   AGAAAGTC
                TTTTTTAGGG
          GCTTA

PK2:  -19.500000(kcal/mol): PK_start=1490 sp=0 s1=8 s2=5 l1=1 l2=9 L3=2 PK_end=1525
(fs_start=1505)
                C
GAAAGACACCAAATGAAAGACTGCACTGAAAGA

                GATTTTTT  AT  TCGGA
                GGCCTTT
          GGAAAATTT

PK3:  -19.825000(kcal/mol): PK_start=1514 sp=0 s1=4 s2=5 l1=5 l2=8 L3=0 PK_end=1544
(fs_start=1505)
                AATTT
ACTGAAAGACAGGCTTATTTTTTAGGGAA

                CCTT   TCCGG
                AGGCCCG
          ACAAGGGG

PK4:  -24.675000(kcal/mol): PK_start=1523 sp=10 s1=5 s2=4 l1=8 l2=35 L3=0 PK_end=1583
(fs_start=1505)
                TTCCACAA
CAGGCTTATTTTTTAGGGAAAATTTGGCCT

                CCGGA   GGGG
                CCCCCG
          CGGGAATTTTATTCAGAACAAGCCAGAGCCAACAG

=====
(443) AF408627
=====
PK1:  -12.560000(kcal/mol): PK_start=1498 sp=0 s1=3 s2=7 l1=3 l2=5 L3=0 PK_end=1525
(fs_start=1518)
                CAC
GAAAAGAAGGACACCAAATGAAAGACTG

                GAC   AGAAAGT
                TTTTTTAAG
          GCTAA

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PK2: -19.50000(kcal/mol): PK_start=1504 sp=0 s1=7 s2=7 l1=1 l2=8 L3=0 PK_end=1540
(fs_start=1518)

C
AAGGACACCAAATGAAAGACTGCACTGAAAGA
 ATTTTTT AATCGGA
 TTGGCCTTC
 AGGAAAAT

PK3: -18.765000(kcal/mol): PK_start=1527 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1560
(fs_start=1518)

AAA
ACTGAAAGACAGGCTAATTTTTTAAGGA
 CCT TCCGGTTT
 AGGCCGGGAA
 AACAAGGGG

PK4: -23.290000(kcal/mol): PK_start=1533 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1570
(fs_start=1518)

CAAC
AGACAGGCTAATTTTTTAAGGAAAATTTGGCCTTC
 GGGCCGGAGG GGAA
 CCTTCA
 AAATTT

PK4B: -25.145000(kcal/mol): PK_start=1533 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1596
(fs_start=1518)

TCCAACAA
AGACAGGCTAATTTTTTAAGGAAAATTTGGCCT
 GGGCCGGA GGGG
 CCCCAC
 AAATTTCTTCAGAACAGGCCAGCAACAG

=====
(444) AF408628
=====

PK1: -15.140000(kcal/mol): PK_start=1498 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1526
(fs_start=1518)

CA
GAAGAAAAGGACACCAAATGAAAGACTG
 GAC AGAAAGTC
 TTTTTTAGGG
 GCTAA

PK2: -21.980000(kcal/mol): PK_start=1503 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1540
(fs_start=1518)

C
AAAGGACACCAAATGAAAGACTGCACTGAAAGA
 GATTTTTT AATCGGA
 TTGGCCTTC
 GGAAAAT

PK3: -18.320000(kcal/mol): PK_start=1527 sp=0 s1=4 s2=4 l1=5 l2=10 l3=0 PK_end=1557
(fs_start=1518)

AATTT
ACTGAAAGACAGGCTAATTTTTTTAGGGAA
CCTT CCGG
GGCCCG
AACAAGGGGA

PK4: -22.820000(kcal/mol): PK_start=1536 sp=10 s1=7 s2=4 l1=4 l2=9 l3=0 PK_end=1570
(fs_start=1518)

CAAC
CAGGCTAATTTTTTTAGGGAAAATTTGGCCTC
CCGGAGG GGAA
CCTTCA
CGGAAATTT

PK4B: -24.675000(kcal/mol): PK_start=1536 sp=10 s1=5 s2=4 l1=8 l2=35 l3=0
PK_end=1596 (fs_start=1518)

TCCAACAA
CAGGCTAATTTTTTTAGGGAAAATTTGGCCT
CCGGA GGGG
CCCCGC
CGGAAATTTCTTCAGAACAGGCCAGAGCCATCAG

=====
(445) AF408629
=====

PK1: -15.625000(kcal/mol): PK_start=1628 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1656
(fs_start=1648)

A
GAAGAGAAGGGCACCAAATGAAAGACTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -21.980000(kcal/mol): PK_start=1633 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1670
(fs_start=1648)

C
GAAGGGCACCAAATGAAAGACTGTACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAGACT

PK3: -23.495000(kcal/mol): PK_start=1657 sp=0 s1=3 s2=9 l1=2 l2=9 l3=0 PK_end=1691
(fs_start=1648)

GA
ACTGAAAGACAGGCTAATTTTTTTAGGGA
CCT TCCGGTTTC
AGGCCAGGGAA
AACAAGGGGA

PK4: -27.625000(kcal/mol): PK_start=1662 sp=6 s1=10 s2=4 l1=6 l2=32 L3=0 PK_end=1727
(fs_start=1648)

CCAACA
AAGACAGGCTAATTTTTTAGGGAGACTTTGGCCTT
GGGACCGGAA GGGA
CCCTCC
AATTTTCCTTCAGAACAGGCCAGAGCCAACAGC

=====
(446) AF408630
=====

PK1: -15.140000(kcal/mol): PK_start=1616 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1644
(fs_start=1636)

CA
GAAGAGAAGGACACCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTTAGGG
GCTAA

PK2: -21.980000(kcal/mol): PK_start=1621 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1658
(fs_start=1636)

C
GAAGGACACCAAATGAAAGACTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1645 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1678
(fs_start=1636)

AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AACAGGGGG

PK4: -25.035000(kcal/mol): PK_start=1651 sp=7 s1=10 s2=4 l1=4 l2=5 L3=0 PK_end=1687
(fs_start=1636)

CAAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAG GGGA
TCCTTC
AAATT

PK4B: -27.725000(kcal/mol): PK_start=1651 sp=7 s1=9 s2=4 l1=6 l2=32 L3=0 PK_end=1714
(fs_start=1636)

CCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGAG GGGG
CCCCAC
AAATTTTCCTTCAGAACAGGCCAGAACCAACAG

=====
(447) AF408631
=====

PK1: -15.140000(kcal/mol): PK_start=1506 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1534
(fs_start=1526)

CA
GAAGAGAAGGACACCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -21.980000(kcal/mol): PK_start=1511 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1548
(fs_start=1526)

C
GAAGGACACCAAATGAAAGACTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1535 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1568
(fs_start=1526)

AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGAA
AACAAGGGG

PK4: -23.290000(kcal/mol): PK_start=1541 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1578
(fs_start=1526)

CAAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGGCCGGAGG GGAA
CCTTCA
AAATTT

PK4B: -25.145000(kcal/mol): PK_start=1541 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1604
(fs_start=1526)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA GGGG
CCCCGC
AAATTTCTTCAGAACAGGCCAGAGCCAACAG

=====
(448) AF408632
=====

PK1: -15.100000(kcal/mol): PK_start=1634 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1662
(fs_start=1654)

CA
GAAGAGAGGGACACCAAATGAAAGACTG
GAC AGAGAGTC

TTTTTTAGGG
GCTAA
PK2: -21.940000(kcal/mol): PK_start=1639 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1676
(fs_start=1654)

C
GAGGGACACCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -21.780000(kcal/mol): PK_start=1662 sp=0 s1=5 s2=4 l1=5 l2=9 L3=0 PK_end=1693
(fs_start=1654)

AATTT
CACTGAGAGACAGGCTAATTTTTTTAGGGAA
CCCTT CCGG
GGCCCG
ACAAGGGGA

PK4: -22.820000(kcal/mol): PK_start=1672 sp=10 s1=7 s2=4 l1=4 l2=9 L3=0 PK_end=1706
(fs_start=1654)

CCAC
CAGGCTAATTTTTTTAGGGAAAATTTGGCCTTC
CCGGAGG GGAA
CCTTCA
CGGAAATTT

PK4B: -24.675000(kcal/mol): PK_start=1672 sp=10 s1=5 s2=4 l1=8 l2=35 L3=0
PK_end=1732 (fs_start=1654)

TCCCACAA
CAGGCTAATTTTTTTAGGGAAAATTTGGCCT
CCGGA GGGG
CCCCGC
CGGAAATTTCTTCAGAACAGGCCAGAGCCAACAG

=====
(449) AF411964
=====

PK1: -15.140000(kcal/mol): PK_start=2066 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2094
(fs_start=2086)

CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -21.980000(kcal/mol): PK_start=2071 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2108
(fs_start=2086)

C
GAAGGACATCAAATGAAAGACTGCACTGAAAGA
GATTTTTT AATCGGA

```

                                TTGGCCTTC
                GGAAAAT
PK3:  -23.745000(kcal/mol): PK_start=2094 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2128
(fs_start=2086)
                                AAA
CACTGAAAGACAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTTT
                                AGGCCAGGAA
                GCAACGGG
PK4:  -18.180000(kcal/mol): PK_start=2101 sp=7 s1=7 s2=4 l1=10 l2=5 L3=0 PK_end=2137
(fs_start=2086)
                                TCCCCGCAAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCC
                                GGACCGG   AGGG
                                TTCTTC
                AAACT

=====
(450) AF411965
=====
PK1:  -15.025000(kcal/mol): PK_start=2054 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2082
(fs_start=2074)
                                A
GAAAGGAAGGACACCAAATGAAAGACTGT
                                GACG   GAAAGTC
                                TTTTTAGGG
                GCTAAT
PK2:  -20.370000(kcal/mol): PK_start=2059 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2096
(fs_start=2074)
                                C
GAAGGACACCAAATGAAAGACTGTACTGAAAGG
                                GATTTTTT   AATCGGA
                                TTGGCCTTC
                GGAAAAT
PK3:  -23.745000(kcal/mol): PK_start=2082 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2116
(fs_start=2074)
                                AAA
TACTGAAAGGCAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTTT
                                AGGCCAGGGA
                ACAAAGGG
PK4:  -22.745000(kcal/mol): PK_start=2089 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2126
(fs_start=2074)
                                TCCCACA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
                                GGACCGGA   GGGAA

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TCCTTCA

GAATT

=====
(451) AF411966
=====

PK1: -15.625000(kcal/mol): PK_start=2054 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2082
(fs_start=2074)

A

GAAAGGAAGGACACCAAATGAAAGACTGT

GACA GAAAGTC

TTTTTAGGG

GCTAAT

PK2: -21.980000(kcal/mol): PK_start=2059 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2096
(fs_start=2074)

C

GAAGGACACCAAATGAAAGACTGTACTGAAAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=2082 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2116
(fs_start=2074)

AAA

TACTGAAAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT

AGGCCAGGGA

ACAAGGGG

PK4: -23.985000(kcal/mol): PK_start=2089 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=2127
(fs_start=2074)

TCCCACAA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG

CTCCAG

GAATTTTC

PK4B: -26.865000(kcal/mol): PK_start=2089 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2152
(fs_start=2074)

TCCCACAA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG

CCCCAC

GAATTTCTCCAGAACAGACCAGAGCCAACAG

=====
(452) AF411967
=====

PK1: -12.995000(kcal/mol): PK_start=2060 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2088
(fs_start=2080)

A

GAAAGGAAGGACACCAAATGAAAGATTGT


```

          GACG    GAAAGTC
                TTTTATAGGG
    GCTAAT
PK2:  -20.370000(kcal/mol): PK_start=2065 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2102
(fs_start=2080)
                C
GAAGGACACCAAATGAAAGATTGTACTGAAAGG
                GATTTTTT    AATCGGA
                TTGGCCTTC
    GGAAAAT

PK3:  -23.745000(kcal/mol): PK_start=2088 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2122
(fs_start=2080)
                AAA
TACTGAAAGGCAGGCTAATTTTTATAGGGA
                CCCT    TCCGGTTT
                AGGCCAGGGA
    ACAAGGGG

PK4:  -25.010000(kcal/mol): PK_start=2095 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2132
(fs_start=2080)
                CCAC
AGGCAGGCTAATTTTTATAGGAAAATTTGGCCTTC
                GGACCGGAGG    GGAA
                CCTTCA
    GAATTT

PK4B: -26.865000(kcal/mol): PK_start=2095 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2158
(fs_start=2080)
                TCCCACAA
AGGCAGGCTAATTTTTATAGGAAAATTTGGCCT
                GGACCGGA    GGGG
                CCCAC
    GAATTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(453) AF413987
=====
PK1:  -15.100000(kcal/mol): PK_start=2063 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2091
(fs_start=2083)
                CA
GAAAGGAAGGCCATCAAATGAAAACTG
                GAC    AGAGAGTC
                TTTTTTAGGA
    GCTAA

PK2:  -21.940000(kcal/mol): PK_start=2068 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2105
(fs_start=2083)
                C
GAAGGCCATCAAATGAAAACTGCACTGAGAGA

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                GATTTTTT   AATCGGA
                    TTGGCCTTC
    GAAGAAT
PK3:  -19.32000(kcal/mol): PK_start=2091 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=2125
(fs_start=2083)
                AA
    CACTGAGAGACAGGCTAATTTTTTTAGGAAG
                CCTTC   CGGTTT
                    GCCAGGAA
    AGCAAAGGGAG
PK4:  -21.815000(kcal/mol): PK_start=2098 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=2135
(fs_start=2083)
                    TCCAGCAA
    AGACAGGCTAATTTTTTTAGGAAGAATTTGGCCT
                GGACCGGA   GGA
                    TCCTCA
    AAATTT

=====
(454) AF414006
=====
PK1:  -15.100000(kcal/mol): PK_start=2067 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2095
(fs_start=2087)
                CA
    GAAAGGAAGGCCATCAAATGAAAGACTG
                GAC   AGAGAGTC
                    TTTTTTAGGG
    GCTAA
PK2:  -21.940000(kcal/mol): PK_start=2072 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2109
(fs_start=2087)
                C
    GAAGGCCATCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT   AATCGGA
                    TTGGCCTTC
    GGAGAAT
PK3:  -18.840000(kcal/mol): PK_start=2095 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=2129
(fs_start=2087)
                AA
    CACTGAGAGACAGGCTAATTTTTTTAGGGAG
                CCTTC   CGGTTT
                    GCCAGGAA
    AGCAAAGGGAG
PK4:  -21.815000(kcal/mol): PK_start=2102 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=2139
(fs_start=2087)
                    TCCAGCAA
    AGACAGGCTAATTTTTTTAGGGAGAATTTGGCCT

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                GGACCGGA    GGGA
                    TCCTCA
AAATTT

=====
(455) AF423755
=====
PK1:  -11.42000(kcal/mol): PK_start=1513 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=1539
(fs_start=1533)
                CWCA
GAAAGGAGGGACATCAAATGAAAGACTG

                GAC    AGAGAG
                    TTTTTTAG
                GCTAA

PK2:  -18.66000(kcal/mol): PK_start=1520 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1555
(fs_start=1533)
                C
GGGACATCAAATGAAAGACTGCWCAGAGAGA

                TTTTTT    AATCGGA
                    TTGGCCTTC
                AGGGAAAAT

PK3:  -20.28500(kcal/mol): PK_start=1542 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1575
(fs_start=1533)
                AAA
WCAGAGAGACAGGCTAATTTTTTAGGGA

                CCT    TCCGGTTT
                    AGGCCAGGGA
                AACAAGGGG

PK4:  -18.48500(kcal/mol): PK_start=1548 sp=7 s1=9 s2=4 l1=6 l2=5 L3=0 PK_end=1584
(fs_start=1533)
                CCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT

                GGACCGGAG    GGGA
                    TTCTCC
                GAATT

PK4B:  -26.86500(kcal/mol): PK_start=1548 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1611
(fs_start=1533)
                TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

                GGACCGGA    GGGG
                    CCCAC
                GAATTTTCTCCAGAACAGGCCAGCCATCAG

=====
(456) AF423756
=====

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PK1: -11.05000(kcal/mol): PK_start=1509 sp=0 s1=3 s2=5 l1=2 l2=8 L3=0 PK_end=1534
(fs_start=1528)

AC
AAGGGAGGGACATCAAATGAAAGACTGC
ACG AAAGA
TTTTTAG
AGGCTAAT

PK2: -19.04000(kcal/mol): PK_start=1514 sp=0 s1=6 s2=8 l1=1 l2=9 L3=0 PK_end=1551
(fs_start=1528)

C
AGGGACATCAAATGAAAGACTGCACAGAAAG
TTTTTT AATCGGAA
TTGGCCTTCC
AGGGAAAAT

PK3: -20.28500(kcal/mol): PK_start=1537 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1570
(fs_start=1528)

AAA
ACAGAAAGCAAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AACAAGGGG

PK4: -18.48500(kcal/mol): PK_start=1543 sp=7 s1=9 s2=4 l1=6 l2=5 L3=0 PK_end=1579
(fs_start=1528)

CCAACA
AGCAAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGAG GGGA
TTCTCC
GAATT

PK4B: -26.86500(kcal/mol): PK_start=1543 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1606
(fs_start=1528)

TCCAACAA
AGCAAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCTCCAGAACAGGCTAGAGCCAACAG

=====
(457) AF423757
=====

PK1: -11.01000(kcal/mol): PK_start=1506 sp=0 s1=3 s2=5 l1=2 l2=8 L3=0 PK_end=1531
(fs_start=1525)

AC
AAAGGAGGGACATCAAATGAAAGACTGC
ACG AGAGA
TTTTTAG
AGGCTAAT

PK2: -19.000000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=8 l1=1 l2=9 L3=0 PK_end=1548
(fs_start=1525)

C
AGGGACATCAAATGAAAGACTGCACAGAGAG
TTTTTT AATCGGAA
TTGGCCTTCC
AGGGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1534 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1567
(fs_start=1525)

AAA
ACAGAGAGCAAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AACAAGGGG

PK4: -18.485000(kcal/mol): PK_start=1540 sp=7 s1=9 s2=4 l1=6 l2=5 L3=0 PK_end=1576
(fs_start=1525)

CCAACA
AGCAAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGAG GGGA
TTCTCC
GAATT

PK4B: -26.865000(kcal/mol): PK_start=1540 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1603
(fs_start=1525)

TCCAACAA
AGCAAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGA GGGG
CCCCAC
GAATTTTCTCCAGAACAGGCCAGAGCCAACAG

=====
(458) AF423758
=====

PK1: -11.010000(kcal/mol): PK_start=1506 sp=0 s1=3 s2=5 l1=2 l2=8 L3=0 PK_end=1531
(fs_start=1525)

AC
AAAGGAGGGACATCAAATGAAAGACTGC
ACG AGAGA
TTTTTAG
AGGCTAAT

PK2: -19.000000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=8 l1=1 l2=9 L3=0 PK_end=1548
(fs_start=1525)

C
AGGGACATCAAATGAAAGACTGCACAGAGAG
TTTTTT AATCGGAA
TTGGCCTTCC
AGGGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1534 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1567
(fs_start=1525)

AAA
ACAGAGAGCAAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AACAAGGGG

PK4: -18.485000(kcal/mol): PK_start=1540 sp=7 s1=9 s2=4 l1=6 l2=5 L3=0 PK_end=1576
(fs_start=1525)

CCAACA
AGCAAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGAG GGGA
TTCTCC
GAATT

PK4B: -26.865000(kcal/mol): PK_start=1540 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1603
(fs_start=1525)

TCCAACAA
AGCAAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCTCCAGAACAGGCCAGCAACAG

=====
(459) AF423759
=====

PK1: -11.010000(kcal/mol): PK_start=1509 sp=0 s1=3 s2=5 l1=2 l2=8 L3=0 PK_end=1534
(fs_start=1528)

AC
AAAGGAGGGACATCAAATGAAAGACTGC
ACG AGAGA
TTTTTAG
AGGCTAAT

PK2: -19.000000(kcal/mol): PK_start=1514 sp=0 s1=6 s2=8 l1=1 l2=9 L3=0 PK_end=1551
(fs_start=1528)

C
AGGGACATCAAATGAAAGACTGCACAGAGAG
TTTTTT AATCGGAA
TTGGCCTTCC
AGGGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1537 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1570
(fs_start=1528)

AAA
ACAGAGAGCAAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AACAAGGGG

PK4: -18.485000(kcal/mol): PK_start=1543 sp=7 s1=9 s2=4 l1=6 l2=5 L3=0 PK_end=1579
(fs_start=1528)

CCAACA
AGCAAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGAG GGGG
TTCTCC
GAATT

PK4B: -26.865000(kcal/mol): PK_start=1543 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1606
(fs_start=1528)

TCCAACAA
AGCAAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGA GGGG
CCCCAC
GAATTTTCTCCAGAACAGGCCAGAGCCAACAG

=====
(460) AF423760
=====

PK1: -11.420000(kcal/mol): PK_start=1508 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=1534
(fs_start=1528)

CACA
GAAAGGAGGGACATCAAATGAAAGACTG
GAC AGAGAG
TTTTTTAG
GCTAA

PK2: -18.660000(kcal/mol): PK_start=1515 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1550
(fs_start=1528)

C
GGGACATCAAATGAAAGACTGCACAGAGAGA
TTTTTT AATCGGA
TTGGCCTTC
AGGGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1537 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1570
(fs_start=1528)

AAA
ACAGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AACAAGGGG

PK4: -18.485000(kcal/mol): PK_start=1543 sp=7 s1=9 s2=4 l1=6 l2=5 L3=0 PK_end=1579
(fs_start=1528)

CCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGAG GGGG
TTCTCC
GAATT

PK4B: -26.865000(kcal/mol): PK_start=1543 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1606
(fs_start=1528)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCTCCAGAACAGGCCAGGCAACAG

=====
(461) AF442566
=====

PK1: -10.440000(kcal/mol): PK_start=1419 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1457
(fs_start=1450)

A
TTGGAAATGTGGAAGGGAAGGACATCAA
GTT AGAAAGT
TTTTTTAGG
CACTGAAAGACAGGCTAA

PK2: -20.500000(kcal/mol): PK_start=1435 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1471
(fs_start=1450)

C
GAAGGACATCAAATGAAAGATTGCACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAGAATC

PK3: -22.370000(kcal/mol): PK_start=1458 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1492
(fs_start=1450)

AA
CACTGAAAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTCT
GCCAGGGA
AACAAGGGAAG

PK4: -29.020000(kcal/mol): PK_start=1465 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1502
(fs_start=1450)

CAAC
AGACAGGCTAATTTTTTAGGGAGAATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAACTT

=====
(462) AF442569
=====

PK1: -10.640000(kcal/mol): PK_start=1422 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1460
(fs_start=1453)

A
TTGGAAATGTGGAAGGGAAGGACACCAA
GTT AGAAAGT

TTTTTTAGG
CACTGAAAGACAGGCTAA
PK2: -21.980000(kcal/mol): PK_start=1438 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1475
(fs_start=1453)

C
GAAGGACACCAAATGAAAGATTGCACTGAAAGA
GATTTTTT AATCGGA
TTGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1461 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1495
(fs_start=1453)

AAA
CACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGA

PK4: -25.490000(kcal/mol): PK_start=1468 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1505
(fs_start=1453)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(463) AF442570
=====

PK1: -10.640000(kcal/mol): PK_start=1416 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1454
(fs_start=1447)

A
TTGGAAATGTGGAAGGAAGGACACCAA
GTT AGAAAGT
TTTTTTAGG
CACTGAAAGACAGGCTAA

PK2: -20.500000(kcal/mol): PK_start=1432 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1468
(fs_start=1447)

C
GAAGGACACCAAATGAAAGATTGCACTGAAAGA
GATTTTTT A ATCGGA
TGCCTTT
GGAAAATC

PK3: -24.745000(kcal/mol): PK_start=1456 sp=0 s1=4 s2=8 l1=2 l2=8 L3=0 PK_end=1489
(fs_start=1447)

AA
ACTGAAAGACAGGCTAATTTTTTAGGGAA
CCTT TCCGGTCT

```

                                AGGCCAGGGA
                                GCAGGGAC

PK4:  -26.110000(kcal/mol): PK_start=1462 sp=7 s1=8 s2=5 l1=6 l2=5 L3=1 PK_end=1498
(fs_start=1447)
                                TTCCGC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT
                                GGACCGGA  C  AGGGA
                                TCCTTCA
                                GAACT

=====
(464) AF443074
=====

PK1:  -15.025000(kcal/mol): PK_start=1444 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1472
(fs_start=1464)
                                A
GAAAGGAAGGACACCAAATGAAAGACTGT
                                GACG  GAAAGTC
                                TTTTTAGGG
                                GCTAAT

PK2:  -20.370000(kcal/mol): PK_start=1449 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1486
(fs_start=1464)
                                C
GAAGGACACCAAATGAAAGACTGTACTGAAAGG
                                GATTTTTT  AATCGGA
                                TTGGCCTTC
                                GGAAAAT

PK3:  -23.745000(kcal/mol): PK_start=1472 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1506
(fs_start=1464)
                                AAA
TACTGAAAGGCAGGCTAATTTTTTTAGGGA
                                CCCT  TCCGGTTT
                                AGGCCAGGGA
                                ACAAGGGG

PK4:  -25.010000(kcal/mol): PK_start=1479 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1516
(fs_start=1464)
                                CCAC
AGGCAGGCTAATTTTTTTAGGGAAAATTTGGCCTTC
                                GGACCGGAGG  GGAA
                                CCTTCA
                                GAATTT

PK4B:  -26.865000(kcal/mol): PK_start=1479 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1542
(fs_start=1464)
                                TCCCACAA
AGGCAGGCTAATTTTTTTAGGGAAAATTTGGCCT
                                GGACCGGA  GGGG

```

CCCCAC
GAATTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(465) AF443075
=====

PK1: -13.005000(kcal/mol): PK_start=1425 sp=0 s1=4 s2=6 l1=5 l2=6 L3=0 PK_end=1455
(fs_start=1448)

AATAA
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGT
TTTTTAGG
GCTAAT

PK2: -19.660000(kcal/mol): PK_start=1434 sp=0 s1=7 s2=7 l1=1 l2=8 L3=0 PK_end=1470
(fs_start=1448)

C
GACACCAAATGAAAGACTGTAATAATGAGAGA
ATTTTTT AATCGGA
TTGGCCTTC
GGGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1456 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1490
(fs_start=1448)

AAA
TAATGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -23.985000(kcal/mol): PK_start=1463 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1501
(fs_start=1448)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CTCCAG
GAATTTTC

PK4B: -26.865000(kcal/mol): PK_start=1463 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1526
(fs_start=1448)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCTCCAGAGCAGACCAGAGCCAACAG

=====
(466) AF443076
=====

PK1: -12.405000(kcal/mol): PK_start=1422 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=1449
(fs_start=1442)

AA
GAAAGGAAGGACACCAAATGAAAGACTGT

```

          GACG   GAGAGT
                TTTTTAGG
      GCTAAT
PK2:  -16.440000(kcal/mol): PK_start=1428 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1463
(fs_start=1442)
                C
AAGGACACCAAATGAAAGACTGTAATGAGAGG
                A   ATCGGA
          ATTTTTT   TGGCCTTC
      GGGAGACTC
PK3:  -30.485000(kcal/mol): PK_start=1450 sp=0 s1=4 s2=9 l1=2 l2=8 L3=0 PK_end=1485
(fs_start=1442)
                GA
TAATGAGAGGCAGGCTAATTTTTTAGGGA
          CCCT   TCCGGTCTC
                AGGCCAGGGAA
      ACAAGGGG
PK4:  -28.355000(kcal/mol): PK_start=1456 sp=6 s1=10 s2=4 l1=6 l2=5 L3=0 PK_end=1494
(fs_start=1442)
                CCCACA
GAGGCAGGCTAATTTTTTAGGGAGACTCTGGCCTT
          GGGACCGGAG   GGGA
                TCCTCA
      AATTT
PK4B:  -33.005000(kcal/mol): PK_start=1456 sp=6 s1=9 s2=4 l1=8 l2=31 L3=0 PK_end=1520
(fs_start=1442)
                TCCCACAA
GAGGCAGGCTAATTTTTTAGGGAGACTCTGGCCT
          GGGACCGGA   GGGG
                CCCCAC
      AATTTTCCTCAGAACAGGGTAGAGCCAACAG

=====
(467) AF443077
=====
PK1:  -15.875000(kcal/mol): PK_start=1428 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1456
(fs_start=1448)
                A
GAAAGGAAGGACACCAAATGAAAGACTGT
          GACG   AAGAGTC
                TTTTTAGGG
      GCTAAT
PK2:  -21.730000(kcal/mol): PK_start=1433 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1470
(fs_start=1448)
                C
GAAGGACACCAAATGAAAGACTGTACTGAGAAG

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          GATTTTTT   AATCGGA
                    TTGGCCTTC
      GGAAAAT
PK3:  -23.745000(kcal/mol): PK_start=1456 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1490
(fs_start=1448)
                    AAA
TACTGAGAAGCAGGCTAATTTTTTAGGGA
          CCCT   TCCGGTTT
                    AGGCCAGGGA
      ACAAGGGG
PK4:  -25.010000(kcal/mol): PK_start=1463 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1500
(fs_start=1448)
                    CCAC
AAGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
          GGACCGGAGG   GGAA
                    CCTTCA
      GAATTT
PK4B:  -26.865000(kcal/mol): PK_start=1463 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1526
(fs_start=1448)
                    TCCCACAA
AAGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
          GGACCGGA   GGGG
                    CCCCAC
      GAATTTCTTCAGAGCAGACCAGAGCCAACAG
=====
(468) AF443078
=====
PK1:  -15.625000(kcal/mol): PK_start=1429 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1457
(fs_start=1449)
                    A
GAAAGGAAGGACACCAAATGAAAGACTGT
          GACA   GAAAGTC
                    TTTTTAGGG
      GCTAAT
PK2:  -20.500000(kcal/mol): PK_start=1434 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1470
(fs_start=1449)
                    C
GAAGGACACCAAATGAAAGACTGTACTGAAAGA
          GATTTTTT   A   ATCGGA
                    TGGCCTTC
      GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1457 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1491
(fs_start=1449)
                    AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA

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          CCCT   TCCGGTCT
                AGGCCAGGGA
ACAAGGGG
PK4:  -28.54000(kcal/mol): PK_start=1464 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1501
(fs_start=1449)
                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                GGACCGGAGG   GGAA
                                CCTTCA
                GAACTT
PK4B:  -30.395000(kcal/mol): PK_start=1464 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1527
(fs_start=1449)
                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                GGACCGGA   GGGG
                                CCCCAC
                GAACTTCCTTCAGAGCAGACCAGAACCATCAG
=====
(469) AF443079
=====
PK1:  -12.995000(kcal/mol): PK_start=1433 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1461
(fs_start=1453)
                A
GAAAGGAAGGACATCAAATGAAAGATTGT
                GACG   GAAAGTC
                                TTTTTAGGG
                GCTAAT
PK2:  -20.370000(kcal/mol): PK_start=1438 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1475
(fs_start=1453)
                C
GAAGGACATCAAATGAAAGATTGTACTGAAAGG
                GATTTTTT   AATCGGA
                                TTGGCCTTC
                GGAAAAT
PK3:  -22.025000(kcal/mol): PK_start=1461 sp=0 s1=4 s2=8 l1=3 l2=11 L3=0 PK_end=1498
(fs_start=1453)
                AAA
TACTGAAAGGCAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTTT
                                AGGCCGGGGA
                ACAAAGGGGGG
PK4:  -29.810000(kcal/mol): PK_start=1468 sp=7 s1=12 s2=4 l1=3 l2=6 L3=0 PK_end=1508
(fs_start=1453)
                ACA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTCCC

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GGGCCGGAGGGG    GGAA
                  CCTTCA
GAATTT
PK4B:  -28.40000(kcal/mol): PK_start=1468 sp=7 s1=10 s2=4 l1=7 l2=32 L3=0
PK_end=1534 (fs_start=1453)
                  CCACAAA
AGGCAGGCTAATTTTTAGGGAAAATTTGGCCTTC
                  GGGCCGGAGG    GGGG
                  CCCCAC
GAATTTCC TTCAGAGAAGACCAGAGCCAACAG

=====
(470) AF443080
=====
PK1:  -15.10000(kcal/mol): PK_start=1433 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1461
(fs_start=1453)
                  CA
GAAAGGAAGGACACCAAATGAAGGACTG
                  GAC    AGAGAGTC
                  TTTTTTAGGG
GCTAA
PK2:  -21.94000(kcal/mol): PK_start=1438 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1475
(fs_start=1453)
                  C
GAAGGACACCAAATGAAGGACTGCACTGAGAGA
                  GATTTTTT    AATCGGA
                  TTGGCCTTC
GGAAAAT
PK3:  -22.02500(kcal/mol): PK_start=1461 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1495
(fs_start=1453)
                  AAA
CACTGAGAGACAGGCTAATTTTTAGGGA
                  CCCT    TCCGGTTT
                  AGGCCGGGAA
ACAAGGGG
PK4:  -25.14500(kcal/mol): PK_start=1468 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1531
(fs_start=1453)
                  TCCCACAA
AGACAGGCTAATTTTTAGGGAAAATTTGGCCT
                  GGGCCGGA    GGGG
                  CCCCAC
AAATTTCA TTCAGAACAGACCAGCGCCAACAG

=====
(471) AF443081
=====

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PK1: -15.025000(kcal/mol): PK_start=1431 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1459
(fs_start=1451)

A
GAAGAGAAGGACACCAAATGAAAGACTGT
GACG GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.370000(kcal/mol): PK_start=1436 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1473
(fs_start=1451)

C
GAAGGACACCAAATGAAAGACTGTACTGAAAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAGAAT

PK3: -18.840000(kcal/mol): PK_start=1459 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1493
(fs_start=1451)

AA
TACTGAAAGGCAGGCTAATTTTTTAGGGAG
CCTTC CGGTTT
GCCAGGGA
CACAAAGGGGAG

PK4: -23.985000(kcal/mol): PK_start=1466 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1504
(fs_start=1451)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAGAATTTGGCCT
GGACCGGA GGGG
CTCCAG
GAATTTTC

PK4B: -26.865000(kcal/mol): PK_start=1466 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1529
(fs_start=1451)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAGAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCCCTCCAGAGCAGACCAGAGCCAACAG

=====
(472) AF443082
=====

PK1: -14.985000(kcal/mol): PK_start=1416 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1444
(fs_start=1436)

A
GAAAAGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1421 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1458
(fs_start=1436)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA
TTGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1444 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1478
(fs_start=1436)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1451 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1488
(fs_start=1436)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1451 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1514
(fs_start=1436)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCCTTCAGAAAAGACCAGCCAACAG

=====
(473) AF443083
=====

PK1: -15.585000(kcal/mol): PK_start=1428 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1456
(fs_start=1448)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GTTAAT

PK2: -16.970000(kcal/mol): PK_start=1433 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1469
(fs_start=1448)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT A ATTGGA
TGCCTTC
GGAAAATC

PK3: -23.815000(kcal/mol): PK_start=1457 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1490
(fs_start=1448)

AAA
ACTGAGAGACAGGTTAATTTTTTAGGGA
CCT TCCGGTCT
AGGCCAGGGA
AACAAGGGG

PK4: -27.515000(kcal/mol): PK_start=1463 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1501
(fs_start=1448)

TCCAACAA
AGACAGGTTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CTCCAG
GAATTTTC

PK4B: -30.395000(kcal/mol): PK_start=1463 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1526
(fs_start=1448)

TCCAACAA
AGACAGGTTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCTCCAGAACAGGACAGTGCCAACAG

=====
(474) AF443084
=====

PK1: -10.835000(kcal/mol): PK_start=1430 sp=0 s1=4 s2=6 l1=2 l2=5 L3=0 PK_end=1456
(fs_start=1450)

AC
GAAAGGAAGGACATCAAATGAAAGACTGT
GACG GAGAGG
TTTTTTAG
GCTAA

PK2: -17.150000(kcal/mol): PK_start=1437 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1472
(fs_start=1450)

C
AGGACATCAAATGAAAGACTGTACGGAGAGG
TTTTTT AATCGGA
TTGGCCTTC
AGGGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1458 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1492
(fs_start=1450)

AAA
TACGGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -22.705000(kcal/mol): PK_start=1465 sp=7 s1=10 s2=4 l1=4 l2=5 l3=0 PK_end=1501
(fs_start=1450)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
TCTTCC
GAATT

PK4B: -26.865000(kcal/mol): PK_start=1465 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=1528
(fs_start=1450)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCTTCCAGAACAGGACAGAGCCAACAG

=====
(475) AF443085
=====

PK1: -11.500000(kcal/mol): PK_start=1409 sp=0 s1=3 s2=7 l1=5 l2=17 l3=1 PK_end=1450
(fs_start=1444)

CCAAA
GCTGTTGGAAATGTGGAAAGGAAGGACA
TGT C AGAAAGT
TTTTTTAGG
ACCGAGAGGCAGGCTAA

PK2: -15.910000(kcal/mol): PK_start=1431 sp=0 s1=5 s2=6 l1=2 l2=11 l3=1 PK_end=1465
(fs_start=1444)

GC
AGGACACCAAATGAAAGACTGTACCGAGAG
TTTTT A ATCGGA
TGGCCTTC
TAGGGAAAATC

PK3: -23.815000(kcal/mol): PK_start=1453 sp=0 s1=3 s2=8 l1=3 l2=9 l3=0 PK_end=1486
(fs_start=1444)

AAA
ACCGAGAGGCAGGCTAATTTTTTAGGGA
CCT TCCGGTCT
AGGCCAGGGA
AACAAGGGG

PK4: -28.540000(kcal/mol): PK_start=1459 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1496
(fs_start=1444)

CAAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1459 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1522
(fs_start=1444)

TCCAACAA
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCCTTCAGAACAGACCAGAGCCAACAG

=====
(476) AF443086
=====

PK1: -15.025000(kcal/mol): PK_start=1428 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1456
(fs_start=1448)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAAAGTC
TTTTTAGGA
GCTAAT

PK2: -18.760000(kcal/mol): PK_start=1433 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1469
(fs_start=1448)

C
GAAGGACACCAAATGAAAGACTGTACTGAAAGG
GATTTTTT A ATCGGA
TGGCCTTC
GAAAAATC

PK3: -24.015000(kcal/mol): PK_start=1456 sp=0 s1=3 s2=8 l1=4 l2=9 L3=0 PK_end=1490
(fs_start=1448)

AAAA
TACTGAAAGGCAGGCTAATTTTTTAGGA
CCT TCCGGTCT
AGGCCAGGGA
AACAAGGGG

PK4: -28.540000(kcal/mol): PK_start=1463 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1500
(fs_start=1448)

CAAC
AGGCAGGCTAATTTTTTAGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1463 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1526
(fs_start=1448)

TCCAACAA
AGGCAGGCTAATTTTTTAGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCCTTCAGAGCAGACCAGAGCCAACAG

=====
(477) AF443087
=====

PK1: -15.625000(kcal/mol): PK_start=1431 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1459
(fs_start=1451)

A
GAAGGGAAGGACACCAAATGAAAGACTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -21.980000(kcal/mol): PK_start=1436 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1473
(fs_start=1451)

C
GAAGGACACCAAATGAAAGACTGTACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAGAT

PK3: -19.120000(kcal/mol): PK_start=1460 sp=0 s1=5 s2=6 l1=1 l2=11 L3=0 PK_end=1493
(fs_start=1451)

A
ACTGAAAGACAGGCTAATTTTTTAGGGAAG
CCTTC CGGTTT
GCCAGGGA
AACAAAGGGAG

PK4: -22.745000(kcal/mol): PK_start=1466 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1503
(fs_start=1451)

TCCAACA
AGACAGGCTAATTTTTTAGGGAAGATTGGCCT
GGACCGGA GGGAA
TCCTTCA
GAATT

=====
(478) AF443088
=====

PK1: -15.025000(kcal/mol): PK_start=1429 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1457
(fs_start=1449)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.370000(kcal/mol): PK_start=1434 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1471
(fs_start=1449)

C
GAAGGACACCAAATGAAAGACTGTACTGAAAGG
GATTTTTT AATCGGA

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                                TTGCCTTC
                GGAAAAAT
PK3:  -23.745000(kcal/mol): PK_start=1457 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1491
(fs_start=1449)
                AAA
TACTGAAAGGCAGGCTAATTTTTTAGGGA
                CCCT      TCCGGTTT
                AGGCCAGGGA
                ACAAGGGG
PK4:  -23.985000(kcal/mol): PK_start=1464 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1502
(fs_start=1449)
                TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA      GGGG
                CTCCAG
                GAATTTTC
PK4B: -26.865000(kcal/mol): PK_start=1464 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1527
(fs_start=1449)
                TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA      GGGG
                CCCCAC
                GAATTTCCCTCCAGAGCAGACCAGAGCCAACAG

=====
(479) AF443089
=====
PK1:  -15.625000(kcal/mol): PK_start=1425 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1453
(fs_start=1445)
                A
GAAAGGAAGGACACCAAATGAAAGACTGT
                GACA      GAAAGTC
                TTTTTAGGG
                GCTAAT
PK2:  -20.500000(kcal/mol): PK_start=1430 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1466
(fs_start=1445)
                C
GAAGGACACCAAATGAAAGACTGTACTGAAAGA
                GATTTTTT      A      ATCGGA
                TGGCCTTC
                GGAAAATC
PK3:  -26.605000(kcal/mol): PK_start=1453 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1487
(fs_start=1445)
                AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
                CCCT      TCCGGTCT

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                                AGGCCGGGGA
                                ACAAGGGG

PK4:  -27.870000(kcal/mol): PK_start=1460 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1497
(fs_start=1445)
                                CCAC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
                                GGGCCGGAGG    GGAA
                                CCTTCA
                                GAATTT

=====
(480) AF443090
=====

PK1:  -14.985000(kcal/mol): PK_start=1422 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1450
(fs_start=1442)
                                A
GAAAAGAAGGACATCAAATGAAAGACTGT
                                GACG    GAGAGTC
                                TTTTtaggg
                                GCTAAT

PK2:  -18.720000(kcal/mol): PK_start=1427 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1463
(fs_start=1442)
                                C
GAAGGACATCAAATGAAAGACTGTACTGAGAGG
                                GATTTTTT  A  ATCGGA
                                TGGCCTTC
                                GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1450 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1484
(fs_start=1442)
                                AAA
TACTGAGAGGCAGGCTAATTTTTTTAGGGA
                                CCCT    TCCGGTCT
                                AGGCCAGGGA
                                ACAAGGGG

PK4:  -27.515000(kcal/mol): PK_start=1457 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1495
(fs_start=1442)
                                TCCCACAA
AGGCAGGCTAATTTTTTTAGGGAAAATCTGGCCT
                                GGACCGGA    GGGG
                                CTCCAG
                                GAATTTT

PK4B:  -30.395000(kcal/mol): PK_start=1457 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1520
(fs_start=1442)
                                TCCCACAA
AGGCAGGCTAATTTTTTTAGGGAAAATCTGGCCT
                                GGACCGGA    GGGG

```

CCCCAC
GAATTTCCCTCCAGAACAGGCCAGAGCCATCAG

=====
(481) AF443091
=====

PK1: -13.345000(kcal/mol): PK_start=1420 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1447
(fs_start=1439)

A
AAAGGAAGGACACCAAATGAAAGAATGT
ACA GAAAGTC
TTTTTAGGG
GGCTAAT

PK2: -21.980000(kcal/mol): PK_start=1424 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1461
(fs_start=1439)

C
GAAGGACACCAAATGAAAGAATGTACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.865000(kcal/mol): PK_start=1447 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1481
(fs_start=1439)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CTCT TCCGGTTT
AGGCCAGGGA
AGAAGGGG

PK4: -28.960000(kcal/mol): PK_start=1454 sp=7 s1=10 s2=5 l1=3 l2=6 L3=0 PK_end=1492
(fs_start=1439)

TCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAAG
CCTTCAG
GAACTT

PK4B: -26.865000(kcal/mol): PK_start=1454 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1517
(fs_start=1439)

TCTCAGAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAACTTCCTCAGAACAGGCCAGAGCCATCAG

=====
(482) AF443092
=====

PK1: -14.985000(kcal/mol): PK_start=1432 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1460
(fs_start=1452)

A
GAAAGGAAGGACACCAAATGAAAGACTGT


```

          GACG      GAGAGTC
                TTTTATAGGG
    GCTAAT
PK2:  -20.330000(kcal/mol): PK_start=1437 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1474
(fs_start=1452)
                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
                GATTTTTT      AATCGGA
                TTGGCCTTC
    GGAAAAT

PK3:  -22.025000(kcal/mol): PK_start=1460 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1494
(fs_start=1452)
                AAA
TACTGAGAGGCAGGCTAATTTTTATAGGGA
                CCCT      TCCGGTTT
                AGGCCGGGGA
    ACAAGGGA

PK4:  -23.295000(kcal/mol): PK_start=1467 sp=7 s1=9 s2=4 l1=6 l2=33 L3=0 PK_end=1531
(fs_start=1452)
                CCCACA
AGGCAGGCTAATTTTTATAGGAAAATTTGGCCTT
                GGGCCGGAA      GGGA
                CCCTCC
    GAATTTCCCTCCAGAGCAGACCAGAGCCAACAGC

=====
(483) AF443093
=====
PK1:  -15.625000(kcal/mol): PK_start=1429 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1457
(fs_start=1449)
                A
GAAAAGAAGGACACCAAATGAAAGACTGT
                GACA      GAAAGTC
                TTTTATAGGG
    GCTAAT

PK2:  -20.500000(kcal/mol): PK_start=1434 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1470
(fs_start=1449)
                C
GAAGGACACCAAATGAAAGACTGTACTGAAAGA
                GATTTTTT      A      ATCGGA
                TGGCCTTC
    GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1457 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1491
(fs_start=1449)
                AAA
TACTGAAAGACAGGCTAATTTTTATAGGGA

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          CCCT   TCCGGTCT
                AGGCCAGGGA
ACAAGGGG
PK4:  -28.54000(kcal/mol): PK_start=1464 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1501
(fs_start=1449)
                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                GGACCGGAGG   GGAA
                                CCTTCA
                GAATTT

PK4B:  -30.395000(kcal/mol): PK_start=1464 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1527
(fs_start=1449)
                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                GGACCGGA   GGGG
                                CCCCAC
                GAATTTCCCTTCAGAACAGGCCAGGCCATCAG

=====
(484) AF443094
=====
PK1:  -12.955000(kcal/mol): PK_start=1429 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1457
(fs_start=1449)
                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                GACG   GAGAGTC
                                TTTTTAGGG
                GCTAAT

PK2:  -20.330000(kcal/mol): PK_start=1434 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1471
(fs_start=1449)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
                GATTTTTT   AATCGGA
                                TTGGCCTTC
                GGAAAAT

PK3:  -23.745000(kcal/mol): PK_start=1457 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1491
(fs_start=1449)
                AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTTT
                                AGGCCAGGGA
                ACAAGGGG

PK4:  -25.010000(kcal/mol): PK_start=1464 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1501
(fs_start=1449)
                CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC

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GGACCGGAGG GGAA
 CCTTCA
 GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1464 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1527
 (fs_start=1449)

TCCCACAA
 AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG
 CCCCAC
 GAATTTCTTCAGAGCAGACCAGAGCCAACAG

=====
 (485) AF443095
 =====

PK1: -15.585000(kcal/mol): PK_start=1428 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1456
 (fs_start=1448)

A
 GAAAAGAAGGACACCAAATGAAAGACTGT

GACA GAGAGTC
 TTTTTAGGG
 GCTAAT

PK2: -21.940000(kcal/mol): PK_start=1433 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1470
 (fs_start=1448)

C
 GAAGGACACCAAATGAAAGACTGTACTGAGAGA

GATTTTTT AATCGGA
 TTGGCCTTC
 GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1456 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1490
 (fs_start=1448)

AAA
 TACTGAGAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT
 AGGCCAGGGA
 ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1463 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1500
 (fs_start=1448)

CCAC
 AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC

GGACCGGAGG GGAA
 CCTTCA
 GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1463 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1526
 (fs_start=1448)

TCCCACAA
 AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG
CCCCAC
GAATTCCTTCAGAGCAGACCAGAGCCAACAG

=====
(486) AF443096
=====

PK1: -15.585000(kcal/mol): PK_start=1447 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1475
(fs_start=1467)

A
GAAGGGAAGGACATCAAATGAAGGACTGT

GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -21.940000(kcal/mol): PK_start=1452 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1489
(fs_start=1467)

C
GAAGGACATCAAATGAAGGACTGTACTGAGAGA

GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1475 sp=0 s1=4 s2=8 l1=3 l2=11 L3=0 PK_end=1512
(fs_start=1467)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT
AGGCCAGGGA
AGAAGGGGGGG

PK4: -32.155000(kcal/mol): PK_start=1482 sp=7 s1=12 s2=4 l1=3 l2=5 L3=0 PK_end=1521
(fs_start=1467)

AGA
AGACAGGCTAATTTTTTAGGAAAATTTGGCCTTCCC

GGACCGGAGGGG GGGA
TCCTGC
GAATT

=====
(487) AF443097
=====

PK1: -12.955000(kcal/mol): PK_start=1428 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1456
(fs_start=1448)

A
GAAAGGAAGGACACCAAATGAAAGATTGT

GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -18.720000(kcal/mol): PK_start=1433 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1469
(fs_start=1448)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1456 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1490
(fs_start=1448)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -28.540000(kcal/mol): PK_start=1463 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1500
(fs_start=1448)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1463 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1526
(fs_start=1448)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCCTTCAGAACAGACCAGAGCCAACAG

=====
(488) AF443098
=====

PK1: -15.585000(kcal/mol): PK_start=1434 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1462
(fs_start=1454)

A
GAAAGGATGGACATCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1439 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1475
(fs_start=1454)

C
GATGGACATCAAATGAAAGACTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAGAATC

PK3: -22.370000(kcal/mol): PK_start=1462 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1496
(fs_start=1454)

AA
TACTGAGAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTCT
GCCAGGGA
CACAAAGGGAG

PK4: -28.540000(kcal/mol): PK_start=1469 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1506
(fs_start=1454)

CCAC
AGACAGGCTAATTTTTTAGGGAGAATCTGGCCTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1469 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1532
(fs_start=1454)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAGAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCCCTCAGAACAGGCCAGCCAACAG

=====
(489) AF443099

=====
PK1: -10.875000(kcal/mol): PK_start=1429 sp=0 s1=4 s2=6 l1=2 l2=5 L3=0 PK_end=1455
(fs_start=1449)

AC
GAAAAGAAGGACACCAAATGAAAGACTGT
GACG GAAAGG
TTTTTTAG
GCTAA

PK2: -17.190000(kcal/mol): PK_start=1436 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1471
(fs_start=1449)

C
AGGACACCAAATGAAAGACTGTACGGAAAGG
TTTTTT AATCGGA
TTGGCCTTC
AGGGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1457 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1491
(fs_start=1449)

AAA
TACGGAAAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGA

PK4: -21.465000(kcal/mol): PK_start=1464 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1501
(fs_start=1449)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA AGGG
TCTCCA
GAATTT

=====
(490) AF443100
=====

PK1: -12.955000(kcal/mol): PK_start=1428 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1456
(fs_start=1448)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -18.720000(kcal/mol): PK_start=1433 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1469
(fs_start=1448)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1456 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1490
(fs_start=1448)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -27.515000(kcal/mol): PK_start=1463 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1501
(fs_start=1448)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CTCCAG
GAATTTT

PK4B: -30.395000(kcal/mol): PK_start=1463 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1526
(fs_start=1448)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCTCCAGAGCAGACCAGAGCCGACAG

=====
(491) AF443101
=====

PK1: -14.985000(kcal/mol): PK_start=1433 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1461
(fs_start=1453)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -18.720000(kcal/mol): PK_start=1438 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1474
(fs_start=1453)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1461 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1495
(fs_start=1453)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -28.540000(kcal/mol): PK_start=1468 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1505
(fs_start=1453)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -27.515000(kcal/mol): PK_start=1468 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1531
(fs_start=1453)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CTCCAC
GAATTTCTTCAGAGCAGGCCAGAGCCAACAG

=====
(492) AF443102
=====

PK1: -15.625000(kcal/mol): PK_start=1428 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1456
(fs_start=1448)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAAAGTC

TTTTTAGGG
GCTAAT
PK2: -21.980000(kcal/mol): PK_start=1433 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1470
(fs_start=1448)

C
GAAGGACACCAAATGAAAGACTGTACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1457 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1490
(fs_start=1448)

AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AACAAGGGA

PK4: -25.490000(kcal/mol): PK_start=1463 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1500
(fs_start=1448)

CAAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(493) AF443103
=====

PK1: -14.985000(kcal/mol): PK_start=1428 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1456
(fs_start=1448)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCCAAT

PK2: -22.590000(kcal/mol): PK_start=1433 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1470
(fs_start=1448)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AACCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1456 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1490
(fs_start=1448)

AAA
TACTGAGAGGCAGGCCAATTTTTTAGGGA
CCCT TCCGGTTT

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                                AGGCCAGGGA
                ACAAGGGG
PK4:  -25.010000(kcal/mol): PK_start=1463 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1500
(fs_start=1448)
                                CCAC
AGGCAGGCCAATTTTTTTAGGGAAAATTTGGCCTTC
                GGACCGGAGG      GGAA
                                CCTTCA
                GAATTT

PK4B:  -26.865000(kcal/mol): PK_start=1463 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1526
(fs_start=1448)
                                TCCCACAA
AGGCAGGCCAATTTTTTTAGGGAAAATTTGGCCT
                GGACCGGA      GGGG
                                CCCCAC
                GAATTTCTTCAGAGCAGACTAGAGCCAACAG

=====
(494) AF443104
=====
PK1:  -12.995000(kcal/mol): PK_start=1430 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1458
(fs_start=1450)
                                A
GAAGGGAAGGGCACCAAATGAAAGATTGT
                GACG      GAAAGTC
                                TTTTTAGGG
                GCTAAT

PK2:  -20.370000(kcal/mol): PK_start=1435 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1472
(fs_start=1450)
                                C
GAAGGGCACCAAATGAAAGATTGTACTGAAAGG
                GATTTTTT      AATCGGA
                                TTGGCCTTC
                GGAAAAT

PK3:  -22.025000(kcal/mol): PK_start=1458 sp=0 s1=4 s2=8 l1=3 l2=11 L3=0 PK_end=1495
(fs_start=1450)
                                AAA
TACTGAAAGGCAGGCTAATTTTTTTAGGGA
                CCCT      TCCGGTTT
                                AGGCCGGGGA
                ACAAGGGGGGG

PK4:  -31.705000(kcal/mol): PK_start=1467 sp=9 s1=10 s2=5 l1=2 l2=7 L3=0 PK_end=1505
(fs_start=1450)
                                AC
GCAGGCTAATTTTTTTAGGGAAAATTTGGCCTTCCC
                GCCGGAGGGG      GGGAA

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TCCTTCA

GGGAATT

PK4B: -32.600000(kcal/mol): PK_start=1467 sp=9 s1=9 s2=4 l1=5 l2=34 L3=0 PK_end=1531
(fs_start=1450)

CACAA

GCAGGCTAATTTTTTAGGGAAAATTTGGCCTTCC

GCCGGAGGG GGGG

CCCCAC

GGGAATTTTCCTTCAGAGCAGACCAGAGCCAACAG

=====
(495) AF443109
=====

PK1: -15.585000(kcal/mol): PK_start=1446 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1474
(fs_start=1466)

A

GAAGGGAAGGGCACCAAATGAAAGACTGT

GACA GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -21.940000(kcal/mol): PK_start=1451 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1488
(fs_start=1466)

C

GAAGGGCACCAAATGAAAGACTGTACTGAGAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAGAT

PK3: -22.580000(kcal/mol): PK_start=1474 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1508
(fs_start=1466)

A

TACTGAGAGACAGGCTAATTTTTTAGGGAAG

CCCTTC CGGTTT

GCCAGGGA

GCGGAGGAAG

PK4: -26.865000(kcal/mol): PK_start=1481 sp=7 s1=8 s2=6 l1=6 l2=5 L3=0 PK_end=1519
(fs_start=1466)

TCCCGC

AGACAGGCTAATTTTTTAGGGAAGATTTGGCCT

GGACCGGA AGGAGG

TCCTTCAG

GAATT

=====
(496) AF443110
=====

PK1: -14.985000(kcal/mol): PK_start=1428 sp=0 s1=4 s2=7 l1=4 l2=6 L3=0 PK_end=1459
(fs_start=1451)

ACTA

GAAAGGAAGGACACCAAATGAAAGACTGT

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                GACG      GAGAGTC
                TTTTATAGG
    GCTAAT
PK2:  -18.72000(kcal/mol): PK_start=1436 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1472
(fs_start=1451)
                C
    GGACACCAAATGAAAGACTGTACTACTGAGAGG
                GATTTTTT  A  ATCGGA
                TGGCCTTC
    GGAAAATC
PK3:  -27.27500(kcal/mol): PK_start=1459 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1493
(fs_start=1451)
                AAA
    TACTGAGAGGCAGGCTAATTTTTTAGGGA
                CCCT      TCCGGTCT
                AGGCCAGGGA
    ACAAGGGG
PK4:  -28.54000(kcal/mol): PK_start=1466 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1503
(fs_start=1451)
                CCAC
    AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                GGACCGGAGG  GGAA
                CCTTCA
    GAATTT
PK4B:  -30.39500(kcal/mol): PK_start=1466 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1529
(fs_start=1451)
                TCCCACAA
    AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCT
                GGACCGGA  GGGG
                CCCAC
    GAATTTCTTCAGAACAGACCAGCCAACAG

=====
(497) AF443111
=====
PK1:  -15.02500(kcal/mol): PK_start=1430 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1458
(fs_start=1450)
                A
    GAAAGGAAGGACACCAAATGAAAGACTGT
                GACG      GAAAGTC
                TTTTATAGG
    GCTAAT
PK2:  -20.37000(kcal/mol): PK_start=1435 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1472
(fs_start=1450)
                C
    GAAGGACACCAAATGAAAGACTGTACTGAAAGG

```

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          GATTTTTT   AATCGGA
                    TTGGCCTTC
          GGAAAAT

PK3:  -23.745000(kcal/mol): PK_start=1458 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1492
(fs_start=1450)
                    AAA
TACTGAAAGGCAGGCTAATTTTTTTAGGGA

          CCCT   TCCGGTTT
                    AGGCCAGGGA
          ACAAGGGA

PK4:  -25.490000(kcal/mol): PK_start=1465 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1502
(fs_start=1450)
                    CCAC
AGGCAGGCTAATTTTTTTAGGGAAAATTTGGCCTTC

          GGACCGGAAG   GGAA
                    CCTTCA
          GAATTT

=====
(498) AF443112
=====
PK1:  -10.425000(kcal/mol): PK_start=1428 sp=0 s1=4 s2=6 l1=2 l2=5 L3=0 PK_end=1454
(fs_start=1448)
                    AC
GAAAGGAAGGACACCAAATGAAGGATTGT

          GACA   GAGAGA
                    TTTTTTAG
          GCTAA

PK2:  -18.660000(kcal/mol): PK_start=1435 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1470
(fs_start=1448)
                    C
AGGACACCAAATGAAGGATTGTACAGAGAGA

          TTTTTT   AATCGGA
                    TTGGCCTTC
          AGGGAAAAT

PK3:  -23.745000(kcal/mol): PK_start=1456 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1490
(fs_start=1448)
                    AAA
TACAGAGAGACAGGCTAATTTTTTTAGGGA

          CCCT   TCCGGTTT
                    AGGCCAGGGA
          ACAAGGGG

PK4:  -25.010000(kcal/mol): PK_start=1463 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1500
(fs_start=1448)
                    CCAC
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTTC

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GGACCGGAGG GGAA
 CCTTCA
 GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1463 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1526
 (fs_start=1448)

TCCCACAA
 AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG
 CCCCAC
 GAATTTCTTCAGAACAGACCAGAGCCAACAG

=====
 (499) AF443113
 =====

PK1: -11.500000(kcal/mol): PK_start=1425 sp=0 s1=3 s2=7 l1=5 l2=17 L3=1 PK_end=1466
 (fs_start=1460)

CCAAA
 GCTGTTGGAAATGTGGAAAGGAAGGACA

TGT C AGAAAGT
 TTTTTTAGG
 ACCGAGAGGCAGGCTAA

PK2: -17.520000(kcal/mol): PK_start=1447 sp=0 s1=5 s2=7 l1=2 l2=10 L3=0 PK_end=1482
 (fs_start=1460)

GC
 AGGACACCAAATGAAAGACTGTACCGAGAG

TTTTT AATCGGA
 TTGGCCTTC
 TAGGGAGAAT

PK3: -18.840000(kcal/mol): PK_start=1468 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1502
 (fs_start=1460)

AA
 TACCGAGAGGCAGGCTAATTTTTTAGGGAG

CCTTC CGGTTT
 GCCAGGGA
 CACAAGGGGAG

PK4: -22.705000(kcal/mol): PK_start=1475 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1512
 (fs_start=1460)

CCAC
 AGGCAGGCTAATTTTTTAGGGAGAATTTGGCCTTC

GGACCGGAGG GGAA
 TCTTCA
 GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1475 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1538
 (fs_start=1460)

TCCCACAA
 AGGCAGGCTAATTTTTTAGGGAGAATTTGGCCT

GGACCGGA GGGG
CCCCAC
GAATTTTCTTCAGAGCAGGCCAGAGCCAACAG

=====
(500) AF443114
=====

PK1: -12.995000(kcal/mol): PK_start=1425 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1453
(fs_start=1445)

A
GACAAGAAGGACATCAAATGAAAGATTGT
GACG GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.370000(kcal/mol): PK_start=1430 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1467
(fs_start=1445)

C
GAAGGACATCAAATGAAAGATTGTACTGAAAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAGATT

PK3: -21.815000(kcal/mol): PK_start=1453 sp=0 s1=5 s2=4 l1=5 l2=9 L3=0 PK_end=1484
(fs_start=1445)

ATTTT
TACTGAAAGGCAGGCTAATTTTTTAGGGAG
CCCTT CCGG
GGCCTG
AGAAGGGGA

PK4: -26.770000(kcal/mol): PK_start=1463 sp=10 s1=8 s2=4 l1=2 l2=10 L3=0 PK_end=1498
(fs_start=1445)

CA
CAGGCTAATTTTTTAGGGAGATTTTGGCCTTCC
CCGGAGGG GAAG
CTTCAG
TGGGAATTC

PK4B: -24.675000(kcal/mol): PK_start=1463 sp=10 s1=5 s2=4 l1=8 l2=35 L3=0
PK_end=1523 (fs_start=1445)

TCCCAGAA
CAGGCTAATTTTTTAGGGAGATTTTGGCCT
CCGGA GGGG
CCCCAC
TGGGAATTCCTTCAGAGCAGATCAGAGCCAACAG

=====
(501) AF443115
=====

PK1: -15.625000(kcal/mol): PK_start=1429 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1457
(fs_start=1449)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1434 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1470
(fs_start=1449)

C
GAAGGACACCAAATGAAAGACTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -23.815000(kcal/mol): PK_start=1458 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1491
(fs_start=1449)

AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTCT
AGGCCAGGGA
AACAAGGGG

PK4: -27.515000(kcal/mol): PK_start=1464 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1502
(fs_start=1449)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CTCCAG
GAACTTC

PK4B: -30.395000(kcal/mol): PK_start=1464 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1527
(fs_start=1449)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAACTTCCTCCAGAGCAGACCAGAACCAACAG

=====
(502) AF450096
=====

PK1: -11.010000(kcal/mol): PK_start=1506 sp=0 s1=3 s2=5 l1=2 l2=8 L3=0 PK_end=1531
(fs_start=1525)

AC
AAAGGAGGGACATCAAATGAAAGACTGC
ACG AGAGA
TTTTTAG
AGGCTAAT

PK2: -19.000000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=8 l1=1 l2=9 L3=0 PK_end=1548
(fs_start=1525)

C
AGGGACATCAAATGAAAGACTGCACAGAGAG
TTTTTT AATCGGAA
TTGGCCTTCC
AGGGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1534 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1567
(fs_start=1525)

AAA
ACAGAGAGCAAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AACAAGGGG

PK4: -18.485000(kcal/mol): PK_start=1540 sp=7 s1=9 s2=4 l1=6 l2=5 L3=0 PK_end=1576
(fs_start=1525)

CCAACA
AGCAAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGAG GGGA
TTCTCC
AAATT

PK4B: -26.865000(kcal/mol): PK_start=1540 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1603
(fs_start=1525)

TCCAACAA
AGCAAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGA GGGG
CCCCAC
AAATTTTCTCCAGAACAGGCCAGAGCCAACAG

=====
(503) AF450097
=====

PK1: -10.925000(kcal/mol): PK_start=1493 sp=0 s1=3 s2=7 l1=4 l2=18 L3=0 PK_end=1534
(fs_start=1527)

CAAA
CTGTTGGAAATGTGGAAAGGAGGGACAT
GTA AGAAAGT
TTTTTTTAGG
CACAGAGAGACAGGCTAA

PK2: -18.660000(kcal/mol): PK_start=1514 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1549
(fs_start=1527)

C
GGGACATCAAATGAAAGAATGCACAGAGAGA
TTTTTT AATCGGA
TTGGCCTTC
AGGGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1536 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1569
(fs_start=1527)

AAA
ACAGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AACAAGGGG

PK4: -18.485000(kcal/mol): PK_start=1542 sp=7 s1=9 s2=4 l1=6 l2=5 L3=0 PK_end=1578
(fs_start=1527)

CCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGAG GGGA
TTCTCC
AAATT

PK4B: -26.865000(kcal/mol): PK_start=1542 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1605
(fs_start=1527)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTTCTCCAGAACAGGCCAAAGCCAACAG

=====
(504) AF450098
=====

PK1: -11.420000(kcal/mol): PK_start=1511 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=1537
(fs_start=1531)

CACA
GAAAGGAGGGACATCAAATGAAAGACTG
GAC AGAGAG
TTTTTTAG
GCTAA

PK2: -18.660000(kcal/mol): PK_start=1518 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1553
(fs_start=1531)

C
GGGACATCAAATGAAAGACTGCACAGAGAGA
TTTTTT AATCGGA
TTGGCCTTC
AGGGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1540 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1573
(fs_start=1531)

AAA
ACAGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AACAAGGGG

PK4: -18.485000(kcal/mol): PK_start=1546 sp=7 s1=9 s2=4 l1=6 l2=5 L3=0 PK_end=1582
(fs_start=1531)

CCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGAG GGGG
TTCTCC
GAATT

PK4B: -26.865000(kcal/mol): PK_start=1546 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1609
(fs_start=1531)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGA GGGG
CCCCAC
GAATTTTCTCCAGAACAGGCCGGAGCCAACAG

=====
(505) AF457051
=====

PK1: -13.805000(kcal/mol): PK_start=1257 sp=0 s1=3 s2=8 l1=5 l2=16 L3=0 PK_end=1299
(fs_start=1292)

CCAAA
GCTGTTGGAAATGTGGAAAGGAAGGGCA
CGT TAGAGAGT
ATTTTTTAGG
ACGGAAAGACAGGCTA

PK2: -18.800000(kcal/mol): PK_start=1279 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1314
(fs_start=1292)

C
AGGGCACCAAATGAGAGATTGCACGGAAAGA
TTTTTT AATCGGA
TTGGCCTTC
AGGGAAAAT

PK3: -25.670000(kcal/mol): PK_start=1301 sp=0 s1=3 s2=10 l1=4 l2=3 L3=0 PK_end=1333
(fs_start=1292)

AAAT
ACGGAAAGACAGGCTAATTTTTTAGGGA
CCT CCTTCCGGTT
GGGAGCCGGGG
AAG

PK4: -20.985000(kcal/mol): PK_start=1307 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1344
(fs_start=1292)

CTCC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGGCCGGAGG GGAA
TCTTCA
GAACTT

PK4B: -25.145000(kcal/mol): PK_start=1307 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1370
(fs_start=1292)

TCCTCCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA GGGG
CCCCAC
GAACTTTCTTCAGAGCAGGTCAGAGCCAACAG

=====
(506) AF457052
=====

PK1: -10.240000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
(fs_start=1283)

CA
GGAAAAGAAGGACACCAAATGAAAGATTG
GAC AGAGAGTT
TTTTTTAGGG
GCTAA

PK2: -19.910000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)

C
GAAGGACACCAAATGAAAGATTGCATTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1292 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1325
(fs_start=1283)

AAA
ATTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AGCAAAGGG

PK4: -21.815000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1335
(fs_start=1283)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
TCCTCA
GAATTT

=====
(507) AF457053
=====

PK1: -11.460000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=1289
(fs_start=1283)

CACG
GGAAGGAGGGACACCAAATGAAAGACTG
GAC AGAAAG

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                TTTTTTAG
            GCTAA

PK2:  -17.320000(kcal/mol): PK_start=1270 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=1304
(fs_start=1283)
                C
GGGACACCAAATGAAAGACTGCACGGAAAGA
                TTTTTT A ATCGGA
                TGGCCTTC
            AGGGAAAATC

PK3:  -23.815000(kcal/mol): PK_start=1292 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1325
(fs_start=1283)
                AAA
ACGGAAAGACAGGCTAATTTTTTAGGGA
                CCT TCCGGTCT
                AGGCCAGGAA
            AGCAAGGGG

PK4:  -30.395000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1361
(fs_start=1283)
                TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                GGACCGGA GGGG
                CCCCAC
            AAATTTTCCACAGAAAAGACTGGAGCCAACAG

=====
(508) AF457054
=====
PK1:  -15.025000(kcal/mol): PK_start=1257 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1285
(fs_start=1277)
                A
GAAAGGAGGGACACCAAATGAAAGACTGT
                GACG GAAAGTC
                TTTTTAGGG
            GCTAAT

PK2:  -20.370000(kcal/mol): PK_start=1262 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1299
(fs_start=1277)
                C
GAGGGACACCAAATGAAAGACTGTACTGAAAGG
                GATTTTTT AATCGGA
                TTGGCCTTC
            GGAAAAT

PK3:  -23.745000(kcal/mol): PK_start=1285 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1319
(fs_start=1277)
                AAA
TACTGAAAGGCAGGCTAATTTTTTAGGGA
                CCCT TCCGGTTT

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                                AGGCCAGGGA
ACAAGGGG
PK4:  -25.010000(kcal/mol): PK_start=1292 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1329
(fs_start=1277)
                                CCAC
AGGCAGGCTAATTTTTTTAGGGAAAATTTGGCCTTC
                                GGACCGGAGG    GGAA
                                CCTTCA
                                GAATTT

PK4B:  -26.865000(kcal/mol): PK_start=1292 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1355
(fs_start=1277)
                                TCCCACAA
AGGCAGGCTAATTTTTTTAGGGAAAATTTGGCCT
                                GGACCGGA    GGGG
                                CCCCAC
                                GAATTTCTTCAGAACAGGCCAGAGCCAACAG

=====
(509) AF457055
=====
PK1:  -12.360000(kcal/mol): PK_start=1234 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1272
(fs_start=1265)
                                A
CTGGAAATGTGGGAAGGAGGGACACCAG
                                GTC    AGAAAGT
                                TTTTTTAGG
                                CACTGAGAGACAGGCCAA

PK2:  -24.200000(kcal/mol): PK_start=1250 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1287
(fs_start=1265)
                                C
GAGGGACACCAGATGAAAGACTGCACTGAGAGA
                                GATTTTTT    AACCGGA
                                TTGGCCTTC
                                GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1274 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1307
(fs_start=1265)
                                AAA
ACTGAGAGACAGGCCAATTTTTTTAGGGA
                                CCT    TCCGGTTT
                                AGGCCAGGGA
                                AGCAAGGGG

PK4:  -22.215000(kcal/mol): PK_start=1280 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1317
(fs_start=1265)
                                CCAGCA
AGACAGGCCAATTTTTTTAGGGAAAATTTGGCCTT
                                GGACCGGAG    GGGA

```

TCCTCA

GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1280 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1343
(fs_start=1265)

TCCAGCAA

AGACAGGCCAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG

CCCCAC

GAATTTTCCTCAGAGCAGGCCAGAGCCAACAG

=====

(510) AF457058

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PK1: -15.140000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
(fs_start=1283)

CA

GGAAGGAAGGACATCAAATGAAAGACTG

GAC AGAAAGTC

TTTTTTAGGG

GCTAA

PK2: -21.980000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)

C

GAAGGACATCAAATGAAAGACTGCACTGAAAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1292 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1325
(fs_start=1283)

AAA

ACTGAAAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT

AGGCCAGGAA

AGCAAGGGG

PK4: -22.215000(kcal/mol): PK_start=1298 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1335
(fs_start=1283)

CCAGCA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT

GGACCGGAG GGGA

TCCTCA

AAATTT

PK4B: -26.865000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1361
(fs_start=1283)

TCCAGCAA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG

CCCCAC
AAATTTTCCTCAGAACAGATTGGAGCCAACAG

=====
(511) AF457059
=====

PK1: -10.640000(kcal/mol): PK_start=1255 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1293
(fs_start=1286)

A
TTGGAAATGTGGAAAGGAAGGACACCAA

GTT AGAAAGT

TTTTTTAGG
CACTGAAAGACAGGCTAA

PK2: -19.340000(kcal/mol): PK_start=1271 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1308
(fs_start=1286)

C
GAAGGACACCAAATGAAAGATTGCACTGAAAGA

GATTTTTT AATCGGA

TTGGTCTTC
GGAGACT

PK3: -14.070000(kcal/mol): PK_start=1294 sp=0 s1=4 s2=6 l1=2 l2=14 L3=0 PK_end=1329
(fs_start=1286)

GA
CACTGAAAGACAGGCTAATTTTTTAGGGA

TTCT GGTTC

CCAGGGAA
CCCACAAGGGAAGG

PK4: -22.885000(kcal/mol): PK_start=1300 sp=6 s1=9 s2=5 l1=7 l2=3 L3=0 PK_end=1337
(fs_start=1286)

TCCCACA
AAGACAGGCTAATTTTTTAGGGAGACTTTGGTCT

GGGACCGGA AGGGA

TTCCTCC
AAC

=====
(512) AF457061
=====

PK1: -17.185000(kcal/mol): PK_start=1260 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1288
(fs_start=1280)

A
GAAAGGAAGGACACCAAATGAAAGACTGC

GACG GAGAGTC

TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1265 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1302
(fs_start=1280)

C
GAAGGACACCAAATGAAAGACTGCACTGAGAGG


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                GATTTTTT   AATCGGA
                TTGGCCTTC
    GGAAAAT
PK3:  -22.025000(kcal/mol): PK_start=1288 sp=0 s1=4 s2=8 l1=3 l2=11 L3=0 PK_end=1325
(fs_start=1280)
                AAA
    CACTGAGAGGCAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTTT
                AGGCCGGGGA
    ACAAGGGGGGG
PK4:  -31.705000(kcal/mol): PK_start=1297 sp=9 s1=10 s2=5 l1=2 l2=7 L3=0 PK_end=1335
(fs_start=1280)
                AC
    GCAGGCTAATTTTTTAGGGAAAATTTGGCCTTCCC
                GCCGGAGGGG   GGGAA
                TCCTTCA
    GGAATT
PK4B: -32.600000(kcal/mol): PK_start=1297 sp=9 s1=9 s2=4 l1=5 l2=34 L3=0 PK_end=1361
(fs_start=1280)
                CACAA
    GCAGGCTAATTTTTTAGGGAAAATTTGGCCTTCC
                GCCGGAGGG   GGGG
                CCCCAC
    GGAATTTCTTCAGAGCAGACCAGAGCCAACAG
=====
(513) AF457062
=====
PK1:  -11.420000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=1289
(fs_start=1283)
                CACA
    GAAAGGAGGGACATCAAATGAAAGACTG
                GAC   AGAGAG
                TTTTTTAG
    GCTAA
PK2:  -18.660000(kcal/mol): PK_start=1270 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1305
(fs_start=1283)
                C
    GGGACATCAAATGAAAGACTGCACAGAGAGA
                TTTTTT   AATCGGA
                TTGGCCTTC
    AGGGAAAAT
PK3:  -18.565000(kcal/mol): PK_start=1292 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1325
(fs_start=1283)
                AAA
    ACAGAGAGACAGGCTAATTTTTTAGGGA

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          CCT      TCCGGTTT
                AGGCCGGGGA
AACAAAGGGG

PK4:  -20.985000(kcal/mol): PK_start=1298 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1335
(fs_start=1283)
                CAAC
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTTC
                GGGCCGGAGG      GGAA
                                TCTTCA
                GAATTT

PK4B:  -25.145000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1361
(fs_start=1283)
                TCCAACAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
                GGGCCGGA      GGGG
                                CCCCAC
                GAATTTTCTTCAGAACAGACCAGAGCCAACAG

=====
(514) AF457063
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PK1:  -12.360000(kcal/mol): PK_start=1252 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1290
(fs_start=1283)
                A
TTGGAAATGTGGGAGAGAGGGACACCAG
                GTC      AGAAAGT
                                TTTTTTAGG
                CACTGAGAGACAGGCTAA

PK2:  -21.940000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)
                C
GAGGGACACCAGATGAAAGACTGCACTGAGAGA
                GATTTTTT      AATCGGA
                                TTGGCCTTC
                GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1292 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1325
(fs_start=1283)
                AAA
ACTGAGAGACAGGCTAATTTTTTTAGGGA
                CCT      TCCGGTTT
                                AGGCCAGGAA
                AGCAAGGGG

PK4:  -27.000000(kcal/mol): PK_start=1298 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=1336
(fs_start=1283)
                TTCCAGCAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCC

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GGACCGG AGGGG
TCCCCAG
AAATTT

PK4B: -24.080000(kcal/mol): PK_start=1299 sp=8 s1=6 s2=4 l1=9 l2=33 L3=1 PK_end=1360
(fs_start=1283)

TTCCAGCAA
GACAGGCTAATTTTTTAGGGAAAATTTGGCC

GACCGG A GGGG
CCCCAC
GAAATTTTCCCCAGAGCAGACCAGAGCCAACAG

=====
(515) AF457064
=====

PK1: -15.140000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
(fs_start=1283)

CA
GGAAAGAAGGACACCAAATGAAAGACTG

GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -21.980000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)

C
GAAGGACACCAAATGAAAGACTGCACTGAAAGA

GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1292 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1325
(fs_start=1283)

AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT
AGGCCAGGAA
AGCAAAGGG

PK4: -21.815000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1335
(fs_start=1283)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG
TCCTCA
AAATTT

=====
(516) AF457065
=====

PK1: -15.100000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291 (fs_start=1283)

CA
GGAAAGAGGGACACCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305 (fs_start=1283)

C
GAGGGACACCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTCT
GGAAAAT

PK3: -19.360000(kcal/mol): PK_start=1291 sp=0 s1=4 s2=7 l1=3 l2=10 L3=0 PK_end=1325 (fs_start=1283)

AAA
CACTGAGAGACAGGCTAATTTTTTTAGGGA
CTCT CCGGTTT
GGCCAGGAA
AACAAGGGGA

PK4: -27.000000(kcal/mol): PK_start=1298 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=1336 (fs_start=1283)

TCTCAACAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCC
GGACCGG AGGGG
TCCCCAG
AAATTT

PK4B: -21.200000(kcal/mol): PK_start=1299 sp=8 s1=6 s2=4 l1=9 l2=33 L3=1 PK_end=1360 (fs_start=1283)

TCTCAACAA
GACAGGCTAATTTTTTTAGGGAAAATTTGGCC
GACCGG A GGGG
CTCCAC
GAAATTTTCCCCAGAGCAGAACGGAGCCCACAG

=====
(517) AF457066
=====

PK1: -15.140000(kcal/mol): PK_start=1269 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1297 (fs_start=1289)

CA
GGAAGGATGGACATCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTTAGGG
GCTAA

PK2: -21.98000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1311
(fs_start=1289)

C
GATGGACATCAAATGAAAGACTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1298 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1331
(fs_start=1289)

AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AGCAAGGGG

PK4: -22.215000(kcal/mol): PK_start=1304 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1341
(fs_start=1289)

CCAGCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGAG GGGG
TCCTCA
AAATTT

PK4B: -26.865000(kcal/mol): PK_start=1304 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1367
(fs_start=1289)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTTCCTCAGAGCAGACCGGAACCAACAG

=====
(518) AF457067
=====

PK1: -15.140000(kcal/mol): PK_start=1266 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1294
(fs_start=1286)

CA
GAAAGGAGGGACACCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -21.980000(kcal/mol): PK_start=1271 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1308
(fs_start=1286)

C
GAGGGACACCAAATGAAAGACTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAGAAT

PK3: -18.840000(kcal/mol): PK_start=1294 sp=0 s1=5 s2=6 l1=2 l2=11 l3=0 PK_end=1328
(fs_start=1286)

AA
CACTGAAAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTTT
GCCAGGGA
AGCAAAGGGAG

PK4: -21.815000(kcal/mol): PK_start=1301 sp=7 s1=8 s2=4 l1=8 l2=6 l3=0 PK_end=1338
(fs_start=1286)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
GGACCGGA GGG
TCCTCA
GAATTT

=====
(519) AF457068
=====

PK1: -15.100000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 l3=0 PK_end=1291
(fs_start=1283)

CA
GGAGAGAGGGACACCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1305
(fs_start=1283)

C
GAGGGACACCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1292 sp=0 s1=3 s2=8 l1=3 l2=9 l3=0 PK_end=1325
(fs_start=1283)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AGCAAGGGG

PK4: -22.215000(kcal/mol): PK_start=1298 sp=7 s1=9 s2=4 l1=6 l2=6 l3=0 PK_end=1335
(fs_start=1283)

CCAGCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGAG GGG
TCCTCA
AAATTT

PK4B: -26.865000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1361
(fs_start=1283)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTTCCTCAGAGCAGACCGGAGCCAACAG

=====
(520) AF457069
=====

PK1: -15.140000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
(fs_start=1283)

CA
GGAAAGAGGGACATCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -20.500000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1304
(fs_start=1283)

C
GAGGGACATCAAATGAAAGACTGCACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAGAATC

PK3: -22.370000(kcal/mol): PK_start=1291 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1325
(fs_start=1283)

AA
CACTGAAAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTCT
GCCAGGGA
AGCAAGGGGAG

PK4: -25.745000(kcal/mol): PK_start=1298 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1335
(fs_start=1283)

CCAGCA
AGACAGGCTAATTTTTTAGGGAGAATCTGGCCTT
GGACCGGAG GGGG
TCCTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1361
(fs_start=1283)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAGAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCCTCAGAACAGACTAGAGCCAACAG

=====
(521) AF457070
=====

PK1: -17.225000(kcal/mol): PK_start=1263 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1291
(fs_start=1283)

A
GGAAGGAGGGACATCAAATGAAAGACTGC
GACG GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.370000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)

C
GAGGGACATCAAATGAAAGACTGCACTGAAAGG
GATTTTTT AATCGGA
TTGGCCTCC
GGAAAAAT

PK3: -22.240000(kcal/mol): PK_start=1291 sp=0 s1=4 s2=7 l1=3 l2=10 L3=0 PK_end=1325
(fs_start=1283)

AAA
CACTGAAAGGCAGGCTAATTTTTTAGGGA
CCCT CCGGTTT
GGCCAGGAA
AACAAGGGGA

PK4: -24.585000(kcal/mol): PK_start=1298 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1335
(fs_start=1283)

CCAACA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTC
GGACCGGAG GGGG
TCCTCA
AAATTT

PK4B: -26.865000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1361
(fs_start=1283)

CCCAACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTTCCTCAGAGCAGATTAGAGCCAACAG

=====
(522) AF457072
=====

PK1: -15.140000(kcal/mol): PK_start=1269 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1297
(fs_start=1289)

CA
GAAGGGAAGGGCATCAAATGAAAGACTG
GAC AGAAAGTC


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                TTTTTTAGGG
          GCTAA
PK2:  -21.980000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1311
(fs_start=1289)
                C
GAAGGGCATCAAATGAAAGACTGCACTGAAAGA
                GATTTTTT   AATCGGA
                TTGGCCTTC
          GGAAAAAT
PK3:  -18.565000(kcal/mol): PK_start=1298 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1331
(fs_start=1289)
                AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
                CCT   TCCGGTTT
                AGGCCGGGA
          AACAAGGGG
PK4:  -20.985000(kcal/mol): PK_start=1304 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1341
(fs_start=1289)
                CAAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
                GGGCCGGAGG   GGAA
                TCTTCA
          GAACTT
PK4B: -25.145000(kcal/mol): PK_start=1304 sp=7 s1=8 s2=4 l1=8 l2=41 L3=0 PK_end=1376
(fs_start=1289)
                TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGGCCGGA   GGGG
                CCCCAC
          GAACTTTCTTCAGGGCAGACCAGAACCAACAGCGCCAACAG
=====
(523) AF457073
=====
PK1:  -15.140000(kcal/mol): PK_start=1251 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1279
(fs_start=1271)
                CA
GAAAGGAGGGACACCAAATGAAAGACTG
                GAC   AGAAAGTC
                TTTTTTAGGG
          GCTAA
PK2:  -21.980000(kcal/mol): PK_start=1256 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1293
(fs_start=1271)
                C
GAGGGACACCAAATGAAAGACTGCACTGAAAGA
                GATTTTTT   AATCGGA

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TTGGCCTTC
GGAGAAT

PK3: -18.840000(kcal/mol): PK_start=1279 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1313
(fs_start=1271)

AA
CACTGAAAGACAGGCTAATTTTTTAGGGAG

CCTTC CGGTTT
GCCAGGAA
AGCAAGGGGAG

PK4: -22.705000(kcal/mol): PK_start=1286 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1323
(fs_start=1271)

CAGC
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCTTC

GGACCGGAGG GGAA
TCTTCA
AAATTT

PK4B: -26.865000(kcal/mol): PK_start=1286 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1349
(fs_start=1271)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT

GGACCGGA GGGG
CCCCAC
AAATTTTCTTCAGAACAGACTGGAGCCGACAG

=====
(524) AF457075
=====

PK1: -15.140000(kcal/mol): PK_start=1266 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1294
(fs_start=1286)

CA
GGAGGGAAGGACACCAAATGAAAGACTG

GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -21.980000(kcal/mol): PK_start=1271 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1308
(fs_start=1286)

C
GAAGGACACCAAATGAAAGACTGCACTGAAAGA

GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1295 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1328
(fs_start=1286)

AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT

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                                AGGCCAGGAA
                AACAAGGGG
PK4:  -27.000000(kcal/mol): PK_start=1301 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=1339
(fs_start=1286)
                                TTCCAACAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCC
                                GGACCGG    AGGGG
                                TCCCCAG
                AAATTT

PK4B:  -24.080000(kcal/mol): PK_start=1302 sp=8 s1=6 s2=4 l1=9 l2=33 L3=1 PK_end=1363
(fs_start=1286)
                                TTCCAACAA
GACAGGCTAATTTTTTTAGGGAAAATTTGGCC
                                GACCGG    A    GGGG
                                CCCCAC
                GAAATTTTCCCCAGAACAGATTGGAGCCAACAG

=====
(525) AF457077
=====
PK1:  -15.140000(kcal/mol): PK_start=1260 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1288
(fs_start=1280)
                                CA
GGAAAGAGGGACATCAAATGAAAGACTG
                                GAC    AGAAAGTC
                                TTTTTTAGGG
                GCTAA

PK2:  -21.980000(kcal/mol): PK_start=1265 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1302
(fs_start=1280)
                                C
GAGGGACATCAAATGAAAGACTGCACTGAAAGA
                                GATTTTTT    AATCGGA
                                TTGGCCTTC
                GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1289 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1322
(fs_start=1280)
                                AAA
ACTGAAAGACAGGCTAATTTTTTTAGGGA
                                CCT    TCCGGTTT
                                AGGCCAGGAA
                AGCAAGGGG

PK4:  -24.120000(kcal/mol): PK_start=1295 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=1333
(fs_start=1280)
                                TTCCAGCAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCC
                                GGACCGG    AGGGG

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TCCTCAG
AAATTT
PK4B: -21.200000(kcal/mol): PK_start=1296 sp=8 s1=6 s2=4 l1=9 l2=33 L3=1 PK_end=1357
(fs_start=1280)
TTCCAGCAA
GACAGGCTAATTTTTTAGGGAAAATTTGGCC
GACCGG A GGGG
CTCCAC
GAAATTTTCCTCAGAACAGACTGGAACCAACAG
=====
(526) AF457078
=====
PK1: -15.370000(kcal/mol): PK_start=1269 sp=0 s1=3 s2=9 l1=4 l2=5 L3=0 PK_end=1301
(fs_start=1292)
CACA
GGAAGGAGGGACACCAAATGAAAGACTG
GAC AGAAAGTCT
TTTTTTAGGGA
GCTAA
PK2: -23.010000(kcal/mol): PK_start=1276 sp=0 s1=9 s2=7 l1=1 l2=6 L3=0 PK_end=1314
(fs_start=1292)
C
GGGACACCAAATGAAAGACTGCACATCTGAAAGA
GGATTTTT AATCGGA
TTGGCCTTC
GAAAAT
PK3: -20.285000(kcal/mol): PK_start=1301 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1334
(fs_start=1292)
AAA
TCTGAAAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AGCAAGGGG
PK4: -22.215000(kcal/mol): PK_start=1307 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1344
(fs_start=1292)
CCAGCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGAG GGGA
TCCTCA
AAATTT
PK4B: -26.865000(kcal/mol): PK_start=1307 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1370
(fs_start=1292)
TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG

```

CCCCAC
AAATTTTCCTCAGAACAGACTGGAGCCAACAG

=====
(527) AF457079
=====

PK1: -10.640000(kcal/mol): PK_start=1252 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1290
(fs_start=1283)

A
TTGGAATGTGGGAAGGAGGGACACCAA
GTT AGAAAGT
TTTTTTAGG
CACTGAAAGACAGGCTAA

PK2: -21.980000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)

C
GAGGGACACCAAATGAAAGATTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAGAAT

PK3: -17.120000(kcal/mol): PK_start=1291 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1325
(fs_start=1283)

AA
CACTGAAAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTTT
GCCGGGAA
AACAAGGGGAG

PK4: -20.495000(kcal/mol): PK_start=1298 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1335
(fs_start=1283)

CCAACA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCTT
GGGCCGAG GGGA
TCCTCA
AAATTT

PK4B: -25.145000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1361
(fs_start=1283)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
GGGCCGGA GGGG
CCCCAC
AAATTTTCCTCAGAACAGATTAGAGCCAACAG

=====
(528) AF457080
=====

PK1: -15.140000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
(fs_start=1283)

CA
GGAAGGAGGGACACCAAATGAAAGACTG

```

          GAC   AGAAAGTC
                TTTTTTAGGG
      GCTAA
PK2:  -21.980000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)
                C
GAGGGACACCAAATGAAAGACTGCACTGAAAGA
                GATTTTTT   AATCGGA
                TTGGCCTTC
      GGAAAAT
PK3:  -20.285000(kcal/mol): PK_start=1292 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1325
(fs_start=1283)
                AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
                CCT   TCCGGTTT
                AGGCCAGGAA
      AGCAAGGGG
PK4:  -22.215000(kcal/mol): PK_start=1298 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1335
(fs_start=1283)
                CCAGCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
                GGACCGGAG   GGGA
                TCCTCT
      AAATTT
PK4B:  -26.865000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1361
(fs_start=1283)
                TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA   GGGG
                CCCCAC
      AAATTTTCCTCTGAACAGCCTGGAACCAACAG

=====
(529) AF457081
=====
PK1:  -10.640000(kcal/mol): PK_start=1252 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1290
(fs_start=1283)
                A
TTGGAAATGTGGGAAGGAGGGACACCAA
                GTT   AGAAAGT
                TTTTTTAGG
      CACTGAGAGACAGGCTAA
PK2:  -21.940000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)
                C
GAGGGACACCAAATGAAAGATTGCACTGAGAGA

```

GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT
PK3: -20.285000(kcal/mol): PK_start=1292 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1325
(fs_start=1283)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AGCAAGGGG

PK4: -22.215000(kcal/mol): PK_start=1298 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1335
(fs_start=1283)

CCAGCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGAG GGGA
TCCTCA
AAATTT

PK4B: -26.865000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1361
(fs_start=1283)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGA GGGG
CCCCAC
AAATTTTCCTCAGAGCAGACCAGAGCCAACAG

=====
(530) AF457082
=====

PK1: -15.100000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
(fs_start=1283)

CA
GGAGAGAGGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)

C
GAGGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1292 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1325
(fs_start=1283)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA

```

          CCT      TCCGGTTT
                AGGCCAGGAA
AGCAAAGGG

PK4:  -21.815000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1335
(fs_start=1283)
                TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA      GGA
                TCCTCA
          AACTT

=====
(531) AF457083
=====
PK1:  -10.440000(kcal/mol): PK_start=1252 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1290
(fs_start=1283)
          A
TTGGAATGTGGGAAAGAAGGACATCAA
                GTT      AGAAAGT
                TTTTTTAGG
          CACTGAGAGACAGGCTAA

PK2:  -21.940000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)
          C
GAAGGACATCAAATGAAAGATTGCACTGAGAGA
                GATTTTTT      AATCGGA
                TTGGCCTTC
          GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1292 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1325
(fs_start=1283)
          AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                CCT      TCCGGTTT
                AGGCCAGGGA
          AGCAAGGGG

PK4:  -22.215000(kcal/mol): PK_start=1298 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1335
(fs_start=1283)
                CCAGCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
                GGACCGGAG      GGA
                TCCTCA
          GAATTT

PK4B:  -25.965000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1361
(fs_start=1283)
                TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

```


GGACCGGA GGGG
CCCCC
GAATTTTCCTCAGAGCAGACCGGAGCCAACAG

=====
(532) AF457084
=====

PK1: -15.140000(kcal/mol): PK_start=1266 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1294
(fs_start=1286)

CA
GGAAGGAGGGACACCAAATGAAAGACTG

GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -21.980000(kcal/mol): PK_start=1271 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1308
(fs_start=1286)

C
GAGGGACACCAAATGAAAGACTGCACTGAAAGA

GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1295 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1328
(fs_start=1286)

AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT
AGGCCAGGAA
AGCAAAGGG

PK4: -22.760000(kcal/mol): PK_start=1301 sp=7 s1=8 s2=4 l1=1 l2=19 L3=7 PK_end=1344
(fs_start=1286)

T
AGACAGGCTAATTTTTTAGGAAAATTTGGCCT
GGACCGGA GGGAAAC GACC
CTGGAA
AAATTTTCCTCAGAACAGA

=====
(533) AF457085
=====

PK1: -15.025000(kcal/mol): PK_start=1257 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1285
(fs_start=1277)

A
GAAAGGAAGGACATCAAATGAAAGACTGT

GACG GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.370000(kcal/mol): PK_start=1262 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1299 (fs_start=1277)

C
GAAGGACATCAAATGAAAGACTGTACTGAAAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1285 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1319 (fs_start=1277)

AAA
TACTGAAAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1292 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1329 (fs_start=1277)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1292 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1355 (fs_start=1277)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCCTTCAGAGCAGACCAGAGCCAACAG

=====
(534) AF457086
=====

PK1: -15.140000(kcal/mol): PK_start=1260 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1288 (fs_start=1280)

CA
GAAAGGAGGGACACCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -21.980000(kcal/mol): PK_start=1265 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1302 (fs_start=1280)

C
GAGGGACACCAAATGAAAGACTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1289 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1322
(fs_start=1280)

AAA
ACTGAAAGACAGGCTAATTTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AGCAAGGGG

PK4: -22.215000(kcal/mol): PK_start=1295 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1332
(fs_start=1280)

CCAGCA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTT
GGACCGGAG GGGA
TCCTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1295 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1358
(fs_start=1280)

TCCAGCAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTT
GGACCGGA GGGG
CCCCAC
GAATTTTCCTCAGAGCAGACTGGAGCCAACAG

=====
(535) AF457087
=====

PK1: -10.640000(kcal/mol): PK_start=1255 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1293
(fs_start=1286)

A
TTGGAAATGTGGAAAGGAAGGACACCAA
GTT AGAAAGT
TTTTTTAGG
CACTGAAAGACAGGCTAA

PK2: -21.980000(kcal/mol): PK_start=1271 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1308
(fs_start=1286)

C
GAAGGACACCAAATGAAAGATTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1295 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1328
(fs_start=1286)

AAA
ACTGAAAGACAGGCTAATTTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AACAAGGGG

PK4: -22.215000(kcal/mol): PK_start=1301 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1338
(fs_start=1286)

CCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGAG GGGG
TCCTCA
GAACTT

PK4B: -26.865000(kcal/mol): PK_start=1301 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1364
(fs_start=1286)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGA GGGG
CCCCAC
GAACTTTCCTCAGAACAGACTGGAGCCGACAG

=====
(536) AF457088
=====

PK1: -10.440000(kcal/mol): PK_start=1246 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1284
(fs_start=1277)

A
CTGGAAATGTGGGAAGGAAGGACATCAA
GTT AGAAAGT
TTTTTTAGG
CACTGAGAGACAGGCTAA

PK2: -21.940000(kcal/mol): PK_start=1262 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1299
(fs_start=1277)

C
GAAGGACATCAAATGAAAGATTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAGAT

PK3: -19.120000(kcal/mol): PK_start=1286 sp=0 s1=5 s2=6 l1=1 l2=11 L3=0 PK_end=1319
(fs_start=1277)

A
ACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCTTC CGGTTT
GCCAGGAA
AACAAAGGGAG

PK4: -21.815000(kcal/mol): PK_start=1292 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1329
(fs_start=1277)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAGATTTGGCCTT
GGACCGGA GGGG
TCCTCA
AAATTT

=====
(537) AF457089
=====

PK1: -15.10000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
(fs_start=1283)

CA
GGAAGGAGGGACACCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.94000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)

C
GAGGGACACCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAAT

PK3: -20.28500(kcal/mol): PK_start=1292 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1325
(fs_start=1283)

AAA
ACTGAGAGACAGGCTAATTTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AGCAAGGGG

PK4: -22.21500(kcal/mol): PK_start=1298 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1335
(fs_start=1283)

CCAGCA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTT
GGACCGGAG GGGG
TCCTCA
AAATTT

PK4B: -26.86500(kcal/mol): PK_start=1298 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1361
(fs_start=1283)

TCCAGCAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTTCCTCAGAGCAGACCGGAGCCAACAG

=====
(538) AF457090
=====

PK1: -13.59500(kcal/mol): PK_start=1272 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1300
(fs_start=1292)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC

TTTTTAGGG
GCTAAT
PK2: -21.980000(kcal/mol): PK_start=1277 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1314
(fs_start=1292)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT AATCGGA
TTGCCTTC
GGAAAAT

PK3: -22.025000(kcal/mol): PK_start=1300 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1334
(fs_start=1292)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCGGGGA
ACAAGGGA

PK4: -23.770000(kcal/mol): PK_start=1307 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1344
(fs_start=1292)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGGCCGGAAG GGAA
CCTTCA
GAACTT

=====
(539) AF457101
=====

PK1: -15.100000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
(fs_start=1283)

CA
GAAGGGAAGGACACCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -20.460000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1304
(fs_start=1283)

C
GAAGGACACCAAATGAAAGACTGCACTGAGAGA
GATTTTTT A ATCGGA
TGCCTTC
GGAAAATC

PK3: -23.815000(kcal/mol): PK_start=1292 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1325
(fs_start=1283)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTCT

```

                                AGGCCAGGGA
                                AACAAGGGA
PK4:  -26.715000(kcal/mol): PK_start=1298 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1335
(fs_start=1283)
                                CAAC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAAG    GGAA
                                TCTTCA
                                GAATTT

=====
(540) AF460972
=====
PK1:  -11.460000(kcal/mol): PK_start=1448 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=1474
(fs_start=1468)
                                CATG
GAAAGGAGGGACATCAAATGAAAGACTG
                                GAC    AGAAAG
                                TTTTTTAG
                                GCTAA

PK2:  -17.320000(kcal/mol): PK_start=1455 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=1489
(fs_start=1468)
                                C
GGGACATCAAATGAAAGACTGCATGGAAAGA
                                TTTTTT  A  ATCGGA
                                TGGCCTTC
                                AGGGAAAATC

PK3:  -23.815000(kcal/mol): PK_start=1477 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1510
(fs_start=1468)
                                AAA
ATGGAAAGACAGGCTAATTTTTTTAGGGA
                                CCT    TCCGGTCT
                                AGGCCAGGGA
                                AACAAAGGG

PK4:  -23.415000(kcal/mol): PK_start=1483 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1520
(fs_start=1468)
                                CCAACA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTT
                                GGACCGGAG    GGAA
                                TCTTCA
                                GAATTT

=====
(541) AF460974
=====
PK1:  -11.420000(kcal/mol): PK_start=1448 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=1474
(fs_start=1468)
                                CACG
GAAAGGAGGGACATCAAATGAAAGACTG

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          GAC   AGAGAG
                TTTTTTAG
    GCTAA
PK2:  -17.280000(kcal/mol): PK_start=1455 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=1489
(fs_start=1468)
                C
    GGGACATCAAATGAAAGACTGCACGGAGAGA
                TTTTTT  A  ATCGGA
                TGGCCTCC
    AGGGAAAATC
PK3:  -25.770000(kcal/mol): PK_start=1476 sp=0 s1=4 s2=7 l1=3 l2=7 L3=0 PK_end=1507
(fs_start=1468)
                AAA
    CACGGAGAGACAGGCTAATTTTTTAGGGA
                CCCT   CCGGTCT
                GGCCAGGGA
    AGCGGGA
PK4:  -21.710000(kcal/mol): PK_start=1483 sp=7 s1=7 s2=4 l1=7 l2=5 L3=0 PK_end=1516
(fs_start=1468)
                TCCCAGC
    AGACAGGCTAATTTTTTAGGGAAAATCTGGCC
                GGACCGG   AGGG
                TTCTTC
    GAATT
=====
(542) AF468970
=====
PK1:  -13.555000(kcal/mol): PK_start=1275 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1303
(fs_start=1295)
                A
    GAAAGGAAGGACACCAAATGAAAGATTGT
                GACA   GAGAGTC
                TTTTTTAGGG
    GCTAAT
PK2:  -19.080000(kcal/mol): PK_start=1280 sp=0 s1=8 s2=5 l1=2 l2=8 L3=1 PK_end=1315
(fs_start=1295)
                CA
    GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT  A  ATCGG
                TGGCCCT
    GGAAAATC
PK3:  -24.730000(kcal/mol): PK_start=1303 sp=0 s1=4 s2=7 l1=3 l2=9 L3=1 PK_end=1336
(fs_start=1295)
                AAA
    TACTGAGAGACAGGCTAATTTTTTAGGGA

```


CCCT C CCGTCT
GGCCAGGGA
ACAAGGGAA

PK4: -23.190000(kcal/mol): PK_start=1310 sp=7 s1=7 s2=6 l1=8 l2=4 L3=0 PK_end=1347
(fs_start=1295)

CTCCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCC
GGACCGG AAGGGA
TTTCTTCA
GAAT

=====
(543) AF484477
=====

PK1: -10.440000(kcal/mol): PK_start=1258 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1296
(fs_start=1289)

A
TTGGAAATGTGGAAGGGAAGGACATCAA
GTT AGAAAGT
TTTTTTAGG
CACTGAAAGACAGGCTAA

PK2: -21.980000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1311
(fs_start=1289)

C
GAAGGACATCAAATGAAAGATTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1297 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1331
(fs_start=1289)

AAA
CACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGA

PK4: -25.490000(kcal/mol): PK_start=1304 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1341
(fs_start=1289)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(544) AF484478
=====

PK1: -15.140000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
(fs_start=1283)

CA
GGAAAGAAGGACACCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -21.980000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)

C
GAAGGACACCAAATGAAAGACTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1292 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1325
(fs_start=1283)

AAA
ACTGAAAGACAGGCTAATTTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AGCAAGGGG

PK4: -22.215000(kcal/mol): PK_start=1298 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1335
(fs_start=1283)

CCAGCA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTT
GGACCGGAG GGGG
TCCTCA
AAATTT

PK4B: -26.865000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1361
(fs_start=1283)

TCCAGCAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTTCCTCAGAGCAGACCGGAGCCAACAG

=====
(545) AF484479
=====

PK1: -18.360000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=9 l1=1 l2=5 L3=0 PK_end=1292
(fs_start=1283)

C
GGAAGGAGGGACACCAAATGAAAGACTG
GAC AGAGAGTCC
TTTTTTAGGGA
GCTAA

PK2: -26.680000(kcal/mol): PK_start=1266 sp=0 s1=10 s2=6 l1=1 l2=6 L3=1 PK_end=1304 (fs_start=1283)

C
AGGAGGGACACCAAATGAAAGACTGCCCTGAGAGA
GGGATTTTTT A ATCGGA
TGGCCTTC
AGAATC

PK3: -22.370000(kcal/mol): PK_start=1291 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1325 (fs_start=1283)

AA
CCCTGAGAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTCT
GCCAGGAA
AGCAAGGGGAG

PK4: -25.745000(kcal/mol): PK_start=1298 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1335 (fs_start=1283)

CCAGCA
AGACAGGCTAATTTTTTAGGGAGAATCTGGCCTT
GGACCGGAG GGGA
TCCTCA
AAATTT

PK4B: -30.395000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1361 (fs_start=1283)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAGAATCTGGCCT
GGACCGGA GGGG
CCCCGC
AAATTTTCCTCAGAGCAGAACGGAGCCAACAG

=====
(546) AF484480
=====

PK1: -12.640000(kcal/mol): PK_start=1255 sp=0 s1=3 s2=7 l1=4 l2=18 L3=0 PK_end=1296 (fs_start=1289)

CAAA
CTGCTGAAATGTGGAAAGGAAGGACAC
GTG AGAAAGT
TTTTTTAGG
CACTGAAAGACAGGCTAA

PK2: -21.980000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1311 (fs_start=1289)

C
GAAGGACACCAAATGAAAGACTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1297 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1331
(fs_start=1289)

AAA
CACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGAA
ACAAGGGA

PK4: -25.490000(kcal/mol): PK_start=1304 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1341
(fs_start=1289)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
AAACTT

=====
(547) AF484481
=====

PK1: -10.640000(kcal/mol): PK_start=1261 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1299
(fs_start=1292)

A
TTGGAAATGTGGAAAGGAAGGACACCAA
GTT AGAAAGT
TTTTTTAGG
CACTGAAAGACAGGCTAA

PK2: -19.340000(kcal/mol): PK_start=1277 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1314
(fs_start=1292)

C
GAAGGACACCAAATGAAAGATTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGTCTTC
GGAAAAT

PK3: -21.105000(kcal/mol): PK_start=1300 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1334
(fs_start=1292)

AAA
CACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCTGGTTT
AGGCCAGGGA
AGAAGGGA

PK4: -26.800000(kcal/mol): PK_start=1307 sp=7 s1=11 s2=4 l1=2 l2=7 L3=0 PK_end=1345
(fs_start=1292)

CA
AGACAGGCTAATTTTTTAGGGAAAATTTGGTCTTCC
GGACCGGAAGG GAAG
CTTCAG
GAATTTTC

=====
(548) AF484482
=====

PK1: -13.595000(kcal/mol): PK_start=1272 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1300
(fs_start=1292)

A
GAAGGGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -21.980000(kcal/mol): PK_start=1277 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1314
(fs_start=1292)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAGAT

PK3: -19.120000(kcal/mol): PK_start=1301 sp=0 s1=5 s2=6 l1=1 l2=11 L3=0 PK_end=1334
(fs_start=1292)

A
ACTGAAAGACAGGCTAATTTTTTAGGGAAG
CCTTC CGGTTT
GCCAGGAA
AACAAGGGAAG

PK4: -25.490000(kcal/mol): PK_start=1307 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1344
(fs_start=1292)

CAAC
AGACAGGCTAATTTTTTAGGGAAGATTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
AAACTT

=====
(549) AF484485
=====

PK1: -10.440000(kcal/mol): PK_start=1261 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1299
(fs_start=1292)

A
TTGGAAATGTGGAAAGGAAGGACATCAA
GTT AGAAAGT
TTTTTTAGG
CACTGAAAGACAGGCTAA

PK2: -21.980000(kcal/mol): PK_start=1277 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1314
(fs_start=1292)

C
GAAGGACATCAAATGAAAGATTGCACTGAAAGA
GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1300 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1334
(fs_start=1292)

AAA

CACTGAAAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT

AGGCCAGGGA

ACAGAGGA

PK4: -23.735000(kcal/mol): PK_start=1307 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1344
(fs_start=1292)

TCCCACA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA AGGAG

TCCTTCA

GAACT

=====
(550) AF484486
=====

PK1: -15.625000(kcal/mol): PK_start=1272 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1300
(fs_start=1292)

A

GAAGGGAAGGACACCAAATGAAAGACTGT

GACA GAAAGTC

TTTTTAGGG

GCTAAT

PK2: -21.980000(kcal/mol): PK_start=1277 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1314
(fs_start=1292)

C

GAAGGACACCAAATGAAAGACTGTACTGAAAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1300 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1334
(fs_start=1292)

AAA

TACTGAAAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT

AGGCCAGGGA

ACAAGGGA

PK4: -25.490000(kcal/mol): PK_start=1307 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1344
(fs_start=1292)

CCAC

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC

GGACCGGAAG GGAA

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                                CCTTCA
                                GAATTT
=====
(551) AF484487
=====
PK1:  -12.195000(kcal/mol): PK_start=1272 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1300
(fs_start=1292)
                                G
GAAGGGAAGGACACCAAATGAAAGATTGT
                                GACA    GGAAGTC
                                TTTTtaggg
                                GCTAAT
PK2:  -20.280000(kcal/mol): PK_start=1277 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1314
(fs_start=1292)
                                C
GAAGGACACCAAATGAAAGATTGTGCTGAAGGA
                                GATTTTTT    AATCGGA
                                TTGGCCTTC
                                GGAAAAT
PK3:  -23.745000(kcal/mol): PK_start=1300 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1334
(fs_start=1292)
                                AAA
TGCTGAAGGACAGGCTAATTTTTTAGGGA
                                CCCT    TCCGGTTT
                                AGGCCAGGGA
                                ACAAGGGG
PK4:  -25.010000(kcal/mol): PK_start=1307 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1344
(fs_start=1292)
                                CCAC
GGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
                                GGACCGGAGG    GGAA
                                CCTTCA
                                GAACTT
PK4B:  -26.865000(kcal/mol): PK_start=1307 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1370
(fs_start=1292)
                                TCCCACAA
GGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                                GGACCGGA    GGGG
                                CCCCAC
                                GAACTTCCTTCAGAACAGACCAGAGCCAACAG
=====
(552) AF484488
=====
PK1:  -10.640000(kcal/mol): PK_start=1258 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1296
(fs_start=1289)
                                A
TTGGAAATGTGGAAGGGAAGGACACCAA

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GTT AGAAAGT
TTTTTTAGG
CACTGAAAGACAGGCTAA
PK2: -21.980000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1311
(fs_start=1289)

C
GAAGGACACCAAATGAAAGATTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAACT

PK3: -26.955000(kcal/mol): PK_start=1297 sp=0 s1=4 s2=9 l1=2 l2=8 L3=0 PK_end=1332
(fs_start=1289)

AA
CACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTTC
AGGCCAGGGAA
ACAAGGGG

PK4: -22.865000(kcal/mol): PK_start=1303 sp=6 s1=9 s2=4 l1=8 l2=6 L3=0 PK_end=1342
(fs_start=1289)

TCCCACAA
AAGACAGGCTAATTTTTTAGGGAACTTTGGCCT
GGGACCGGA GGGG
CTTCAG
AATTTC

PK4B: -29.475000(kcal/mol): PK_start=1303 sp=6 s1=9 s2=4 l1=8 l2=31 L3=0 PK_end=1367
(fs_start=1289)

TCCCACAA
AAGACAGGCTAATTTTTTAGGGAACTTTGGCCT
GGGACCGGA GGGG
CCCCAC
AATTCCTTCAGAGCAGACCAGAGCCAACAG

=====
(553) AF484489
=====

PK1: -10.640000(kcal/mol): PK_start=1261 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1299
(fs_start=1292)

A
TTGGAAATGTGGAAAGGAAGGACACCAA
GTT AGAAAGT
TTTTTTAGG
CACTGAAAGACAGGCTAA

PK2: -21.980000(kcal/mol): PK_start=1277 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1314
(fs_start=1292)

C
GAAGGACACCAAATGAAAGATTGCACTGAAAGA


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          GATTTTTT   AATCGGA
                    TTGGCCTTC
      GGAAAAT
PK3:  -23.745000(kcal/mol): PK_start=1300 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1334
(fs_start=1292)
                    AAA
CACTGAAAGACAGGCTAATTTTTTAGGGA
                    CCCT   TCCGGTTT
                    AGGCCAGGGA
      ACAAGGGA
PK4:  -25.490000(kcal/mol): PK_start=1307 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1344
(fs_start=1292)
                    CCAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
                    GGACCGGAAG   GGAA
                    CCTTCA
      GAATTT

=====
(554) AF484490
=====
PK1:  -10.640000(kcal/mol): PK_start=1261 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1299
(fs_start=1292)
                    A
TTGGAAATGTGGAAGGGAAGGACACCAA
                    GTT   AGAAAGT
                    TTTTTTAGG
      CACTGAAAGACAGGCTAA
PK2:  -21.980000(kcal/mol): PK_start=1277 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1314
(fs_start=1292)
                    C
GAAGGACACCAAATGAAAGATTGCACTGAAAGA
                    GATTTTTT   AATCGGA
                    TTGGCCTTC
      GGAAAGT
PK3:  -23.745000(kcal/mol): PK_start=1300 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1334
(fs_start=1292)
                    AAG
CACTGAAAGACAGGCTAATTTTTTAGGGA
                    CCCT   TCCGGTTT
                    AGGCCAGGGA
      GCAAGGGA
PK4:  -25.490000(kcal/mol): PK_start=1307 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1344
(fs_start=1292)
                    CCGC
AGACAGGCTAATTTTTTAGGGAAAGTTTGGCCTTC

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                GGACCGGAAG    GGAA
                                CCTTCA
          GAATTT
=====
(555) AF484491
=====
PK1:  -15.625000(kcal/mol): PK_start=1263 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1291
(fs_start=1283)
                                A
GAAAGGAAGGACACCAGATGAAAGACTGT
                GACA    GAAAGTC
                                TTTTATAGGG
          GCTAAT

PK2:  -21.980000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)
                                C
GAAGGACACCAGATGAAAGACTGTACTGAAAGA
                GATTTTTT    AATCGGA
                                TTGGCCTTC
          GGAAAAT

PK3:  -23.745000(kcal/mol): PK_start=1291 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1325
(fs_start=1283)
                                AAA
TACTGAAAGACAGGCTAATTTTTATAGGGA
                CCCT    TCCGGTTT
                                AGGCCAGGGA
          ACAGGGGG

PK4:  -25.035000(kcal/mol): PK_start=1298 sp=7 s1=10 s2=4 l1=4 l2=5 L3=0 PK_end=1334
(fs_start=1283)
                                CCAC
AGACAGGCTAATTTTTATAGGAAAATTTGGCCTTC
                GGACCGGAG    GGGA
                                TCCTTC
          GAATT

PK4B:  -27.725000(kcal/mol): PK_start=1298 sp=7 s1=9 s2=4 l1=6 l2=32 L3=0 PK_end=1361
(fs_start=1283)
                                CCCACA
AGACAGGCTAATTTTTATAGGAAAATTTGGCCTT
                GGACCGGAG    GGGG
                                CCCCAC
          GAATTCCTTCAGAGCAGACCAGAGCCAACAG
=====
(556) AF484492
=====

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PK1: -10.640000(kcal/mol): PK_start=1261 sp=0 s1=3 s2=7 l1=1 l2=18 l3=0 PK_end=1299
(fs_start=1292)

A
TTGGAATGTGGAAGGGAAGGACACCAA
GTT AGAAAGT
TTTTTTAGG
CACTGAAAGACAGGCTAA

PK2: -19.340000(kcal/mol): PK_start=1277 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1314
(fs_start=1292)

C
GAAGGACACCAAATGAAAGATTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGTCTTC
GGAAAAT

PK3: -21.105000(kcal/mol): PK_start=1300 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=1334
(fs_start=1292)

AAA
CACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCTGGTTT
AGGCCAGGAA
ACAAGGGA

PK4: -22.850000(kcal/mol): PK_start=1307 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1344
(fs_start=1292)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGTCTTC
GGACCGGAAG GGAA
CCTTCA
AAACTT

=====
(557) AF484493
=====

PK1: -15.330000(kcal/mol): PK_start=1269 sp=0 s1=3 s2=9 l1=1 l2=5 l3=0 PK_end=1298
(fs_start=1289)

C
GAAAGGAGGGACACCAATTGAAGGACTG
GAC AGAGAGTCT
TTTTTTAGGGA
GCTAA

PK2: -25.280000(kcal/mol): PK_start=1272 sp=0 s1=10 s2=7 l1=1 l2=5 l3=0 PK_end=1311
(fs_start=1289)

C
AGGAGGGACACCAATTGAAGGACTGCTCTGAGAGA
GGGATTTTTT AATCGGA
TTGGCCTTC
AAAAT

PK3: -23.745000(kcal/mol): PK_start=1297 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1331
(fs_start=1289)

AAA
CTCTGAGAGACAGGCTAATTTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGAA
ACAAGGGG

PK4: -27.000000(kcal/mol): PK_start=1304 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=1342
(fs_start=1289)

TTCCCACAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCC
GGACCGG AGGGG
TCCCCAG
AAATTT

PK4B: -24.080000(kcal/mol): PK_start=1305 sp=8 s1=6 s2=4 l1=9 l2=33 L3=1 PK_end=1366
(fs_start=1289)

TTCCCACAA
GACAGGCTAATTTTTTTAGGGAAAATTTGGCC
GACCGG A GGGG
CCCCAC
GAAATTTTCCCCAGAGCAGACCAGACCAACAG

=====
(558) AF484494
=====

PK1: -10.640000(kcal/mol): PK_start=1264 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1302
(fs_start=1295)

A
TTGGAAATGTGGAAGGGAAGGACACCAA
GTT AGAAAGT
TTTTTTAGG
CACTGAAAGACAGGCTAA

PK2: -21.980000(kcal/mol): PK_start=1280 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1317
(fs_start=1295)

C
GAAGGACACCAAATGAAAGATTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.170000(kcal/mol): PK_start=1303 sp=0 s1=5 s2=7 l1=2 l2=9 L3=0 PK_end=1337
(fs_start=1295)

AA
CACTGAAAGACAGGCTAATTTTTTTAGGGAA
CCCTT CCGGTTT
GGCCAGGGA
ACAAGGGAC

PK4: -21.300000(kcal/mol): PK_start=1310 sp=7 s1=7 s2=6 l1=7 l2=4 L3=1 PK_end=1346
(fs_start=1295)

TTCCCAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCC
GGACCGG C AGGGAA
TTCCTTCA
GAAC

=====
(559) AF484495
=====

PK1: -10.440000(kcal/mol): PK_start=1261 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1299
(fs_start=1292)

A
TTGGAAATGTGGAAAGGAAGGACATCAA
GTT AGAAAGT
TTTTTTAGG
CACTGAAAGACAGGCTAA

PK2: -21.980000(kcal/mol): PK_start=1277 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1314
(fs_start=1292)

C
GAAGGACATCAAATGAAAGATTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1300 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1334
(fs_start=1292)

AAA
CACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGAA
ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1307 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1344
(fs_start=1292)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
AAATTT

PK4B: -26.865000(kcal/mol): PK_start=1307 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1370
(fs_start=1292)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTCTTCAGAGCAGAACAGAGCCAACAG

=====
(560) AF484496
=====

PK1: -15.140000(kcal/mol): PK_start=1254 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1282
(fs_start=1274)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -20.500000(kcal/mol): PK_start=1259 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1295
(fs_start=1274)

C
GAAGGACATCAAATGAAAGACTGCACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -26.605000(kcal/mol): PK_start=1282 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1316
(fs_start=1274)

AAA
CACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCGGGAA
ACAAGGGG

PK4: -29.725000(kcal/mol): PK_start=1289 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1352
(fs_start=1274)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGGCCGGA GGGG
CCCCAC
AAACTTTCCACAGAGCAGACCAGAGCCAACAG

=====
(561) AF484497
=====

PK1: -10.640000(kcal/mol): PK_start=1261 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1299
(fs_start=1292)

A
TTGGAAATGTGGAAAGGAAGGACACCAA
GTT AGAAAGT
TTTTTTAGG
CACTGAAAGACAGGCTAA

PK2: -21.980000(kcal/mol): PK_start=1277 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1314
(fs_start=1292)

C
GAAGGACACCAAATGAAAGATTGCACTGAAAGA
GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1301 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1334
(fs_start=1292)

AAA

ACTGAAAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT

AGGCCAGGGA

AGCAAGGGA

PK4: -25.490000(kcal/mol): PK_start=1307 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1344
(fs_start=1292)

CAGC

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC

GGACCGGAAG GGAA

CCTTCA

GAATTT

=====
(562) AF484498
=====

PK1: -10.640000(kcal/mol): PK_start=1261 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1299
(fs_start=1292)

A

TTGGAAATGTGGAAGGGAAGGACACCAA

GTT AGAAAGT

TTTTTTTAGG

CACTGAAAGACAGGCTAA

PK2: -21.980000(kcal/mol): PK_start=1277 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1314
(fs_start=1292)

C

GAAGGACACCAAATGAAAGATTGCACTGAAAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1300 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1334
(fs_start=1292)

AAA

CACTGAAAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT

AGGCCAGGGA

ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1307 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1344
(fs_start=1292)

CCAC

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC

GGACCGGAGG GGAA

CCTTCA

GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1307 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1370
(fs_start=1292)

TCCCACAA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG

CCCCAC

GAATTTTCCTTCAGAGCAGACCAGAGCCAACAG

=====
(563) AF484499
=====

PK1: -10.640000(kcal/mol): PK_start=1255 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1293
(fs_start=1286)

A

TTGGAATGTGGAAGGAAGGACACCAA

GTT AGAAAGT

TTTTTTAGG

CACTGAAAGACAGGCTAA

PK2: -19.340000(kcal/mol): PK_start=1271 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1308
(fs_start=1286)

C

GAAGGACACCAAATGAAAGATTGCACTGAAAGA

GATTTTTT AATCGGA

TTGGTCTTC

GGAAAAT

PK3: -21.655000(kcal/mol): PK_start=1294 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1328
(fs_start=1286)

AAA

CACTGAAAGACAGGCTAATTTTTTAGGGA

CCCT TCTGGTTT

AGACCAGGGA

ACAAGGGA

PK4: -23.400000(kcal/mol): PK_start=1301 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1338
(fs_start=1286)

CCAC

AGACAGGCTAATTTTTTAGGGAAAATTTGGTCTTC

GGACCAGAAG GGAA

CCTTCA

GAATTT

=====
(564) AF484500
=====

PK1: -10.440000(kcal/mol): PK_start=1261 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1299
(fs_start=1292)

A

TTGGAATGTGGAAGGAAGGACATCAA


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          GTT   AGAAAGT
                TTTTTTAGG
          CACTGAAAGACAGGCTAA

PK2:  -21.980000(kcal/mol): PK_start=1277 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1314
(fs_start=1292)
                C
          GAAGGACATCAAATGAAAGATTGCACTGAAAGA
                GATTTTTT   AATCGGA
                TTGGCCTTC
          GAAGAAT

PK3:  -19.320000(kcal/mol): PK_start=1300 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1334
(fs_start=1292)
                AA
          CACTGAAAGACAGGCTAATTTTTTAGGAAG
                CCTTC   CGGTTT
                GCCAGGGA
          CACAAGGGAAG

PK4:  -25.490000(kcal/mol): PK_start=1307 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1344
(fs_start=1292)
                CCAC
          AGACAGGCTAATTTTTTAGGAAGAATTTGGCCTTC
                GGACCGGAAG   GGAA
                CCTTCA
          GAACTT

=====
(565) AF484501
=====
PK1:  -15.585000(kcal/mol): PK_start=1257 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1285
(fs_start=1277)
                A
          GAAAAGAAGGACACCAGATGAAAGACTGT
                GACA   GAGAGTC
                TTTTTTAGGG
          GCTAAT

PK2:  -21.940000(kcal/mol): PK_start=1262 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1299
(fs_start=1277)
                C
          GAAGGACACCAGATGAAAGACTGTACTGAGAGA
                GATTTTTT   AATCGGA
                TTGGCCTTC
          GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1286 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1319
(fs_start=1277)
                AAA
          ACTGAGAGACAGGCTAATTTTTTAGGGA

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          CCT      TCCGGTTT
                AGGCCAGGGA
AGCAAGGGG

PK4:  -22.215000(kcal/mol): PK_start=1292 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1329
(fs_start=1277)
                CCAGCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
                GGACCGGAG      GGGA
                                TCCTCA
                GAATTT

PK4B:  -26.865000(kcal/mol): PK_start=1292 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1355
(fs_start=1277)
                TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA      GGGG
                                CCCCCG
                GAATTTTCCTCAAAGCAGACCGGAGCCAACAG

=====
(566) AF484502
=====

PK1:  -10.390000(kcal/mol): PK_start=1261 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1299
(fs_start=1292)
                A
TTGGAATGTGGAAGGAAGGACACCAG
                GTT      AGAAAGT
                                TTTTTTAGG
                CACTGAAAGACAGGCTAA

PK2:  -20.500000(kcal/mol): PK_start=1277 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1313
(fs_start=1292)
                C
GAAGGACACCAGATGAAAGATTGCACTGAAAGA
                GATTTTTT      A      ATCGGA
                                TGGCCTTC
                GGAAAATC

PK3:  -23.815000(kcal/mol): PK_start=1301 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1334
(fs_start=1292)
                AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
                CCT      TCCGGTCT
                                AGGCCAGGGA
                AACAAAGGG

PK4:  -26.275000(kcal/mol): PK_start=1307 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1344
(fs_start=1292)
                TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT

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                GGACCGGA    GGGAA
                    TCCTTCA
    GAACT
=====
(567) AF484503
=====
PK1:  -15.10000(kcal/mol): PK_start=1257 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1285
(fs_start=1277)
                CA
    GGAAAGAAGGACATCAAATGAAAGACTG
                GAC    AGAGAGTC
                    TTTTTTAGGG
    GCTAA

PK2:  -21.94000(kcal/mol): PK_start=1262 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1299
(fs_start=1277)
                C
    GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT    AATCGGA
                    TTGGCCTTC
    GGAAAAT

PK3:  -20.28500(kcal/mol): PK_start=1286 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1319
(fs_start=1277)
                AAA
    ACTGAGAGACAGGCTAATTTTTTAGGGA
                CCT    TCCGGTTT
                    AGGCCAGGAA
    AGCAAGGGG

PK4:  -24.12000(kcal/mol): PK_start=1292 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=1330
(fs_start=1277)
                TTCCAGCAA
    AGACAGGCTAATTTTTTAGGGAAAATTTGGCC
                GGACCGG    AGGGG
                    TCCTCAG
    AAATTT

=====
(568) AF484504
=====
PK1:  -10.64000(kcal/mol): PK_start=1261 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1299
(fs_start=1292)
                A
    TTGGAAATGTGGCAGGGAAGGACACCAA
                GTT    AGAAAGT
                    TTTTTTAGG
    CACTGAAAGACAGGCTAA

```

PK2: -21.980000(kcal/mol): PK_start=1277 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1314 (fs_start=1292)

C
GAAGGACACCAAATGAAAGATTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1300 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1334 (fs_start=1292)

AAA
CACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGCA
ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1307 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1344 (fs_start=1292)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
CAACTT

PK4B: -26.865000(kcal/mol): PK_start=1307 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1370 (fs_start=1292)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
CAACTTCCTTCAAAACAGACCAGAGCCAACAG

=====
(569) AF484505
=====

PK1: -10.440000(kcal/mol): PK_start=1261 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1299 (fs_start=1292)

A
TTGGAAATGTGGAAGGGAAGGACATCAA
GTT AGAAAGT
TTTTTTAGG
CACTGAAAGACAGGCTAA

PK2: -21.980000(kcal/mol): PK_start=1277 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1314 (fs_start=1292)

C
GAAGGACATCAAATGAAAGATTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAGT

PK3: -23.745000(kcal/mol): PK_start=1300 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1334
(fs_start=1292)

AAG
CACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGAA
ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1307 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1344
(fs_start=1292)

CCAC
AGACAGGCTAATTTTTTAGGGAAAGTTTGGCCTC
GGACCGGAGG GGAA
CCTTCA
AAATTT

PK4B: -23.985000(kcal/mol): PK_start=1307 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1370
(fs_start=1292)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAGTTTGGCCT
GGACCGGA GGGG
CTCCAC
AAATTTCTTCAGAACAGGACAGAGCCAACAG

=====
(570) AF484506
=====

PK1: -10.640000(kcal/mol): PK_start=1261 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1299
(fs_start=1292)

A
TTGGAAATGTGGAAGGGAAGGACACCAA
GTT AGAAAGT
TTTTTTAGG
CACTGAAAGACAGGCTAA

PK2: -20.500000(kcal/mol): PK_start=1277 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1313
(fs_start=1292)

C
GAAGGACACCAAATGAAAGATTGCACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATA

PK3: -24.465000(kcal/mol): PK_start=1300 sp=0 s1=4 s2=6 l1=5 l2=8 L3=0 PK_end=1332
(fs_start=1292)

AAATA
CACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGT
AGGCCAGG
ACAAGGGG

PK4: -25.230000(kcal/mol): PK_start=1309 sp=9 s1=8 s2=4 l1=4 l2=8 L3=0 PK_end=1344
(fs_start=1292)

CCAC
ACAGGCTAATTTTTTAGGGAAAATATGGCCTTC
ACCGGAGG GGAA
CCTTCA
GGGAACTT

PK4B: -27.085000(kcal/mol): PK_start=1309 sp=9 s1=6 s2=4 l1=8 l2=34 L3=0 PK_end=1370
(fs_start=1292)

TCCCACAA
ACAGGCTAATTTTTTAGGGAAAATATGGCCT
ACCGGA GGGG
CCCCAC
GGGAACTTCCTTCAGAGCAGACCAGAGCCAACAG

=====
(571) AF484507
=====

PK1: -15.100000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
(fs_start=1283)

CA
GAAGGGAGGGACACCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)

C
GAGGGACACCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1291 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1325
(fs_start=1283)

AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGAA
ACAAGGGG

PK4: -22.215000(kcal/mol): PK_start=1298 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1335
(fs_start=1283)

CCCACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGAG GGGG
TCCTCA
AAATTT

PK4B: -26.865000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1361
(fs_start=1283)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTTCCTCAGAACAGACTGGAGCCAACAG

=====
(572) AF484508
=====

PK1: -15.140000(kcal/mol): PK_start=1272 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1300
(fs_start=1292)

CA
GGAGAGGGGGACACCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -20.500000(kcal/mol): PK_start=1277 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1313
(fs_start=1292)

C
GGGGGACACCAAATGAAAGACTGCACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -23.815000(kcal/mol): PK_start=1301 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1334
(fs_start=1292)

AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTCT
AGGCCAGGAA
AGCAAGGGG

PK4: -25.745000(kcal/mol): PK_start=1307 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1344
(fs_start=1292)

CCAGCA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT
GGACCGGAG GGGG
TCCTCA
AAATTT

PK4B: -30.395000(kcal/mol): PK_start=1307 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1370
(fs_start=1292)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCGC
AAATTTTCCTCAGAGCAGACCAGAGCCGACAG

=====
(573) AF484509
=====

PK1: -15.10000(kcal/mol): PK_start=1269 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1297
(fs_start=1289)

CA
GGAAAGAAGGACACCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.94000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1311
(fs_start=1289)

C
GAAGGACACCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTCC
GGAAAAT

PK3: -22.24000(kcal/mol): PK_start=1297 sp=0 s1=4 s2=7 l1=3 l2=10 L3=0 PK_end=1331
(fs_start=1289)

AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT CCGGTTT
GGCCAGGAA
AGCAAGGGGA

PK4: -24.58500(kcal/mol): PK_start=1304 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1341
(fs_start=1289)

CCAGCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTC
GGACCGGAG GGGG
TCCTCA
AAATTT

PK4B: -26.86500(kcal/mol): PK_start=1304 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1367
(fs_start=1289)

CCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTTCCTCAGAACAGACTGGAGCCGACAG

=====
(574) AF484510
=====

PK1: -13.59500(kcal/mol): PK_start=1272 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1300
(fs_start=1292)

A
GAAGGGAAGGACACCAAATGAAAAATTGT
GACA GAAAGTC


```

                TTTT TAGGA
      GCTAAT
PK2:  -21.980000(kcal/mol): PK_start=1277 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1314
(fs_start=1292)
                C
GAAGGACACCAAATGAAAAATTGTACTGAAAGA
                GATTTTTT   AATCGGA
                TTGGCCTTC
      GAAAAAT

PK3:  -20.485000(kcal/mol): PK_start=1300 sp=0 s1=3 s2=8 l1=4 l2=9 L3=0 PK_end=1334
(fs_start=1292)
                AAAA
TACTGAAAGACAGGCTAATTTTTTAGGA
                CCT   TCCGGTTT
                AGGCCAGGGA
      CGCAACGGA

PK4:  -20.910000(kcal/mol): PK_start=1307 sp=7 s1=7 s2=4 l1=10 l2=4 L3=0 PK_end=1342
(fs_start=1292)
                TTCCCGCAAC
AGACAGGCTAATTTTTTAGGAAAAATTTGGCC
                GGACCGG   AAGG
                TTCCTT
      GAAC

=====
(575) AF484511
=====
PK1:  -10.640000(kcal/mol): PK_start=1261 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1299
(fs_start=1292)
                A
TTGGAAATGTGGAAGGAAGGACACCAA
                GTT   AGAAAGT
                TTTTTTAGG
      CACTGAAAGACAGGCTAA

PK2:  -21.980000(kcal/mol): PK_start=1277 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1314
(fs_start=1292)
                C
GAAGGACACCAAATGAAAGATTGCACTGAAAGA
                GATTTTTT   AATCGGA
                TTGGCCTTC
      GGAAAAAT

PK3:  -23.745000(kcal/mol): PK_start=1300 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1334
(fs_start=1292)
                AAA
CACTGAAAGACAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTTT

```

AGGCCAGGGA

ACAAGGGA

PK4: -25.490000(kcal/mol): PK_start=1307 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1344
(fs_start=1292)

CCAC

AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTTC

GGACCGGAAG GGAA

CCTTCA

GAACTT

=====
(576) AF484512
=====

PK1: -15.140000(kcal/mol): PK_start=1275 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1303
(fs_start=1295)

CA

GGAAGGATGGACACCAAATGAAGGACTG

GAC AGAAAGTC

TTTTTTAGGG

GCTAA

PK2: -20.500000(kcal/mol): PK_start=1280 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1316
(fs_start=1295)

C

GATGGACACCAAATGAAGGACTGCACTGAAAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAAATC

PK3: -23.815000(kcal/mol): PK_start=1304 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1337
(fs_start=1295)

AAA

ACTGAAAGACAGGCTAATTTTTTTAGGGA

CCT TCCGGTCT

AGGCCAGGAA

AACAAGGGG

PK4: -25.745000(kcal/mol): PK_start=1310 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1347
(fs_start=1295)

CCAACA

AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTT

GGACCGGAG GGGG

TCCTCA

AAACTT

PK4B: -30.395000(kcal/mol): PK_start=1310 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1373
(fs_start=1295)

TCCAACAA

AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT

GGACCGGA GGGG

CCCCAC
AAACTTTCCTCAGAGCAGACCGGAGCCAACAG

=====
(577) AF484513
=====

PK1: -10.640000(kcal/mol): PK_start=1264 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1302
(fs_start=1295)

A
TTGGAAGTGTGGAAGGGAAGGACACCAA

GTT AGAAAGT
TTTTTTTAGG
CACTGAAAGACAGGCTAA

PK2: -19.340000(kcal/mol): PK_start=1280 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1317
(fs_start=1295)

C
GAAGGACACCAAATGAAAGATTGCACTGAAAGA

GATTTTTT AATCGGA
TTGGTCTTC
GGAAAAT

PK3: -21.105000(kcal/mol): PK_start=1303 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1337
(fs_start=1295)

AAA
CACTGAAAGACAGGCTAATTTTTTAGGGA

CCCT TCTGGTTT
AGGCCAGGGA
ACAAGGGA

PK4: -22.850000(kcal/mol): PK_start=1310 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1347
(fs_start=1295)

CCAC
AGACAGGCTAATTTTTTAGGAAAATTTGGTCTTC

GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(578) AF484514
=====

PK1: -10.640000(kcal/mol): PK_start=1261 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1299
(fs_start=1292)

A
TTGGAAATGTGGAAGGGAAGGACACCAA

GTT AGAAAGT
TTTTTTTAGG
CACTGAAAGACAGGCTAA

PK2: -21.980000(kcal/mol): PK_start=1277 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1314
(fs_start=1292)

C
GAAGGACACCAAATGAAAGATTGCACTGAAAGA

```

          GATTTTTT   AATCGGA
                    TTGGCCTTC
GGAAAAT
PK3:  -22.025000(kcal/mol): PK_start=1300 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1334
(fs_start=1292)
                    AAA
CACTGAAAGACAGGCTAATTTTTTTAGGGA
                    CCCT   TCCGGTTT
                    AGGCCGGGCA
ACAAGGGG
PK4:  -23.290000(kcal/mol): PK_start=1307 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1344
(fs_start=1292)
                    CCAC
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTTC
                    GGGCCGGAGG   GGAA
                    CCTTCA
CAACTT
PK4B: -25.145000(kcal/mol): PK_start=1307 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1370
(fs_start=1292)
                    TCCCACAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
                    GGGCCGGA   GGGG
                    CCCCAC
CAACTTCCTTCAGAGCAGACCAGAGCCAACAG
=====
(579) AF484515
=====
PK1:  -10.680000(kcal/mol): PK_start=1261 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1299
(fs_start=1292)
                    A
TTGGAAATGTGGAAAGGAAGGACACCAA
                    GTT   AAAAAGT
                    TTTTTTAGG
CACTGAAAGACAGGCTAA
PK2:  -21.980000(kcal/mol): PK_start=1277 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1314
(fs_start=1292)
                    C
GAAGGACACCAAATGAAAAATTGCACTGAAAGA
                    GATTTTTT   AATCGGA
                    TTGGCCTTC
GGAGATT
PK3:  -23.275000(kcal/mol): PK_start=1300 sp=0 s1=4 s2=9 l1=2 l2=8 L3=0 PK_end=1335
(fs_start=1292)
                    GA
CACTGAAAGACAGGCTAATTTTTTTAGGGA

```

CCCT TCCGGTTTT
AGGCCAGGGAA
AGAAGGGA
PK4: -28.970000(kcal/mol): PK_start=1306 sp=6 s1=12 s2=4 l1=2 l2=6 L3=0 PK_end=1345
(fs_start=1292)

CA
AAGACAGGCTAATTTTTTAGGGAGATTTTGGCCTTCC
GGGACCGGAAGG GAAG
CTTCAG
AACTTC

=====
(580) AF484516
=====

PK1: -14.275000(kcal/mol): PK_start=1272 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1300
(fs_start=1292)

A
GAAGGGAAGGACATCAAATGAAAGATTGT
AACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -17.340000(kcal/mol): PK_start=1277 sp=0 s1=8 s2=5 l1=3 l2=7 L3=0 PK_end=1312
(fs_start=1292)

CAA
GAAGGACATCAAATGAAAGATTGTACTGAAAGA
GATTTTTT AATCG
TTGGCCT
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1300 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1334
(fs_start=1292)

AAA
TACTGAAAGACAAGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGAA
ACAAGGGA

PK4: -25.490000(kcal/mol): PK_start=1307 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1344
(fs_start=1292)

CCAC
AGACAAGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAACTT

=====
(581) AF484517
=====

PK1: -15.100000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
(fs_start=1283)

CA
GGAAAGAAGGGCACCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -20.460000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1304
(fs_start=1283)

C
GAAGGGCACCAAATGAAAGACTGCACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1291 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1325
(fs_start=1283)

AAA
CACTGAGAGACAGGCTAATTTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
GCAAGGGA

PK4: -29.020000(kcal/mol): PK_start=1298 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1335
(fs_start=1283)

CCGC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(582) AF484518
=====

PK1: -11.015000(kcal/mol): PK_start=1260 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=1287
(fs_start=1280)

AA
GAAAGGAAGGGCACCAAATGAAAGATTGT
GACA GAAAGT
TTTTTAGG
GCTAAT

PK2: -19.700000(kcal/mol): PK_start=1266 sp=0 s1=7 s2=7 l1=1 l2=8 L3=0 PK_end=1302
(fs_start=1280)

C
AAGGGCACCAAATGAAAGATTGTAATGAAAGA
ATTTTTT AATCGGA
TTGGCCTTC
GGGAGAAT

PK3: -18.840000(kcal/mol): PK_start=1288 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1322
(fs_start=1280)

AA
TAATGAAAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTTT
GCCAGGGA
CACAAAGGGGAG

PK4: -25.010000(kcal/mol): PK_start=1295 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1332
(fs_start=1280)

CCAC
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1295 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1358
(fs_start=1280)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCCCTTCAGAGCAGACCAGAGCCAACAG

=====
(583) AF484519
=====

PK1: -13.595000(kcal/mol): PK_start=1272 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1300
(fs_start=1292)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -21.980000(kcal/mol): PK_start=1277 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1314
(fs_start=1292)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAGAGC

PK3: -21.000000(kcal/mol): PK_start=1300 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1334
(fs_start=1292)

AG
TACTGAAAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTTT
GCCGGGGA
CTCAAGGGAAG

PK4: -23.975000(kcal/mol): PK_start=1307 sp=7 s1=8 s2=5 l1=7 l2=4 l3=0 PK_end=1343
(fs_start=1292)

TCCCTCA
AGACAGGCTAATTTTTTAGGGAGAGCTTGGCCT
GGGCCGGA AGGGA
TTCCTCC
GAAC

=====
(584) AF484520
=====

PK1: -10.640000(kcal/mol): PK_start=1270 sp=0 s1=3 s2=7 l1=1 l2=18 l3=0 PK_end=1308
(fs_start=1301)

A
TTGGAAATGTGGAAAGGAAGGACACCAA
GTT AGAAAGT
TTTTTTAGG
CACTGAAAGACAGGCTAA

PK2: -21.980000(kcal/mol): PK_start=1286 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1323
(fs_start=1301)

C
GAAGGACACCAAATGAAAGATTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1309 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=1343
(fs_start=1301)

AAA
CACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGA

PK4: -25.725000(kcal/mol): PK_start=1316 sp=7 s1=8 s2=5 l1=7 l2=5 l3=0 PK_end=1353
(fs_start=1301)

TCCCACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA AGGGA
TCCCTCA
GAACT

=====
(585) AF484521
=====

PK1: -10.640000(kcal/mol): PK_start=1261 sp=0 s1=3 s2=7 l1=1 l2=18 l3=0 PK_end=1299
(fs_start=1292)

A
TTGGAAATGTGGAAGGAAGGACACCAA
GTT AGAAAGT

TTTTTTAGG
 CACTGAAAGACAGGCTAA

PK2: -21.980000(kcal/mol): PK_start=1277 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1314
 (fs_start=1292)

C
 GAAGGACACCAAATGAAAGATTGCACTGAAAGA

GATTTTTT AATCGGA
 TTGCCTTC
 GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1300 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1334
 (fs_start=1292)

AAA
 CACTGAAAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT
 AGGCCAGGGA
 ACAAGGGA

PK4: -25.490000(kcal/mol): PK_start=1307 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1344
 (fs_start=1292)

CCAC
 AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC

GGACCGGAAG GGAA
 CCTTCA
 GAACTT

=====
 (586) AF484522
 =====

PK1: -10.640000(kcal/mol): PK_start=1258 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1296
 (fs_start=1289)

A
 TTGGAAATGTGGAAGGAAGGACACCAA

GTT AGAAAGT
 TTTTTTAGG
 CACTGAAAGACAGGCTAA

PK2: -21.980000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1311
 (fs_start=1289)

C
 GAAGGACACCAAATGAAAGATTGCACTGAAAGA

GATTTTTT AATCGGA
 TTGCCTTC
 GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1298 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1331
 (fs_start=1289)

AAA
 ACTGAAAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT

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                                AGGCCAGGGA
                                AACAAGGGG

PK4:  -25.010000(kcal/mol): PK_start=1304 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1341
(fs_start=1289)
                                CAAC
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTTC
                                GGACCGGAGG    GGAA
                                CCTTCA
                                GAACTT

PK4B:  -26.865000(kcal/mol): PK_start=1304 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1367
(fs_start=1289)
                                TCCAACAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
                                GGACCGGA    GGGG
                                CCCCAC
                                GAACTTCCTTCAGAGCAGACCAGAGCCAACAG

=====
(587) AF490973
=====

PK1:  -13.555000(kcal/mol): PK_start=1278 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1306
(fs_start=1298)
                                A
GAAAAGAAGGACACCAAATGAAAGATTGT
                                GACA    GAGAGTC
                                TTTTTAGGG
                                GCTAAT

PK2:  -19.080000(kcal/mol): PK_start=1283 sp=0 s1=8 s2=5 l1=2 l2=8 L3=1 PK_end=1318
(fs_start=1298)
                                CA
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                                GATTTTTT  A  ATCGG
                                TGGCCCT
                                GGAAAATC

PK3:  -24.730000(kcal/mol): PK_start=1306 sp=0 s1=4 s2=7 l1=3 l2=9 L3=1 PK_end=1339
(fs_start=1298)
                                AAA
TACTGAGAGACAGGCTAATTTTTTTAGGGA
                                CCCT  C  CCGGTCT
                                GGCCAGGGA
                                ACGAGGGAA

PK4:  -27.140000(kcal/mol): PK_start=1313 sp=7 s1=7 s2=7 l1=7 l2=4 L3=0 PK_end=1351
(fs_start=1298)
                                CTCCCAC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCC
                                GGACCGG    AAGGGAG

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                                TTTCTTCAG
                                GAAT

=====
(588) AF490974
=====
PK1:  -15.100000(kcal/mol): PK_start=1281 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1309
(fs_start=1301)
                                CA
GAAAGGAAGGACACCAAATGAAAGACTG
                                GAC   AGAGAGTC
                                TTTTTTAGGG
                                GCTAA

PK2:  -19.080000(kcal/mol): PK_start=1286 sp=0 s1=8 s2=5 l1=2 l2=8 L3=1 PK_end=1321
(fs_start=1301)
                                CA
GAAGGACACCAAATGAAAGACTGCACTGAGAGA
                                GATTTTTT A  ATCGG
                                TGGCCCT
                                GGAAGATC

PK3:  -24.730000(kcal/mol): PK_start=1309 sp=0 s1=4 s2=7 l1=3 l2=9 L3=1 PK_end=1342
(fs_start=1301)
                                AGA
CACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCCT  C  CCGGTCT
                                GGCCAGGGA
                                ACAAGGGAA

PK4:  -23.190000(kcal/mol): PK_start=1316 sp=7 s1=7 s2=6 l1=8 l2=4 L3=0 PK_end=1353
(fs_start=1301)
                                CTCCCACA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCC
                                GGACCGG   AAGGGA
                                TTTCTTCA
                                GAAT

=====
(589) AF492623
=====
PK1:  -12.710000(kcal/mol): PK_start=1427 sp=0 s1=3 s2=7 l1=2 l2=6 L3=1 PK_end=1454
(fs_start=1447)
                                CA
GGAAGGAAGGACACCAAATGAAAGACTG
                                GAC  R  GAGAGTC
                                TTTTTTAGGG
                                GCCAAT

PK2:  -22.380000(kcal/mol): PK_start=1432 sp=0 s1=7 s2=7 l1=2 l2=7 L3=1 PK_end=1468
(fs_start=1447)
                                RC
GAAGGACACCAAATGAAAGACTGCACTGAGAG

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          GATTTTT T AACCGGA
                    TTGGCCTTC
      GGAAAAT
PK3:  -20.285000(kcal/mol): PK_start=1456 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1489
(fs_start=1447)
          AAA
ACTGAGAGRCAGGCCAATTTTTTAGGGA
          CCT   TCCGGTTT
                    AGGCCAGGGA
      AGCAAGGGG
PK4:  -18.485000(kcal/mol): PK_start=1462 sp=7 s1=9 s2=4 l1=6 l2=5 L3=0 PK_end=1498
(fs_start=1447)
                    CCAGCA
AGRCAGGCCAATTTTTTAGGGAAAATTTGGCCTT
          GGACCGGAG   GGGA
                    TTCTCC
      GAACT
PK4B: -26.865000(kcal/mol): PK_start=1462 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1525
(fs_start=1447)
                    TCCAGCAA
AGRCAGGCCAATTTTTTAGGGAAAATTTGGCCTT
          GGACCGGA   GGGG
                    CCCCAC
      GAACTTTCTCCAGAACAGGCCAGCAACAG
=====
(590) AF492624
=====
PK1:  -11.420000(kcal/mol): PK_start=1434 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=1460
(fs_start=1454)
          CACC
GGAAGGAAGGACACCAAATGAAGGACTG
          GAC   AGAGAG
                    TTTTTTAG
      GCTAA
PK2:  -18.660000(kcal/mol): PK_start=1441 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1476
(fs_start=1454)
          C
AGGACACCAAATGAAGGACTGCACCGAGAGA
          TTTTTT   AATCGGA
                    TTGGCCTTC
      AGGGAAAAT
PK3:  -20.285000(kcal/mol): PK_start=1463 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1496
(fs_start=1454)
          AAA
ACCGAGAGACAGGCTAATTTTTTAGGGA

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          CCT   TCCGGTTT
                AGGCCAGGGA
AGCAAGGGG

PK4:  -18.485000(kcal/mol): PK_start=1469 sp=7 s1=9 s2=4 l1=6 l2=5 L3=0 PK_end=1505
(fs_start=1454)
                CCAGCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
                GGACCGGAG   GGGA
                        TTCTCC
          GAATT

PK4B:  -26.865000(kcal/mol): PK_start=1469 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1532
(fs_start=1454)
                TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA   GGGG
                        CCCAC
          GAATTTTCTCCAGAGCAGGCCAGAGCCAACAG

=====
(591) AF503396
=====
PK1:  -13.555000(kcal/mol): PK_start=1276 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1304
(fs_start=1296)
                A
GAAAAGAAGGACACCAAATGAAAGATTGT
                GACA   GAGAGTC
                        TTTTATAGGG
          GCCAAT

PK2:  -21.340000(kcal/mol): PK_start=1281 sp=0 s1=8 s2=5 l1=2 l2=8 L3=1 PK_end=1316
(fs_start=1296)
                CA
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT   A   ACCGG
                        TGGCCCT
          GGAAAATC

PK3:  -24.730000(kcal/mol): PK_start=1304 sp=0 s1=4 s2=7 l1=3 l2=9 L3=1 PK_end=1337
(fs_start=1296)
                AAA
TACTGAGAGACAGGCCAATTTTTTAGGGA
                CCCT   C   CCGTCT
                        GGCCAGGGA
          ACAAGGGAA

PK4:  -23.190000(kcal/mol): PK_start=1311 sp=7 s1=7 s2=6 l1=8 l2=4 L3=0 PK_end=1348
(fs_start=1296)
                CTCCCACA
AGACAGGCCAATTTTTTAGGGAAAATCTGGCC

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GGACCGG AAGGGA
 TTTCTTCA
 GAAT
 PK4B: -27.440000(kcal/mol): PK_start=1311 sp=7 s1=7 s2=5 l1=1 l2=40 L3=8 PK_end=1375
 (fs_start=1296)
 C
 AGACAGGCCAATTTTTTAGGGAAAATCTGGCC
 GGACCGG AAGGGAAC ACCCT
 TGGGAGA
 GAATTTTCTTCAGAGCAGACCAGAGCCAACAGCCCCACCA

=====
 (592) AF516184
 =====

PK1: -15.100000(kcal/mol): PK_start=1466 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1494
 (fs_start=1486)
 CA
 GGGAGGAAGGACATCAAATGAAAGACTG
 GAC AGAGAGTC
 TTTTTTAGGG
 GCTAA

PK2: -21.940000(kcal/mol): PK_start=1471 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1508
 (fs_start=1486)
 C
 GAAGGACATCAAATGAAAGACTGCACTGAGAGA

GATTTTTT AATCGGA
 TTGGCCTTC
 GGAGACT

PK3: -23.495000(kcal/mol): PK_start=1495 sp=0 s1=3 s2=9 l1=2 l2=6 L3=0 PK_end=1526
 (fs_start=1486)
 GA
 ACTGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTTC
 AGGCCAGGGAA
 AAGGGA

PK4: -25.525000(kcal/mol): PK_start=1500 sp=6 s1=9 s2=5 l1=4 l2=4 L3=0 PK_end=1535
 (fs_start=1486)
 TCCA
 GAGACAGGCTAATTTTTTAGGGAGACTTTGGCCT

GGGACCGGA AGGGA
 TTCCTCA
 AATT

=====
 (593) AF529572
 =====

PK1: -15.100000(kcal/mol): PK_start=1281 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1309
(fs_start=1301)

CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1286 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1323
(fs_start=1301)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAACT

PK3: -23.495000(kcal/mol): PK_start=1310 sp=0 s1=3 s2=9 l1=2 l2=9 L3=0 PK_end=1344
(fs_start=1301)

AA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTTC
AGGCCAGGGAA
AACAAGGGA

PK4: -25.525000(kcal/mol): PK_start=1315 sp=6 s1=9 s2=5 l1=7 l2=4 L3=0 PK_end=1353
(fs_start=1301)

TCCAACA
GAGACAGGCTAATTTTTTAGGGAACTTTGGCCT
GGGACCGGA AGGGA
TTCCTCA
AATT

=====
(594) AF529573
=====

PK1: -15.100000(kcal/mol): PK_start=1288 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1316
(fs_start=1308)

CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTTAGGC
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1293 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1330
(fs_start=1308)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GCAAGAT

PK3: -13.810000(kcal/mol): PK_start=1319 sp=0 s1=3 s2=6 l1=1 l2=10 l3=0 PK_end=1347
(fs_start=1308)

A
TGAGAGACAGGCTAATTTTTTAGGCAAG
TTC CGGTTT
GCCAGGGA
CCAAGGGAAG

PK4: -22.915000(kcal/mol): PK_start=1323 sp=7 s1=8 s2=5 l1=4 l2=5 l3=0 PK_end=1357
(fs_start=1308)

TCCA
AGACAGGCTAATTTTTTAGGCAAGATTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(595) AF530576
=====

PK1: -12.270000(kcal/mol): PK_start=1425 sp=0 s1=3 s2=8 l1=2 l2=5 l3=0 PK_end=1453
(fs_start=1445)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTT
TTTTTTAGGG
GCTAA

PK2: -19.910000(kcal/mol): PK_start=1430 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1467
(fs_start=1445)

C
GAAGGACATCAAATGAAAGACTGCATTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1454 sp=0 s1=3 s2=8 l1=3 l2=9 l3=0 PK_end=1487
(fs_start=1445)

AAA
ATTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGAA
AACAAGGGA

PK4: -21.195000(kcal/mol): PK_start=1460 sp=7 s1=8 s2=5 l1=7 l2=5 l3=0 PK_end=1497
(fs_start=1445)

TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTGGCCT
GGGCCGGA AGGGA
TTCCTCA
AAATT

=====
(596) AF538302
=====

PK1: -13.595000(kcal/mol): PK_start=2087 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2115
(fs_start=2107)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=2092 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2128
(fs_start=2107)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=2115 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2149
(fs_start=2107)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAGGGGG

PK4: -30.930000(kcal/mol): PK_start=2122 sp=7 s1=11 s2=4 l1=1 l2=23 L3=1 PK_end=2175
(fs_start=2107)

C
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTCC
GGACCGGAGGG G GACA
CTGTAG
GAATTTTCTTCAGAACAGACCAG

PK4B: -31.255000(kcal/mol): PK_start=2122 sp=7 s1=9 s2=4 l1=6 l2=38 L3=0 PK_end=2191
(fs_start=2107)

CCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT
GGACCGGAG GGGG
CCCCAC
GAATTTTCTTCAGAACAGACCAGCTGTAGAGCCATCAG

=====
(597) AF538303
=====

PK1: -13.595000(kcal/mol): PK_start=2084 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2112
(fs_start=2104)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC

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                TTTT TAGGG
      GCTAAT
PK2:  -20.50000(kcal/mol): PK_start=2089 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2125
(fs_start=2104)
                C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
                GATTTTTT A  ATCGGA
                TGGCCTTC
      GGAAGATC
PK3:  -26.11000(kcal/mol): PK_start=2112 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=2146
(fs_start=2104)
                A
TACTGAAAGACAGGCTAATTTTTTAGGGAAG
                CCCTTC  CGGTCT
                GCCAGGGA
      ACAAGGGAGG
PK4:  -26.36500(kcal/mol): PK_start=2119 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2156
(fs_start=2104)
                CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
                GGACCGGGAG  GGAA
                TCTTCA
      GAATTT
=====
(598) AF538304
=====
PK1:  -13.55500(kcal/mol): PK_start=2065 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2093
(fs_start=2085)
                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                GACA  GAGAGTC
                TTTT TAGGG
      GCTAAT
PK2:  -20.46000(kcal/mol): PK_start=2070 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2106
(fs_start=2085)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT A  ATCGGA
                TGGCCTTC
      GGAAAATC
PK3:  -27.27500(kcal/mol): PK_start=2093 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2127
(fs_start=2085)
                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                CCCT  TCCGGTCT

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AGGCCAGGGA

ACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=2100 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2137
(fs_start=2085)

CCAC

AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAGG GGAA

TCTTCA

GAATTT

=====
(599) AF538305
=====

PK1: -13.595000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2092
(fs_start=2084)

A

GAAGGGAAGGACACCAAATGAAAGATTGT

GACA GAAAGTC

TTTTTAGGG

GCTAAT

PK2: -20.500000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2105
(fs_start=2084)

C

GAAGGACACCAAATGAAAGATTGTACTGAAAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=2092 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2126
(fs_start=2084)

AAA

TACTGAAAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT

AGGCCAGGGA

ACAAGGGG

PK4: -30.395000(kcal/mol): PK_start=2099 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2162
(fs_start=2084)

TCCCACAA

AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT

GGACCGGA GGGG

CCCCAC

GAATTTTGTTCAGAACAGACCAGAGCCATCAG

=====
(600) AF538306
=====

PK1: -13.555000(kcal/mol): PK_start=2069 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2097
(fs_start=2089)

A

GAAAGGAAGGACACCAAATGAAAGATTGT

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          GACA    GAGAGTC
                TTTT TAGGG
    GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=2074 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2110
(fs_start=2089)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT A  ATCGGA
                                TGGCCTTC
                GGAAGATC

PK3:  -26.110000(kcal/mol): PK_start=2097 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=2131
(fs_start=2089)
                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                CCCTTC    CGGTCT
                                GCCAGGGA
                ACAAGGGAAG

PK4:  -26.715000(kcal/mol): PK_start=2104 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2141
(fs_start=2089)
                CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
                GGACCGGAAG    GGAA
                                TCTTCA
                GAATTT

=====
(601) AF538307
=====
PK1:  -13.555000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2092
(fs_start=2084)
                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                GACA    GAGAGTC
                                TTTT TAGGG
                GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2105
(fs_start=2084)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT A  ATCGGA
                                TGGCCTTC
                GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=2092 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2126
(fs_start=2084)
                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA

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          CCCT   TCCGGTCT
                AGGCCAGGGA
ACAAGGGA

PK4:  -26.715000(kcal/mol): PK_start=2099 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2136
(fs_start=2084)
                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                GGACCGGAAG   GGAA
                                TCTTCA
                GAATTT

=====
(602) AF539404
=====
PK1:  -10.640000(kcal/mol): PK_start=1531 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1569
(fs_start=1562)
                A
TTGGAAATGTGGAAAGGAAGGACACCAA
                GTT   AGAAAGT
                                TTTTTTAGG
                CACTGAAAGACAGGCTAA

PK2:  -20.500000(kcal/mol): PK_start=1547 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1583
(fs_start=1562)
                C
GAAGGACACCAAATGAAAGATTGCACTGAAAGA
                GATTTTTT   A   ATCGGA
                                TGGCCTTC
                GGAAAATC

PK3:  -23.815000(kcal/mol): PK_start=1571 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1604
(fs_start=1562)
                AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
                CCT   TCCGGTCT
                                AGGCCAGGGA
                AGCAAGGGG

PK4:  -27.650000(kcal/mol): PK_start=1577 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=1615
(fs_start=1562)
                TTCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCC
                GGACCGG   AGGGG
                                TCCTCAG
                GAACTT

PK4B:  -22.830000(kcal/mol): PK_start=1578 sp=8 s1=6 s2=4 l1=9 l2=33 L3=1 PK_end=1639
(fs_start=1562)
                TTCCAGCAA
GACAGGCTAATTTTTTAGGGAAAATCTGGCC

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GACCGG A GGGG

CTCCAC
GGAACCTTCCTCAGAACAGACTGGAACCAACAG

=====
(603) AF539405
=====
PK1: -15.140000(kcal/mol): PK_start=1399 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1427
(fs_start=1419)
CA
GGAAGGAGGGACACCAAATGAAAGACTG

GAC AGAAAGTC

TTTTTTAGGG
GCTAA

PK2: -21.980000(kcal/mol): PK_start=1404 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1441
(fs_start=1419)
C
GAGGGACACCAAATGAAAGACTGCACTGAAAGA

GATTTTTT AATCGGA

TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1428 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1461
(fs_start=1419)
AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT

AGGCCAGGGA
AGCAAGGGG

PK4: -24.120000(kcal/mol): PK_start=1434 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=1472
(fs_start=1419)
TTCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCC

GGACCGG AGGGG

TCCTCAG
GAATTT

PK4B: -21.200000(kcal/mol): PK_start=1435 sp=8 s1=6 s2=4 l1=9 l2=33 L3=1 PK_end=1496
(fs_start=1419)
TTCCAGCAA
GACAGGCTAATTTTTTAGGGAAAATTTGGCC

GACCGG A GGGG

CTCCAC
GGAATTTTCCTCAGAACAGACTGGAACCAACAG

=====
(604) AF539406
=====

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PK1: -15.140000(kcal/mol): PK_start=1518 sp=0 s1=3 s2=8 l1=2 l2=5 l3=0 PK_end=1546
(fs_start=1538)

CA
GGAAGGAGGGACACCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -21.980000(kcal/mol): PK_start=1523 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1560
(fs_start=1538)

C
GAGGGACACCAAATGAAAGACTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1547 sp=0 s1=3 s2=8 l1=3 l2=9 l3=0 PK_end=1580
(fs_start=1538)

AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
CCT TCCGTTT
AGGCCAGGGA
AGCAAGGGG

PK4: -24.120000(kcal/mol): PK_start=1553 sp=7 s1=7 s2=5 l1=9 l2=6 l3=0 PK_end=1591
(fs_start=1538)

TTCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCC
GGACCGG AGGGG
TCCTCAG
GAATTT

PK4B: -21.200000(kcal/mol): PK_start=1554 sp=8 s1=6 s2=4 l1=9 l2=33 l3=1 PK_end=1615
(fs_start=1538)

TTCCAGCAA
GACAGGCTAATTTTTTAGGGAAAATTTGGCC
GACCGG A GGGG
CTCCAC
GGAATTTTCCTCAGAACAGACTGGAACCAACAG

=====
(605) AJ006022
=====

PK1: -13.065000(kcal/mol): PK_start=1616 sp=0 s1=3 s2=8 l1=5 l2=22 l3=0 PK_end=1664
(fs_start=1657)

TCAAA
GCTGTTGGAAGTGTGGGCAAGAAGGACA
TGT TAGAAAGT
ATTTTTTAGG
AAAAATGAAGGAAGACAGGCTA

PK2: -14.180000(kcal/mol): PK_start=1640 sp=0 s1=7 s2=6 l1=4 l2=9 L3=1 PK_end=1678
(fs_start=1657)

AGAC
GACATCAAATGAAAGATTGTAAAAATGAAGGA
ATTTTTT A ATCGGA
TGGTCTCC
GGGAAGAGC

PK3: -28.610000(kcal/mol): PK_start=1667 sp=0 s1=3 s2=10 l1=3 l2=3 L3=0 PK_end=1698
(fs_start=1657)

GAG
AAGGAAGACAGGCTAATTTTTTAGGGAA
CTT CCCTCTGGTC
GGGAGACCAGGA
AAA

PK4: -22.950000(kcal/mol): PK_start=1673 sp=8 s1=6 s2=4 l1=10 l2=6 L3=0 PK_end=1708
(fs_start=1657)

TCCCTTCAAA
GACAGGCTAATTTTTTAGGGAAGAGCTGGTC
GACCAG AGGG
TCCCC
GAAACT

=====
(606) AJ006287
=====

PK1: -13.555000(kcal/mol): PK_start=1613 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1641
(fs_start=1633)

A
GAAAGGAGGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1618 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1654
(fs_start=1633)

C
GAGGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1641 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1675
(fs_start=1633)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAGGGGA

PK4: -29.045000(kcal/mol): PK_start=1648 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1685
(fs_start=1633)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTC
GGACCGGAAG GGGG
TCCTCA
GAATTT

PK4B: -31.325000(kcal/mol): PK_start=1648 sp=7 s1=9 s2=4 l1=6 l2=32 l3=0 PK_end=1711
(fs_start=1633)

CCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTC
GGACCGGAA GGGG
CCCCAC
GAATTTTCCTCAGAACAGACTAGAGCCAACAG

=====
(607) AJ237565
=====

PK1: -15.100000(kcal/mol): PK_start=2073 sp=0 s1=3 s2=8 l1=2 l2=5 l3=0 PK_end=2101
(fs_start=2093)

CA
GGAAGGAAGGACACCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=2078 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=2115
(fs_start=2093)

C
GAAGGACACCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=2102 sp=0 s1=3 s2=8 l1=3 l2=9 l3=0 PK_end=2135
(fs_start=2093)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AGCAAAGGA

PK4: -22.465000(kcal/mol): PK_start=2108 sp=7 s1=8 s2=4 l1=8 l2=6 l3=0 PK_end=2145
(fs_start=2093)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA AGGA
TCCTCA
GAACTT

=====
(608) AJ239083
=====

PK1: -15.140000(kcal/mol): PK_start=1269 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1297
(fs_start=1289)

CA
GGAAGGAAGGACACCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTAGGG
GCGAA

PK2: -13.990000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=4 l1=4 l2=6 L3=0 PK_end=1307
(fs_start=1289)

CAGG
GAAGGACACCAAATGAAAGACTGCACTGAAAGA
GATTTTTT AAGC
TTTGGC
GGAAAA

PK3: -22.025000(kcal/mol): PK_start=1297 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1331
(fs_start=1289)

AAA
CACTGAAAGACAGGCGAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCGGGAA
ACAAGGGG

PK4: -20.495000(kcal/mol): PK_start=1304 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1341
(fs_start=1289)

CCCACA
AGACAGGCGAATTTTTTAGGGAAAATTTGGCCTT
GGGCCGGAG GGGG
TCCTCA
AAATTT

PK4B: -25.145000(kcal/mol): PK_start=1304 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1367
(fs_start=1289)

TCCCACAA
AGACAGGCGAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA GGGG
CCCCAC
AAATTTTCCTCAGAGCAGACCGGAACCAACAG

=====
(609) AJ245481
=====

PK1: -11.420000(kcal/mol): PK_start=2088 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=2114
(fs_start=2108)

CACA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAG

TTTTTTAG
GCTAA
PK2: -17.180000(kcal/mol): PK_start=2095 sp=0 s1=6 s2=6 l1=1 l2=10 l3=1 PK_end=2129
(fs_start=2108)

C
AGGACATCAAATGAAAGACTGCACAGAGAGA
TTTTTT A ATCGGA
TGGCCTTC
AGGGAGAATC

PK3: -21.700000(kcal/mol): PK_start=2116 sp=0 s1=5 s2=6 l1=2 l2=11 l3=0 PK_end=2150
(fs_start=2108)

AA
CACAGAGAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTCT
GCCGGGGA
AGCAAGGGGAG

PK4: -25.565000(kcal/mol): PK_start=2123 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=2160
(fs_start=2108)

CAGC
AGACAGGCTAATTTTTTAGGGAGAATCTGGCCTTC
GGGCCGGAGG GGAA
TCTTCA
GAACTT

PK4B: -29.725000(kcal/mol): PK_start=2123 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=2186
(fs_start=2108)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAGAATCTGGCCT
GGGCCGGA GGGG
CCCCAC
GAACTTTCTTCAGAACAGGCCAGAGCCAACAG

=====
(610) AJ249236
=====

PK1: -17.225000(kcal/mol): PK_start=1260 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1288
(fs_start=1280)

A
GAAAGGAAGGACACCAAATGAAAGACTGC
GACG GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.370000(kcal/mol): PK_start=1265 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1302
(fs_start=1280)

C
GAAGGACACCAAATGAAAGACTGCACTGAAAGG
GATTTTTT AATCGGA

TTGCCTTC

GGAAAAAT

PK3: -20.285000(kcal/mol): PK_start=1289 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1322
(fs_start=1280)

AAA

ACTGAAAGGCAGGCTAATTTTTTAGGGA

CCT TCCGGTTT

AGGCCAGGAA

AACAGGGGG

PK4: -22.355000(kcal/mol): PK_start=1295 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1332
(fs_start=1280)

CAAC

AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC

GGACCGGAGG GGGA

TCTTCA

AAATTT

PK4B: -27.725000(kcal/mol): PK_start=1295 sp=7 s1=9 s2=4 l1=6 l2=32 L3=0 PK_end=1358
(fs_start=1280)

CCAACA

AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTT

GGACCGGAG GGGG

CCCCGC

AAATTTTCTTCAGAACAGACCAGAGCCAACAG

=====
(611) AJ249237
=====

PK1: -15.100000(kcal/mol): PK_start=1273 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1301
(fs_start=1293)

CA

GACAGGAAGGACACCAAATGAAAGACTG

GAC AGAGAGTC

TTTTTTAGGG

GCTAA

PK2: -20.460000(kcal/mol): PK_start=1278 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1314
(fs_start=1293)

C

GAAGGACACCAAATGAAAGACTGCACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAAATG

PK3: -18.320000(kcal/mol): PK_start=1302 sp=0 s1=4 s2=4 l1=5 l2=10 L3=0 PK_end=1332
(fs_start=1293)

AATGT

ACTGAGAGACAGGCTAATTTTTTAGGGAA

CCTT CCGG

```

                                GGCCCG
          AACAAGGGGA
PK4:  -20.515000(kcal/mol): PK_start=1311 sp=10 s1=7 s2=4 l1=4 l2=9 L3=0 PK_end=1345
(fs_start=1293)
                                CAAC
CAGGCTAATTTTTTAGGGAAAATGTGGCCTTC
                                CCGGAGG    GGAA
                                TCTTCA
          CGGAAATTT
PK4B:  -24.675000(kcal/mol): PK_start=1311 sp=10 s1=5 s2=4 l1=8 l2=35 L3=0
PK_end=1371 (fs_start=1293)
                                TCCAACAA
CAGGCTAATTTTTTAGGGAAAATGTGGCCT
                                CCGGA    GGGG
                                CCCCCG
          CGGAAATTTTCTTCAGAACAGACCAGAGCCAACAG

=====
(612) AJ249238
=====
PK1:  -15.140000(kcal/mol): PK_start=1260 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1288
(fs_start=1280)
                                CA
GAAAAGAAGGACATCAAATGAAAGACTG
                                GAC    AGAAAGTC
                                TTTTTTAGGG
          GCTAA
PK2:  -21.980000(kcal/mol): PK_start=1265 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1302
(fs_start=1280)
                                C
GAAGGACATCAAATGAAAGACTGCACTGAAAGA
                                GATTTTTT    AATCGGA
                                TTGGCCTTC
          GGAAAAT
PK3:  -18.320000(kcal/mol): PK_start=1289 sp=0 s1=4 s2=4 l1=5 l2=10 L3=0 PK_end=1319
(fs_start=1280)
                                AATTT
ACTGAAAGACAGGCTAATTTTTTAGGGAA
                                CCTT    CCGG
                                GGCCCG
          AACAAGGGGA
PK4:  -20.515000(kcal/mol): PK_start=1298 sp=10 s1=7 s2=4 l1=4 l2=9 L3=0 PK_end=1332
(fs_start=1280)
                                CAAC
CAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
                                CCGGAGG    GGAA

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                                TCTTCA
                CGGAAATTT
PK4B:  -24.675000(kcal/mol): PK_start=1298 sp=10 s1=5 s2=4 l1=8 l2=35 L3=0
PK_end=1358 (fs_start=1280)
                                TCCAACAA
CAGGCTAATTTTTTAGGGAAAATTTGGCCT
                CCGGA    GGGG
                                CCCCCG
                CGGAAATTTTCTTCAGAACAGGCCAGAGCCAACAG

=====
(613) AJ249239
=====
PK1:  -12.160000(kcal/mol): PK_start=1249 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1287
(fs_start=1280)
                                A
TTGGAATGTGGGAAGGAAGGACATCAG
                GTC    AGAAAGT
                                TTTTTTAGG
                CACTGAGAGACAGGCTAA

PK2:  -20.460000(kcal/mol): PK_start=1265 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1301
(fs_start=1280)
                                C
GAAGGACATCAGATGAAAGACTGCACTGAGAGA
                GATTTTTT  A  ATCGGA
                                TGGCCTTC
                GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1288 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1322
(fs_start=1280)
                                AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA
                CCCT    TCCGGTCT
                                AGGCCAGGGA
                ACAAGGGG

PK4:  -26.235000(kcal/mol): PK_start=1295 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1332
(fs_start=1280)
                                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                GGACCGGAGG    GGAA
                                TCTTCA
                GAATTT

PK4B:  -30.395000(kcal/mol): PK_start=1295 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1358
(fs_start=1280)
                                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                GGACCGGA    GGGG

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CCCCAC
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(614) AJ251056
=====

PK1: -15.625000(kcal/mol): PK_start=1261 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1289
(fs_start=1281)

A
GGAAGGAAGGACACCAAATGAAAGACTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -21.980000(kcal/mol): PK_start=1266 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1303
(fs_start=1281)

C
GAAGGACACCAAATGAAAGACTGTACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1290 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1323
(fs_start=1281)

AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AGCAAGGGG

PK4: -22.215000(kcal/mol): PK_start=1296 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1333
(fs_start=1281)

CCAGCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGAG GGGA
TCCTCA
AAACTT

PK4B: -26.865000(kcal/mol): PK_start=1296 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1359
(fs_start=1281)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGA GGGG
CCCCAC
AAACTTTCCTCAGAGCAGACCGGAACCAACAG

=====
(615) AJ251057
=====

PK1: -15.585000(kcal/mol): PK_start=1258 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1286
(fs_start=1278)

A
GGAAGGAAGGACACCAAATGAAGGACTGT

GACA GAGAGTC
TTTTTAGGG
GCTAAT
PK2: -21.94000(kcal/mol): PK_start=1263 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1300
(fs_start=1278)

C
GAAGGACACCAAATGAAGGACTGTACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1286 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1320
(fs_start=1278)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGAA
ACAAGGGG

PK4: -22.215000(kcal/mol): PK_start=1293 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1330
(fs_start=1278)

CCCACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGAG GGGA
TCCTCA
AAATTT

PK4B: -26.865000(kcal/mol): PK_start=1293 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1356
(fs_start=1278)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTTCCTCAGAGCAGACCGGAACCAACAG

=====
(616) AJ271370
=====

PK1: -13.065000(kcal/mol): PK_start=1614 sp=0 s1=3 s2=8 l1=5 l2=22 L3=0 PK_end=1662
(fs_start=1655)

TCAAA
GCTGTTGGAAGTGTGGCAAGAAGGACA
TGT TAGAAAGT
ATTTTTTAGG
AAAAATGAGGGAAGMCAGGCTA

PK2: -12.780000(kcal/mol): PK_start=1638 sp=0 s1=7 s2=6 l1=4 l2=9 L3=1 PK_end=1676
(fs_start=1655)

AGMC
GACATCAAATGAAAGATTGTAAAAATGAGGGA


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          ATTTTTT A ATCGGA
                    TGGTCTCC
          GGAAAGGGC
PK3:  -23.845000(kcal/mol): PK_start=1666 sp=0 s1=5 s2=6 l1=1 l2=7 L3=0 PK_end=1695
(fs_start=1655)
          C
GGGAAGMCAGGCTAATTTTTTTAGGAAAGGG
          TTCCC   TCTGGT
                    AGACCAGG
          CAAAGGG
PK4:  -25.970000(kcal/mol): PK_start=1666 sp=3 s1=4 s2=8 l1=1 l2=6 L3=0 PK_end=1696
(fs_start=1655)
          G
GGGAAGMCAGGCTAATTTTTTTAGGAAAGG
          TTCC   CTCTGGTC
                    GAGACCAGGA
          CAAAGG
=====
(617) AJ271445
=====
PK1:  -13.205000(kcal/mol): PK_start=2067 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=2094
(fs_start=2086)
          A
AAAGGAAGGACACCAGATGAAGGAGTGT
          ACA   GAGAGTC
                    TTTTTTAGGG
          GGCTAAT
PK2:  -20.460000(kcal/mol): PK_start=2071 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2107
(fs_start=2086)
          C
GAAGGACACCAGATGAAGGAGTGTACTGAGAGA
          GATTTTTT A ATCGGA
                    TGGCCTTC
          GGAAGATC
PK3:  -26.110000(kcal/mol): PK_start=2094 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=2128
(fs_start=2086)
          A
TACTGAGAGACAGGCTAATTTTTTTAGGGAAG
          CCCTTC   CGGTCT
                    GCCAGGGA
          ACAAGGGAAG
PK4:  -24.995000(kcal/mol): PK_start=2101 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=2138
(fs_start=2086)
                    TCCCACAA
AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCT

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                GGACCGGA    AGGG
                                TCTCCA
        GAATTT

=====
(618) AJ276595
=====
PK1:  -12.36000(kcal/mol): PK_start=1355 sp=0 s1=3 s2=7 l1=1 l2=21 L3=0 PK_end=1396
(fs_start=1389)
                A
TTGGAAATGTGGAAAGGAAGGACACCAG
                GTC    AGAAAGT
                                TTTTTTAGG
        CACTactGAGAGACAGGCTAA

PK2:  -21.94000(kcal/mol): PK_start=1374 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1411
(fs_start=1389)
                C
GGACACCAGATGAAAGACTGCACTactGAGAGA
                GATTTTTT    AATCGGA
                                TTGGCCTTC
        GGAAAAT

PK3:  -20.28500(kcal/mol): PK_start=1398 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1431
(fs_start=1389)
                AAA
actGAGAGACAGGCTAATTTTTTAGGGA
                CCT    TCCGGTTT
                                AGGCCAGGAA
        AACAAGGGG

PK4:  -22.21500(kcal/mol): PK_start=1404 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1441
(fs_start=1389)
                CCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
                GGACCGGAG    GGGA
                                TCCTCA
        AAATTT

PK4B:  -26.86500(kcal/mol): PK_start=1404 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1467
(fs_start=1389)
                TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA    GGGG
                                CCCCAc
        AAATTTTCCTCAGAGCAGACCAGCCAACAG

=====
(619) AJ276596
=====

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PK1: -15.10000(kcal/mol): PK_start=1371 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1399
(fs_start=1391)

CA
GGAAGGAAGGACACCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.94000(kcal/mol): PK_start=1376 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1413
(fs_start=1391)

C
GAAGGACACCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.28500(kcal/mol): PK_start=1400 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1433
(fs_start=1391)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AGCAAGGGG

PK4: -22.21500(kcal/mol): PK_start=1406 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1443
(fs_start=1391)

CCAGCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGAG GGGG
TCCTCA
AAATTT

PK4B: -26.86500(kcal/mol): PK_start=1406 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1469
(fs_start=1391)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTTCCTCAGAGCAGACTGGAGCCAACAG

=====
(620) AJ288981
=====

PK1: -11.42000(kcal/mol): PK_start=2111 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=2137
(fs_start=2131)

CACA
GAAAAGAGGGACATCAAATGAAAGACTG
GAC AGAGAG
TTTTTTAG
GCTAA

PK2: -17.180000(kcal/mol): PK_start=2118 sp=0 s1=6 s2=6 l1=1 l2=10 l3=1 PK_end=2152
(fs_start=2131)

C
GGGACATCAAATGAAAGACTGCACAGAGAGA
TTTTTT A ATCGGA
TGGCCTTC
AGGGAAAATC

PK3: -27.275000(kcal/mol): PK_start=2139 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=2173
(fs_start=2131)

AAA
CACAGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -22.015000(kcal/mol): PK_start=2146 sp=7 s1=9 s2=4 l1=6 l2=5 l3=0 PK_end=2182
(fs_start=2131)

CCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT
GGACCGGAG GGGA
TTCTCC
GAATT

PK4B: -28.475000(kcal/mol): PK_start=2146 sp=7 s1=9 s2=4 l1=6 l2=40 l3=0 PK_end=2217
(fs_start=2131)

CCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT
GGACCGGAG GGGA
CCCTCA
GAATTTTCTCCAGAACAGGCCAGAACAGAACAGGCCAGAA

=====
(621) AJ288982
=====

PK1: -10.440000(kcal/mol): PK_start=2073 sp=0 s1=3 s2=7 l1=1 l2=18 l3=0 PK_end=2111
(fs_start=2104)

A
TTGGAAATGTGGAAAGGAGGGACATCAA
GTT AGAAAGT
TTTTTTTAGG
CACAGAGAGACAGGCTAA

PK2: -17.180000(kcal/mol): PK_start=2091 sp=0 s1=6 s2=6 l1=1 l2=10 l3=1 PK_end=2125
(fs_start=2104)

C
GGGACATCAAATGAAAGATTGCACAGAGAGA
TTTTTT A ATCGGA
TGGCCTTC
AGGGAAGATC

PK3: -22.65000(kcal/mol): PK_start=2113 sp=0 s1=5 s2=6 l1=1 l2=11 l3=0 PK_end=2146
(fs_start=2104)

A
ACAGAGAGACAGGCTAATTTTTTAGGGAAG
CCTTC CGGTCT
GCCAGGAA
AACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=2119 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=2156
(fs_start=2104)

CAAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTC
GGACCGGAGG GGAA
TCTTCA
AAATTT

PK4B: -30.395000(kcal/mol): PK_start=2119 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=2182
(fs_start=2104)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTTCTTCAGAACAGGCCAGAGCCAACAG

=====
(622) AJ291718
=====

PK1: -11.420000(kcal/mol): PK_start=2064 sp=0 s1=3 s2=6 l1=4 l2=5 l3=0 PK_end=2090
(fs_start=2084)

CACC
GGAGGGAAGGACACCAAATGAAAGACTG
GAC AGAGAG
TTTTTTAG
GCTAA

PK2: -18.660000(kcal/mol): PK_start=2071 sp=0 s1=6 s2=7 l1=1 l2=9 l3=0 PK_end=2106
(fs_start=2084)

C
AGGACACCAAATGAAAGACTGCACCGAGAGA
TTTTTT AATCGGA
TTGGCCTTC
AGGGAAAAT

PK3: -20.285000(kcal/mol): PK_start=2093 sp=0 s1=3 s2=8 l1=3 l2=9 l3=0 PK_end=2126
(fs_start=2084)

AAA
ACCGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AGCAAAGGA

PK4: -19.655000(kcal/mol): PK_start=2099 sp=7 s1=8 s2=4 l1=8 l2=5 L3=0 PK_end=2135
(fs_start=2084)

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                                TCCAGCAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
                                GGACCGGA   AGGA
                                TTCTCC
                                GAACT
```

=====
(623) AJ291719
=====

PK1: -11.420000(kcal/mol): PK_start=2061 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=2087
(fs_start=2081)

```

                                CACC
GGAAGGAAGGACACCAAATGAAAGACTG
                                GAC   AGAGAG
                                TTTTTTAG
                                GCTAA
```

PK2: -17.180000(kcal/mol): PK_start=2068 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=2102
(fs_start=2081)

```

                                C
AGGACACCAAATGAAAGACTGCACCGAGAGA
                                TTTTTT  A  ATCGGA
                                TGGCCTTC
                                AGGGAAAATC
```

PK3: -23.815000(kcal/mol): PK_start=2090 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2123
(fs_start=2081)

```

                                AAA
ACCGAGAGACAGGCTAATTTTTTTAGGGA
                                CCT   TCCGGTCT
                                AGGCCAGGGA
                                AGCAAGGGA
```

PK4: -23.785000(kcal/mol): PK_start=2096 sp=7 s1=10 s2=4 l1=4 l2=3 L3=0 PK_end=2130
(fs_start=2081)

```

                                CAGC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAAG   GGAA
                                TTTTAT
                                GAA
```

=====
(624) AJ291720
=====

PK1: -11.420000(kcal/mol): PK_start=2070 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=2096
(fs_start=2090)

```

                                CACC
GGCAGGAAGGACACCAAATGAAAGACTG
                                GAC   AGAGAG
```

```

                TTTTTTAG
            GCTAA

PK2:  -18.66000(kcal/mol): PK_start=2077 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=2112
(fs_start=2090)
                C
AGGACACCAAATGAAAGACTGCACCGAGAGA
                TTTTTT   AATCGGA
                TTGGCCTC
            AGGGAAAAT

PK3:  -23.74500(kcal/mol): PK_start=2098 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2132
(fs_start=2090)
                AAA
CACCGAGAGACAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTTT
                AGGCCAGGGA
            ACAAGGGG

PK4:  -18.48500(kcal/mol): PK_start=2105 sp=7 s1=9 s2=4 l1=6 l2=5 L3=0 PK_end=2141
(fs_start=2090)
                CCCACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
                GGACCGGAG   GGGA
                TTCTCC
            GAATT

PK4B:  -26.86500(kcal/mol): PK_start=2105 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2168
(fs_start=2090)
                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
                GGACCGGA   GGGG
                CCCCAC
            GAATTTTCTCCAGAGCAGGCCAGAGCCAACAG

=====
(625) AJ293865
=====
PK1:  -15.10000(kcal/mol): PK_start=1407 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1435
(fs_start=1427)
                CA
GAAAGGAAGGGCACCAAATGAAAGACTG
                GAC   AGAGAGTC
                TTTTTTAGGG
            GCTAA

PK2:  -21.94000(kcal/mol): PK_start=1412 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1449
(fs_start=1427)
                C
GAAGGGCACCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT   AATCGGA

```

TTGGCCTTC

GGAGAAT

PK3: -18.840000(kcal/mol): PK_start=1435 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1469
(fs_start=1427)

AA

CACTGAGAGACAGGCTAATTTTTTAGGGAG

CCTTC CGGTTT

GCCAGGGA

AGCAAGGGAAG

PK4: -22.915000(kcal/mol): PK_start=1442 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1479
(fs_start=1427)

TCCAGCA

AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT

GGACCGGA AGGGA

TTCCTCA

GAATT

=====
(626) AJ320484
=====

PK1: -10.640000(kcal/mol): PK_start=2080 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=2118
(fs_start=2111)

A

TTGGAAATGTGGCAGTGAAGGACACCAA

GTT AGAAAGT

TTTTTTTAGG

CACTGAAAGACAGGCTAA

PK2: -21.980000(kcal/mol): PK_start=2096 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2133
(fs_start=2111)

C

GAAGGACACCAAATGAAAGATTGCACTGAAAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=2119 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2153
(fs_start=2111)

AAA

CACTGAAAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT

AGGCCAGGCA

ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=2126 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2163
(fs_start=2111)

CCAC

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC

GGACCGGAGG GGAA

CCTTCA

CAACTT

PK4B: -26.865000(kcal/mol): PK_start=2126 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2189
(fs_start=2111)

TCCCACAA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG

CCCCAC

CAACTTCCTTCAAAACAGACCAGAGCCAACAG

=====

(627) AJ404325

=====

PK1: -12.455000(kcal/mol): PK_start=1278 sp=0 s1=4 s2=6 l1=2 l2=5 L3=0 PK_end=1304
(fs_start=1298)

AC

GAAAGGAGGGACATCAAATGAAAGACTGT

GACA GAGAGA

TTTTTTAG

GCTAA

PK2: -18.660000(kcal/mol): PK_start=1285 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1320
(fs_start=1298)

C

GGGACATCAAATGAAAGACTGTACAGAGAGA

TTTTTT AATCGGA

TTGGCCTTC

AGGGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1307 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1340
(fs_start=1298)

AAA

ACAGAGAGACAGGCTAATTTTTTTAGGGA

CCT TCCGGTTT

AGGCCAGGGA

AACAAGGGG

PK4: -18.485000(kcal/mol): PK_start=1313 sp=7 s1=9 s2=4 l1=6 l2=5 L3=0 PK_end=1349
(fs_start=1298)

CCAACA

AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTT

GGACCGGAG GGGA

TTCTCC

GAATT

PK4B: -26.865000(kcal/mol): PK_start=1313 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1376
(fs_start=1298)

TCCAACAA

AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG

CCCCAC
GAATTTTCTCCAGAGCAGGCCAGAGCCATCAG

=====
(628) AJ488926
=====

PK1: -12.640000(kcal/mol): PK_start=1271 sp=0 s1=3 s2=7 l1=4 l2=18 L3=0 PK_end=1312
(fs_start=1305)

CTGTTGGAAATGTGGAAAGGAAGGACAC CAAA
GTG AGAAAGT
TTTTTTAGG
CACTGAAAGACAGGCTAA

PK2: -21.980000(kcal/mol): PK_start=1290 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1327
(fs_start=1305)

GAAGGACACCAAATGAAAGAGTGCACTGAAAGA C
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1314 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1347
(fs_start=1305)

ACTGAAAGACAGGCTAATTTTTTAGGGA AAA
CCT TCCGGTTT
AGGCCGGGAA
AGCAAGGGA

PK4: -21.465000(kcal/mol): PK_start=1320 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1357
(fs_start=1305)

AGACAGGCTAATTTTTTAGGAAAATTTGGCCTTC CAGC
GGGCCGGAAG GGAA
TCTTCA
AAATTT

=====
(629) AJ488927
=====

PK1: -10.640000(kcal/mol): PK_start=1274 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1312
(fs_start=1305)

TTGGAAGTGTGGAAAGGAAGGACACCAA A
GTT AGAAAGT
TTTTTTAGG
CACTGAAAGACAGGCTAA

PK2: -21.980000(kcal/mol): PK_start=1290 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1327
(fs_start=1305)

GAAGGACACCAAATGAAAGATTGCACTGAAAGA C

```

          GATTTTTT   AATCGGA
                    TTGGCCTTC
      GGAAAAT

PK3:  -18.565000(kcal/mol): PK_start=1314 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1347
(fs_start=1305)
          AAA
ACTGAAAGACAGGCTAATTTTTTTAGGGA
          CCT   TCCGGTTT
                    AGGCCGGGGA
      AGCAAGGGG

PK4:  -20.985000(kcal/mol): PK_start=1320 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1357
(fs_start=1305)
                    CAGC
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTTC
          GGGCCGGAGG   GGAA
                    TCTTCA
      GAACTT

PK4B:  -25.145000(kcal/mol): PK_start=1320 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1383
(fs_start=1305)
                    TCCAGCAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
          GGGCCGGA   GGGG
                    CCCCAC
      GAACTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(630) AJ508595
=====
PK1:  -15.585000(kcal/mol): PK_start=2066 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2094
(fs_start=2086)
          A
GGAAGGAAGGACACCAAATGAAAGACTGT
          GACA   GAGAGTC
                    TTTTTAGGG
      GCTAAT

PK2:  -21.940000(kcal/mol): PK_start=2071 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2108
(fs_start=2086)
          C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
          GATTTTTT   AATCGGA
                    TTGGCCTTC
      GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=2095 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2128
(fs_start=2086)
          AAA
ACTGAGAGACAGGCTAATTTTTTTAGGGA

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          CCT   TCCGGTTT
                AGGCCAGGAA
AGCAAGGGG

PK4:  -22.215000(kcal/mol): PK_start=2101 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=2138
(fs_start=2086)
                CCAGCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
                GGACCGGAG   GGGA
                                TCCTCA
          AAATTT

PK4B:  -26.865000(kcal/mol): PK_start=2101 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2164
(fs_start=2086)
                TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA   GGGG
                                CCCAC
          AAATTTTCCTCAAAGCAGACCGGAACCAACAG

=====
(631) AJ508596
=====
PK1:  -11.420000(kcal/mol): PK_start=2079 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=2105
(fs_start=2099)
                CACA
GAAAAGAGGGACATCAAATGAAAGACTG
                GAC   AGAGAG
                                TTTTTTAG
          GCTAA

PK2:  -17.180000(kcal/mol): PK_start=2086 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=2120
(fs_start=2099)
                C
GGGACATCAAATGAAAGACTGCACAGAGAGA
                TTTTTT  A  ATCGGA
                                TGGCCTTC
          AGGGAAAATC

PK3:  -23.815000(kcal/mol): PK_start=2108 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2141
(fs_start=2099)
                AAA
ACAGAGAGACAGGCTAATTTTTTAGGGA
                CCT   TCCGGTCT
                                AGGCCAGGGA
          AACAAGGGG

PK4:  -25.745000(kcal/mol): PK_start=2114 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=2151
(fs_start=2099)
                CCAACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT

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GGACCGGAG GGGA
 TCCTCA
 GAATTT

PK4B: -30.395000(kcal/mol): PK_start=2114 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2177
 (fs_start=2099)

TCCAACAA
 AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT

GGACCGGA GGGG
 CCCCAC
 GAATTTTCCTCAGAGCAGACCAGAACCAACAG

=====
 (632) AJ508597
 =====

PK1: -15.585000(kcal/mol): PK_start=2061 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2089
 (fs_start=2081)

A
 GGAAGGAAGGACACCAAATGAAAGACTGT

GACA GAGAGTC
 TTTTTAGGG
 GCTAAT

PK2: -21.940000(kcal/mol): PK_start=2066 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2103
 (fs_start=2081)

C
 GAAGGACACCAAATGAAAGACTGTACTGAGAGA

GATTTTTT AATCGGA
 TTGGCCTTC
 GGAGAAT

PK3: -18.840000(kcal/mol): PK_start=2089 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=2123
 (fs_start=2081)

AA
 TACTGAGAGACAGGCTAATTTTTTAGGGAG

CCTTC CGGTTT
 GCCAGGGA
 AGCAAGGGGAG

PK4: -22.705000(kcal/mol): PK_start=2096 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2133
 (fs_start=2081)

CAGC
 AGACAGGCTAATTTTTTAGGGAGAATTTGGCCTTC

GGACCGGAGG GGAA
 TCTTCA
 GAATTT

PK4B: -26.865000(kcal/mol): PK_start=2096 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2159
 (fs_start=2081)

TCCAGCAA
 AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT

GGACCGGA GGGG
CCCCAC
GAATTTTCTTCAGAACAGGCCAGAGCCAACAG

=====
(633) AJ519488
=====

PK1: -12.640000(kcal/mol): PK_start=1271 sp=0 s1=3 s2=7 l1=4 l2=18 L3=0 PK_end=1312
(fs_start=1305)

CTGTTGAAATGTGGAAAGGAAGGACAC
CAA

GTG AGAAAGT
TTTTTTAGG
CACTGAAAGACAGGCTAA

PK2: -21.980000(kcal/mol): PK_start=1290 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1327
(fs_start=1305)

GAAGGACACCAAATGAAAGAGTGCACTGAAAGA
C

GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1314 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1347
(fs_start=1305)

ACTGAAAGACAGGCTAATTTTTTAGGGA
AAA

CCT TCCGGTTT
AGGCCGGGAA
AGCAAGGGA

PK4: -21.465000(kcal/mol): PK_start=1320 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1357
(fs_start=1305)

AGACAGGCTAATTTTTTAGGAAAATTTGGCCTTC
CAGC
GGCCCGAAG GGAA
TCTTCA
AAATTT

=====
(634) AJ519489
=====

PK1: -10.640000(kcal/mol): PK_start=1274 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1312
(fs_start=1305)

TTGGAAGTGTGGAAAGGAAGGACACCAA
A

GTT AGAAAGT
TTTTTTAGG
CACTGAAAGACAGGCTAA

PK2: -21.98000(kcal/mol): PK_start=1290 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1327
(fs_start=1305)

C
GAAGGACACCAAATGAAAGATTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -18.56500(kcal/mol): PK_start=1314 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1347
(fs_start=1305)

AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGGA
AGCAAGGGG

PK4: -20.98500(kcal/mol): PK_start=1320 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1357
(fs_start=1305)

CAGC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGGCCGGAGG GGAA
TCTTCA
GAACTT

PK4B: -25.14500(kcal/mol): PK_start=1320 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1383
(fs_start=1305)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA GGGG
CCCCAC
GAACTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(635) AJ866553
=====

PK1: -15.10000(kcal/mol): PK_start=2041 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2069
(fs_start=2061)

CA
GAAGGGAAGGACACCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.94000(kcal/mol): PK_start=2046 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2083
(fs_start=2061)

C
GAAGGACACCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTT
GGAAAAT

PK3: -17.955000(kcal/mol): PK_start=2071 sp=0 s1=3 s2=8 l1=2 l2=12 l3=0 PK_end=2106
(fs_start=2061)

AA
CTGAGAGACAGGCTAATTTTTTAGGGAA
CTT TCCGTTT
AGGCCAGGGA
AACAAACAAGGG

PK4: -19.990000(kcal/mol): PK_start=2077 sp=8 s1=8 s2=4 l1=8 l2=4 l3=1 PK_end=2112
(fs_start=2061)

TCAACAAC
GACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GACCGGAG G GAAA
CTTTC
GGAA

=====
(636) AJ866554
=====

PK1: -15.585000(kcal/mol): PK_start=2067 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=2095
(fs_start=2087)

A
GGAAAGAAGGACACCAACTGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -21.940000(kcal/mol): PK_start=2072 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=2109
(fs_start=2087)

C
GAAGGACACCAACTGAAAGACTGTACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTCC
GGAAAAT

PK3: -22.240000(kcal/mol): PK_start=2095 sp=0 s1=4 s2=7 l1=3 l2=10 l3=0 PK_end=2129
(fs_start=2087)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGAA
CCCT CCGTTT
GGCCAGGAA
AGCAAGGGGA

PK4: -24.585000(kcal/mol): PK_start=2102 sp=7 s1=9 s2=4 l1=6 l2=6 l3=0 PK_end=2139
(fs_start=2087)

CCAGCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTC
GGACCGGAG GGGG
TCCTCA
AAATTT

PK4B: -26.865000(kcal/mol): PK_start=2102 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2165
(fs_start=2087)

CCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTTCCTCAGAGCAGACCAGAACCAACAG

=====
(637) AJ866556
=====

PK1: -12.360000(kcal/mol): PK_start=2065 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=2103
(fs_start=2096)

A
TTGGAAATGTGGGAAGGAAGGACACCAG
GTC AGAAAGT
TTTTTTAGG
CACTGAGAGACAGGCTAA

PK2: -21.940000(kcal/mol): PK_start=2081 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2118
(fs_start=2096)

C
GAAGGACACCAGATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=2105 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2138
(fs_start=2096)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AACAAAGGG

PK4: -21.815000(kcal/mol): PK_start=2111 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=2148
(fs_start=2096)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
TCCTCA
GAACTT

=====
(638) AJ866557
=====

PK1: -11.420000(kcal/mol): PK_start=2087 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=2113
(fs_start=2107)

CACA
GAAAGGAGGGACATCAAATGAAAGACTG
GAC AGAGAG

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                TTTTTTAG
            GCTAA

PK2:  -17.180000(kcal/mol): PK_start=2094 sp=0 s1=6 s2=6 l1=1 l2=10 l3=1 PK_end=2128
(fs_start=2107)
                C
GGGACATCAAATGAAAGACTGCACAGAGAGA
                TTTTTT A  ATCGGA
                TGGCCTTC
            AGGGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=2115 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=2149
(fs_start=2107)
                AAA
CACAGAGAGACAGGCTAATTTTTTTAGGGA
                CCCT   TCCGGTCT
                AGGCCAGGGA
            ACAAGGGG

PK4:  -28.475000(kcal/mol): PK_start=2122 sp=7 s1=9 s2=4 l1=6 l2=25 l3=0 PK_end=2178
(fs_start=2107)
                CCCACA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTT
                GGACCGGAG   GGGA
                CCCTCA
            GAACTTTCTTCAAAACAGGCCAGAG

PK4B:  -30.395000(kcal/mol): PK_start=2122 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=2185
(fs_start=2107)
                TCCCACAA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTT
                GGACCGGA   GGGG
                CCCC GC
            GAACTTTCTTCAAAACAGGCCAGAGCCCTCAG

=====
(639) AJ866558
=====
PK1:  -15.140000(kcal/mol): PK_start=2069 sp=0 s1=3 s2=8 l1=2 l2=5 l3=0 PK_end=2097
(fs_start=2089)
                CA
GGAAGGAAGGACACCAAATGAAGGACTG
                GAC   AGAAAGTC
                TTTTTTAGGG
            GCTAA

PK2:  -20.500000(kcal/mol): PK_start=2074 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=2110
(fs_start=2089)
                C
GAAGGACACCAAATGAAGGACTGCACTGAAAGA
                GATTTTTT A  ATCGGA

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                                TGGCCTTC
          GGAAAATC
PK3:  -23.815000(kcal/mol): PK_start=2098 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2131
(fs_start=2089)
                                AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
                                CCT   TCCGGTCT
                                AGGCCAGGAA
          AGCAAAGGG
PK4:  -27.750000(kcal/mol): PK_start=2104 sp=7 s1=7 s2=5 l1=9 l2=5 L3=0 PK_end=2141
(fs_start=2089)
                                TTCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCC
                                GGACCGG   AGGGA
                                TCCCTCA
          AAATT
=====
(640) AM000053
=====
PK1:  -15.140000(kcal/mol): PK_start=2060 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2088
(fs_start=2080)
                                CA
GGAAGGAAGGACATCAAATGAAAGACTG
                                GAC   AGAAAGTC
                                TTTTTTAGGG
          GCTAA
PK2:  -21.980000(kcal/mol): PK_start=2065 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2102
(fs_start=2080)
                                C
GAAGGACATCAAATGAAAGACTGCACTGAAAGA
                                GATTTTTT   AATCGGA
                                TTGGCCTTC
          GGAAAAT
PK3:  -20.285000(kcal/mol): PK_start=2089 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2122
(fs_start=2080)
                                AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
                                CCT   TCCGGTTT
                                AGGCCAGGGA
          AACAAAGGG
PK4:  -22.840000(kcal/mol): PK_start=2095 sp=7 s1=7 s2=4 l1=10 l2=6 L3=0 PK_end=2132
(fs_start=2080)
                                TTCCAACAAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCC
                                GGACCGG   AGGG

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                                TCCCCA
                                GAACTT

=====
(641) AM851090
=====
PK1:  -11.420000(kcal/mol): PK_start=1275 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=1301
(fs_start=1295)
                                CACA
GAAAGGAGGGACATCAAATGAAAGACTG
                                GAC   AGAGAG
                                TTTTTTAG
                                GCTAA

PK2:  -18.660000(kcal/mol): PK_start=1282 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1317
(fs_start=1295)
                                C
GGGACATCAAATGAAAGACTGCACAGAGAGA
                                TTTTTT  AATCGGA
                                TTGGCCTTC
                                AGGGAAAAT

PK3:  -23.745000(kcal/mol): PK_start=1303 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1337
(fs_start=1295)
                                AAA
CACAGAGAGACAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTTT
                                AGGCCAGGAA
                                ACAAGGGG

PK4:  -18.485000(kcal/mol): PK_start=1310 sp=7 s1=9 s2=4 l1=6 l2=5 L3=0 PK_end=1346
(fs_start=1295)
                                CCCACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
                                GGACCGGAG  GGGA
                                TTCTCC
                                AAATT

PK4B:  -26.865000(kcal/mol): PK_start=1310 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1373
(fs_start=1295)
                                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                                GGACCGGA  GGGG
                                CCCCAC
                                AAATTTTCTCCAGAGCAGGCCAGAGCCAACAG

=====
(642) AM851091
=====
PK1:  -12.455000(kcal/mol): PK_start=2061 sp=0 s1=4 s2=6 l1=2 l2=5 L3=0 PK_end=2087
(fs_start=2081)
                                AC
GAAGAGAGGGACATCAAATGAAAGACTGT

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          GACA   GAGAGA
                TTTTTTAG
    GCTAA
PK2:  -16.02000(kcal/mol): PK_start=2068 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=2103
(fs_start=2081)
                C
    GGGACATCAAATGAAAGACTGTACAGAGAGA
                TTTTTT   AATCGGA
                TTGGTCTCC
    AGGGAAAAT
PK3:  -19.60000(kcal/mol): PK_start=2089 sp=0 s1=4 s2=7 l1=3 l2=10 L3=0 PK_end=2123
(fs_start=2081)
                AAA
    TACAGAGAGACAGGCTAATTTTTTAGGGA
                CCCT   CTGGTTT
                GGCCAGGGA
    AACAAAGGGA
PK4:  -20.74500(kcal/mol): PK_start=2096 sp=7 s1=10 s2=4 l1=4 l2=3 L3=0 PK_end=2130
(fs_start=2081)
                CAAC
    AGACAGGCTAATTTTTTAGGGAAAATTTGGTCTCC
                GGACCGGAGG   GAAA
                TTTTCT
    GAA
=====
(643) AP005206
=====
PK1:  -15.02500(kcal/mol): PK_start=1260 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1288
(fs_start=1280)
                A
    GAAAGGAAGGACACCAAATGAAAGACTGT
                GACG   GAAAGTC
                TTTTTAGGG
    GCGAAT
PK2:  -13.90500(kcal/mol): PK_start=1265 sp=0 s1=7 s2=5 l1=5 l2=5 L3=0 PK_end=1298
(fs_start=1280)
                GCAGG
    GAAGGACACCAAATGAAAGACTGTACTGAAAG
                GATTTTT   TAAGC
                ATTTGGC
    GGAAA
PK3:  -23.74500(kcal/mol): PK_start=1288 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1322
(fs_start=1280)
                AAA
    TACTGAAAGGCAGGCGAATTTTTTAGGGA

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          CCCT   TCCGGTTT
                AGGCCAGGGA
ACAAGGGG
PK4:  -23.985000(kcal/mol): PK_start=1295 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1333
(fs_start=1280)
                TCCCACAA
AGGCAGGCGAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA   GGGG
                CTCCAG
          GAATTC

PK4B:  -26.865000(kcal/mol): PK_start=1295 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1358
(fs_start=1280)
                TCCCACAA
AGGCAGGCGAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA   GGGG
                CCCC GC
          GAATTCCTCCAGAGCAGACCAGAGCCAACAG

=====
(644) AP005207
=====
PK1:  -15.025000(kcal/mol): PK_start=1260 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1288
(fs_start=1280)
                A
GAAAGGAAGGACACCAAATGAAAGACTGT
                GACG   GAAAGTC
                TTTTTAGGG
          GCGAAT

PK2:  -13.905000(kcal/mol): PK_start=1265 sp=0 s1=7 s2=5 l1=5 l2=5 L3=0 PK_end=1298
(fs_start=1280)
                GCAGG
GAAGGACACCAAATGAAAGACTGTACTGAAAG
                GATTTTT   TAAGC
                ATTTGGC
          GGAAA

PK3:  -23.245000(kcal/mol): PK_start=1286 sp=0 s1=5 s2=8 l1=4 l2=7 L3=0 PK_end=1322
(fs_start=1280)
                AAAA
TGTA CTGAAAGGCAGGCGAATTTTTTAGGG
                ATCCT   TCCGGTTT
                AGGCCAGGGA
          CAAAGGG

PK4:  -21.815000(kcal/mol): PK_start=1295 sp=7 s1=8 s2=4 l1=8 l2=5 L3=0 PK_end=1331
(fs_start=1280)
                TCCTACAA
AGGCAGGCGAATTTTTTAGGGAAAATTTGGCCT

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                GGACCGGA    GGGA
                    TCCTCC
    GAATT
=====
(645) AX032749
=====
PK1:  -13.555000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2092
(fs_start=2084)
                    A
    GAAAGGAAGGACACCAAATGAAAGATTGT
                GACA    GAGAGTC
                    TTTTtaggg
    GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2105
(fs_start=2084)
                    C
    GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT A  ATCGGA
                    TGGCCTTC
    GGAAGATC
PK3:  -26.110000(kcal/mol): PK_start=2092 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=2126
(fs_start=2084)
                    A
    TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                CCCTTC    CGGTCT
                    GCCAGGGA
    ACAAGGGAAG
PK4:  -26.715000(kcal/mol): PK_start=2099 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2136
(fs_start=2084)
                    CCAC
    AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
                GGACCGGAAG    GGAA
                    TCTTCA
    GAATTT
=====
(646) AX078307
=====
PK1:  -13.555000(kcal/mol): PK_start=1387 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1415
(fs_start=1407)
                    A
    GAAAGGAAGGACACCAAATGAAAGATTGT
                GACA    GAGAGTC
                    TTTTtaggg
    GCTAAT

```

PK2: -20.460000(kcal/mol): PK_start=1392 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1428 (fs_start=1407)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1415 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1449 (fs_start=1407)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1422 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1459 (fs_start=1407)

CTAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

PK4B: -23.215000(kcal/mol): PK_start=1422 sp=7 s1=8 s2=4 l1=8 l2=41 L3=0 PK_end=1494 (fs_start=1407)

TCCTACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGG
TTCTTC
GAATTTTCTTCAGAGCAGACCAGAGCCAACAGCCCCACCAT

=====
(647) AX149647
=====

PK1: -13.555000(kcal/mol): PK_start=1426 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1454 (fs_start=1446)

A
GAAAAGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCCAAT

PK2: -21.340000(kcal/mol): PK_start=1431 sp=0 s1=8 s2=5 l1=2 l2=8 L3=1 PK_end=1466 (fs_start=1446)

CA
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ACCGG
TGGCCCT
GGAAAATC

PK3: -29.030000(kcal/mol): PK_start=1454 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1488
(fs_start=1446)

AAA
TACTGAGAGACAGGCCAATTTTTTAGGGA
CCCT CCCGGTCT
GGGCCAGGGA
ACAAGGGA

PK4: -29.045000(kcal/mol): PK_start=1461 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1498
(fs_start=1446)

CCAC
AGACAGGCCAATTTTTTAGGGAAAATCTGGCCCTC
GGACCGGGAG GGAA
TCTTCA
GAATTT

=====
(648) AX149672
=====

PK1: -13.555000(kcal/mol): PK_start=1426 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1454
(fs_start=1446)

A
GAAAAGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCCAAT

PK2: -21.340000(kcal/mol): PK_start=1431 sp=0 s1=8 s2=5 l1=2 l2=8 L3=1 PK_end=1466
(fs_start=1446)

CA
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ACCGG
TGGCCCT
GGAAAATC

PK3: -29.030000(kcal/mol): PK_start=1454 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1488
(fs_start=1446)

AAA
TACTGAGAGACAGGCCAATTTTTTAGGGA
CCCT CCCGGTCT
GGGCCAGGGA
ACAAGGGA

PK4: -29.045000(kcal/mol): PK_start=1461 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1498
(fs_start=1446)

CCAC
AGACAGGCCAATTTTTTAGGGAAAATCTGGCCCTC
GGACCGGGAG GGAA
TCTTCA
GAATTT

=====
(649) AX149771
=====

PK1: -13.555000(kcal/mol): PK_start=1426 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1454
(fs_start=1446)

A
GAAAAGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCCAAT

PK2: -21.340000(kcal/mol): PK_start=1431 sp=0 s1=8 s2=5 l1=2 l2=8 L3=1 PK_end=1466
(fs_start=1446)

CA
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ACCGG
TGGCCCT
GGAAAATC

PK3: -29.030000(kcal/mol): PK_start=1454 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1488
(fs_start=1446)

AAA
TACTGAGAGACAGGCCAATTTTTTAGGGA
CCCT CCCGGTCT
GGGCCAGGGA
ACAAGGGA

PK4: -29.045000(kcal/mol): PK_start=1461 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1498
(fs_start=1446)

CCAC
AGACAGGCCAATTTTTTAGGGAAAATCTGGCCCTC
GGACCGGGAG GGAA
TCTTCA
GAATTT

=====
(650) AX149898
=====

PK1: -13.555000(kcal/mol): PK_start=1426 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1454
(fs_start=1446)

A
GAAAAGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCCAAT

PK2: -21.340000(kcal/mol): PK_start=1431 sp=0 s1=8 s2=5 l1=2 l2=8 L3=1 PK_end=1466
(fs_start=1446)

CA
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ACCGG

```

                                TGGCCCT
          GGAAAATC
PK3:  -29.030000(kcal/mol): PK_start=1454 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1488
(fs_start=1446)
                                AAA
TACTGAGAGACAGGCCAATTTTTTAGGGA
                                CCCT   CCCGGTCT
                                GGGCCAGGGA
          ACAAGGGA
PK4:  -29.045000(kcal/mol): PK_start=1461 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1498
(fs_start=1446)
                                CCAC
AGACAGGCCAATTTTTTAGGGAAAATCTGGCCCTC
                                GGACCGGGAG   GGAA
                                TCTTCA
          GAATTT
=====
(651) AX455917
=====
PK1:  -14.985000(kcal/mol): PK_start=2051 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2079
(fs_start=2071)
                                A
GACAGGAAGGACACCAAATGAAAGACTGT
                                GACG   GAGAGTC
                                TTTTTAGGG
          GCTAAT
PK2:  -20.330000(kcal/mol): PK_start=2056 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2093
(fs_start=2071)
                                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
                                GATTTTTT   AATCGGA
                                TTGGCCTTC
          GGAAAAT
PK3:  -23.745000(kcal/mol): PK_start=2079 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2113
(fs_start=2071)
                                AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTTT
                                AGGCCAGGGA
          ACAAGGGG
PK4:  -23.985000(kcal/mol): PK_start=2086 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=2124
(fs_start=2071)
                                TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
                                GGACCGGA   GGGG

```

CTCCAG

GAATTTTC

PK4B: -26.865000(kcal/mol): PK_start=2086 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2149
(fs_start=2071)

TCCCACAA

AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG

CCCCAC

GAATTTCTCCAGAACAGACCAGAGCCAACAG

=====

(652) AX455929

=====

PK1: -14.985000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2092
(fs_start=2084)

A

GAAAGGAAGGACACCAAATGAAAGACTGT

GACG GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.330000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2106
(fs_start=2084)

C

GAAGGACACCAAATGAAAGACTGTACTGAGAGG

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=2092 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2126
(fs_start=2084)

AAA

TACTGAGAGGCAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT

AGGCCAGGGA

ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=2099 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2136
(fs_start=2084)

CCAC

AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC

GGACCGGAGG GGAA

CCTTCA

GAATTT

PK4B: -26.865000(kcal/mol): PK_start=2099 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2162
(fs_start=2084)

TCCCACAA

AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG

CCCCAC
GAATTTCCCTTCAGAGCAGACCAGAGCCAACAG

=====
(653) AY008714
=====

PK1: -15.100000(kcal/mol): PK_start=1290 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1318
(fs_start=1310)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1295 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1332
(fs_start=1310)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1319 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1352
(fs_start=1310)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGGA
AACAAGGGA

PK4: -21.195000(kcal/mol): PK_start=1325 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1362
(fs_start=1310)

TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA AGGGA
TTCTCA
GAATT

=====
(654) AY008715
=====

PK1: -15.025000(kcal/mol): PK_start=1256 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1284
(fs_start=1276)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAAAGTC
TTTTTAGGG
GCGAAT

PK2: -6.275000(kcal/mol): PK_start=1270 sp=0 s1=3 s2=6 l1=1 l2=4 L3=0 PK_end=1292
(fs_start=1276)

C
CAAATGAAAGACTGTACTGAAAGGCAGG

TTT TTTAAG
 AAATTTTG
 AGGG
 PK3: -23.275000(kcal/mol): PK_start=1284 sp=0 s1=4 s2=9 l1=2 l2=8 L3=0 PK_end=1319
 (fs_start=1276)
 AA
 TACTGAAAGGCAGGCGAATTTTTTAGGGA

CCCT TCCGGTTTT
 AGGCCAGGGAA
 ACAAGGGG
 PK4: -23.515000(kcal/mol): PK_start=1290 sp=6 s1=9 s2=4 l1=8 l2=6 L3=0 PK_end=1329
 (fs_start=1276)

TCCCACAA
 AAGGCAGGCGAATTTTTTAGGGAAATTTTGGCCT
 GGGACCGGA GGGG
 CTCCAG
 AATTC

PK4B: -26.395000(kcal/mol): PK_start=1290 sp=6 s1=9 s2=4 l1=8 l2=31 L3=0 PK_end=1354
 (fs_start=1276)
 TCCCACAA
 AAGGCAGGCGAATTTTTTAGGGAAATTTTGGCCT
 GGGACCGGA GGGG
 CCCCAC
 AATTCCTCCAGAGCAGACCAGAGCCAACAG

=====
 (655) AY008716
 =====

PK1: -15.025000(kcal/mol): PK_start=1262 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1290
 (fs_start=1282)
 A
 GAAAGGAAGGGCACCAAATGAAAGACTGT
 GACG GAAAGTC
 TTTTTAGGG
 GCGAAT

PK2: -6.275000(kcal/mol): PK_start=1276 sp=0 s1=3 s2=6 l1=1 l2=4 L3=0 PK_end=1298
 (fs_start=1282)
 C
 CAAATGAAAGACTGTACTGAAAGGCAGG
 TTT TTTAAG
 AAATTTTG
 AGGG

PK3: -23.275000(kcal/mol): PK_start=1290 sp=0 s1=4 s2=9 l1=2 l2=8 L3=0 PK_end=1325
 (fs_start=1282)
 AA
 TACTGAAAGGCAGGCGAATTTTTTAGGGA

```

          CCCT   TCCGGTTTT
                AGGCCAGGGAA
ACAAGGGG

PK4:  -23.515000(kcal/mol): PK_start=1296 sp=6 s1=9 s2=4 l1=8 l2=6 L3=0 PK_end=1335
(fs_start=1282)
                TCCCACAA
AAGGCAGGCGAATTTTTTAGGGAAATTTTGGCCT
                GGGACCGGA   GGGG
                CTCCAG
          AATTTC

PK4B:  -26.395000(kcal/mol): PK_start=1296 sp=6 s1=9 s2=4 l1=8 l2=31 L3=0 PK_end=1360
(fs_start=1282)
                TCCCACAA
AAGGCAGGCGAATTTTTTAGGGAAATTTTGGCCT
                GGGACCGGA   GGGG
                CCCCAC
          AATTTCTCCAGAGCAGACCAGAGCCAACAG

=====
(656) AY008717
=====
PK1:  -15.025000(kcal/mol): PK_start=1256 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1284
(fs_start=1276)
                A
GAAAGGAAGGACACCAAATGAAAGACTGT
                GACG   GAAAGTC
                TTTTTAGGG
          GCGAAT

PK2:  -6.275000(kcal/mol): PK_start=1270 sp=0 s1=3 s2=6 l1=1 l2=4 L3=0 PK_end=1292
(fs_start=1276)
                C
CAAATGAAAGACTGTACTGAAAGGCAGG
                TTT   TTTAAG
                AAATTTTG
          AGGG

PK3:  -23.275000(kcal/mol): PK_start=1284 sp=0 s1=4 s2=9 l1=2 l2=8 L3=0 PK_end=1319
(fs_start=1276)
                AA
TACTGAAAGGCAGGCGAATTTTTTAGGGA
                CCCT   TCCGGTTTT
                AGGCCAGGGAA
          ACAAGGGG

PK4:  -26.395000(kcal/mol): PK_start=1290 sp=6 s1=9 s2=4 l1=8 l2=31 L3=0 PK_end=1354
(fs_start=1276)
                TCCCACAA
AAGGCAGGCGAATTTTTTAGGGAAATTTTGGCCT

```

GGGACCGGA GGGG
CCCCAC
AATTTTCTCCAGAGCAGACCAGAGCCAACAG

=====
(657) AY008718
=====

PK1: -15.100000(kcal/mol): PK_start=1265 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1293
(fs_start=1285)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1270 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1307
(fs_start=1285)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1294 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1327
(fs_start=1285)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGGA
ACAAGGGA

PK4: -21.195000(kcal/mol): PK_start=1300 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1337
(fs_start=1285)

TCCAACA
AGACAGGCTAATTTTTTAGGAAAATTTGGCCT
GGCCGGA AGGGA
TTCCTCA
GAATT

=====
(658) AY037266
=====

PK1: -15.140000(kcal/mol): PK_start=1257 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1285
(fs_start=1277)

CA
GAAGAGAAGGACACCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -21.980000(kcal/mol): PK_start=1262 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1299
(fs_start=1277)

C
GAAGGACACCAAATGAAAGACTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -18.320000(kcal/mol): PK_start=1286 sp=0 s1=4 s2=4 l1=5 l2=10 L3=0 PK_end=1316
(fs_start=1277)

AATTT
ACTGAAAGACAGGCTAATTTTTTAGGGAA
CCTT CCGG
GGCCCG
AACAGTGGGA

PK4: -24.435000(kcal/mol): PK_start=1295 sp=10 s1=5 s2=5 l1=7 l2=36 L3=0 PK_end=1357
(fs_start=1277)

TCCAACA
CAGGCTAATTTTTTAGGGAAAATTTGGCCT
CCGGA GGGTG
CCCGCA
CGGGAATTTCTTCAGAACAGGCCAGAGCCAACAGC

=====
(659) AY037267
=====

PK1: -15.140000(kcal/mol): PK_start=1254 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1282
(fs_start=1274)

CA
GAAGAGAAGGACACCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -21.980000(kcal/mol): PK_start=1259 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1296
(fs_start=1274)

C
GAAGGACACCAAATGAAAGACTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -21.780000(kcal/mol): PK_start=1282 sp=0 s1=5 s2=4 l1=5 l2=9 L3=0 PK_end=1313
(fs_start=1274)

AATTT
CACTGAAAGACAGGCTAATTTTTTAGGGAA
CCCTT CCGG
GGCCCG
ACAAGGGGA

PK4: -22.82000(kcal/mol): PK_start=1292 sp=10 s1=7 s2=4 l1=4 l2=9 l3=0 PK_end=1326
(fs_start=1274)

CCAC
CAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
CCGGAGG GGAA
CCTTCA
CGGAAATTT

PK4B: -24.675000(kcal/mol): PK_start=1292 sp=10 s1=5 s2=4 l1=8 l2=35 l3=0
PK_end=1352 (fs_start=1274)

TCCCACAA
CAGGCTAATTTTTTAGGGAAAATTTGGCCT
CCGGA GGGG
CCCCGC
CGGAAATTTCTTCAGAACAGACCAGAGCCAACAG

=====
(660) AY037268
=====

PK1: -13.555000(kcal/mol): PK_start=1269 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1297
(fs_start=1289)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1310
(fs_start=1289)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1297 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1331
(fs_start=1289)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -24.995000(kcal/mol): PK_start=1304 sp=7 s1=8 s2=4 l1=8 l2=6 l3=0 PK_end=1341
(fs_start=1289)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGG
TCTCCA
GAATTT

=====
(661) AY037269
=====

PK1: -13.555000(kcal/mol): PK_start=1269 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1297
(fs_start=1289)

A
GAAGGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1310
(fs_start=1289)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATA

PK3: -21.005000(kcal/mol): PK_start=1298 sp=0 s1=3 s2=6 l1=5 l2=9 L3=0 PK_end=1329
(fs_start=1289)

AAATA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGT
AGGCCAGG
AACAGCGGA

PK4: -21.130000(kcal/mol): PK_start=1306 sp=9 s1=5 s2=4 l1=10 l2=6 L3=0 PK_end=1339
(fs_start=1289)

TTCCAACAGC
ACAGGCTAATTTTTTAGGGAAAATATGGCC
ACCGG AAGG
TTCCTT
GGGAAT

=====
(662) AY037270
=====

PK1: -13.245000(kcal/mol): PK_start=1282 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1309
(fs_start=1301)

A
AAAGGAAGGACACCAAATGAAAGAGTGT
ACA GAAAGTC
TTTTTAGGG
GGCTAAT

PK2: -20.500000(kcal/mol): PK_start=1286 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1322
(fs_start=1301)

C
GAAGGACACCAAATGAAAGAGTGTACTGAAAGA
GATTTTTT A ATCGGA

```

                                TGGCCTTC
                GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1309 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1343
(fs_start=1301)
                                AAA
TACTGAAAGACAGGCTAATTTTTTTAGGGA
                                CCCT   TCCGGTCT
                                AGGCCAGGGA
                ACAAAGGG
PK4:  -23.415000(kcal/mol): PK_start=1316 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1353
(fs_start=1301)
                                CCCACA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTT
                                GGACCGGAG   GGAA
                                TCTTCA
                GAATTT
=====
(663) AY037271
=====
PK1:  -15.140000(kcal/mol): PK_start=1254 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1282
(fs_start=1274)
                                CA
GAAAAGAAGGACACCAAATGAAAGACTG
                                GAC   AGAAAGTC
                                TTTTTTAGGG
                GCTAA
PK2:  -21.980000(kcal/mol): PK_start=1259 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1296
(fs_start=1274)
                                C
GAAGGACACCAAATGAAAGACTGCACTGAAAGA
                                GATTTTTT   AATCGGA
                                TTGGCCTTC
                GGAAAAT
PK3:  -18.320000(kcal/mol): PK_start=1283 sp=0 s1=4 s2=4 l1=5 l2=10 L3=0 PK_end=1313
(fs_start=1274)
                                AATTT
ACTGAAAGACAGGCTAATTTTTTTAGGGAA
                                CCTT   CCGG
                                GGCCCG
                AACAAGGGGA
PK4:  -22.820000(kcal/mol): PK_start=1292 sp=10 s1=7 s2=4 l1=4 l2=9 L3=0 PK_end=1326
(fs_start=1274)
                                CAAC
CAGGCTAATTTTTTTAGGGAAAATTTGGCCTTC
                                CCGGAGG   GGAA

```

CCTTCA

CGGAAATTT

PK4B: -24.675000(kcal/mol): PK_start=1292 sp=10 s1=5 s2=4 l1=8 l2=35 L3=0
 PK_end=1352 (fs_start=1274)

TCCAACAA

CAGGCTAATTTTTTAGGGAAAATTTGGCCT

CCGGA GGGG

CCCCGC

CGGAAATTTCCCTTCAGAACAGGCCAGAACCAACAG

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(664) AY037272

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PK1: -15.140000(kcal/mol): PK_start=1254 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1282
 (fs_start=1274)

CA

GAAAAGAAGGACACCAAATGAAAGACTG

GAC AGAAAGTC

TTTTTTAGGG

GCTAA

PK2: -21.980000(kcal/mol): PK_start=1259 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1296
 (fs_start=1274)

C

GAAGGACACCAAATGAAAGACTGCACTGAAAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -21.780000(kcal/mol): PK_start=1282 sp=0 s1=5 s2=4 l1=5 l2=9 L3=0 PK_end=1313
 (fs_start=1274)

AATTT

CACTGAAAGACAGGCTAATTTTTTAGGGAA

CCCTT CCGG

GGCCCG

ACAAGGGGA

PK4: -22.820000(kcal/mol): PK_start=1292 sp=10 s1=7 s2=4 l1=4 l2=9 L3=0 PK_end=1326
 (fs_start=1274)

CCAC

CAGGCTAATTTTTTAGGGAAAATTTGGCCTTC

CCGGAGG GGAA

CCTTCA

CGGAAATTT

PK4B: -24.675000(kcal/mol): PK_start=1292 sp=10 s1=5 s2=4 l1=8 l2=35 L3=0
 PK_end=1352 (fs_start=1274)

TCCCACAA

CAGGCTAATTTTTTAGGGAAAATTTGGCCT

CCGGA GGGG

CCCCGC
CGGAAATTTTCCTTCAGAACAGGCCAGAGCCAACAG

=====
(665) AY037275
=====

PK1: -15.370000(kcal/mol): PK_start=1254 sp=0 s1=3 s2=9 l1=1 l2=5 L3=0 PK_end=1283
(fs_start=1274)

C
GAAGAGAAGGACACCAAATGAAAGACTG
GAC AGAAAGTCT
TTTTTTTAGGGA
GCTAA

PK2: -25.320000(kcal/mol): PK_start=1257 sp=0 s1=10 s2=7 l1=1 l2=5 L3=0 PK_end=1296
(fs_start=1274)

C
GAGAAGGACACCAAATGAAAGACTGCTCTGAAAGA
GGGATTTTTT AATCGGA
TTGGCCTTC
AGAAT

PK3: -21.815000(kcal/mol): PK_start=1282 sp=0 s1=5 s2=4 l1=5 l2=9 L3=0 PK_end=1313
(fs_start=1274)

AATTT
CTCTGAAAGACAGGCTAATTTTTTTAGGGAG
CCCTT CCGG
GGCCTG
ACAAGGGGA

PK4: -22.820000(kcal/mol): PK_start=1292 sp=10 s1=7 s2=4 l1=4 l2=9 L3=0 PK_end=1326
(fs_start=1274)

CCAC
CAGGCTAATTTTTTTAGGGAGAATTTGGCCTTC
CCGGAG GGAA
CCTTCA
TGGAATTT

PK4B: -23.355000(kcal/mol): PK_start=1292 sp=10 s1=6 s2=4 l1=6 l2=35 L3=0
PK_end=1352 (fs_start=1274)

CCCACA
CAGGCTAATTTTTTTAGGGAGAATTTGGCCTT
CCGGAG GGGA
CCCTGG
TGGAATTTTCCTTCAGAACAGGCCAGAGCCAACAG

=====
(666) AY037277
=====

PK1: -15.140000(kcal/mol): PK_start=1254 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1282
(fs_start=1274)

CA
GAAGAGAAGGACACCAAATGAAAGACTG

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                GAC    AGAAAGTC
                TTTTTTAGGG
        GCTAA

PK2:  -21.980000(kcal/mol): PK_start=1259 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1296
(fs_start=1274)
                C
GAAGGACACCAAATGAAAGACTGCACTGAAAGA
                GATTTTTT    AATCGGA
                TTGGCCTTC
        GGAAAAT

PK3:  -18.720000(kcal/mol): PK_start=1283 sp=0 s1=4 s2=4 l1=5 l2=10 L3=0 PK_end=1313
(fs_start=1274)
                AATTT
ACTGAAAGACAGGCTAATTTTTTAGGGAA
                CCTT    CCGG
                GCCTG
        AACAAGGGGA

PK4:  -22.820000(kcal/mol): PK_start=1292 sp=10 s1=7 s2=4 l1=4 l2=9 L3=0 PK_end=1326
(fs_start=1274)
                CAAC
CAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
                CCGGAGG    GGAA
                CCTTCA
        TGGAAATTT

PK4B:  -23.355000(kcal/mol): PK_start=1292 sp=10 s1=6 s2=4 l1=6 l2=35 L3=0
PK_end=1352 (fs_start=1274)
                CCAACA
CAGGCTAATTTTTTAGGGAAAATTTGGCCTT
                CCGGAG    GGGA
                CCCTGG
        TGGAAATTTCTTCAGAACAGGCCAGAGCCAACAG

=====
(667) AY037278
=====

PK1:  -15.140000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
(fs_start=1283)
                CA
GAAAAGAAGGACACCAAATGAAAGACTG
                GAC    AGAAAGTC
                TTTTTTAGGG
        GCTAA

PK2:  -21.980000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)
                C
GAAGGACACCAAATGAAAGACTGCACTGAAAGA

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          GATTTTTT   AATCGGA
                    TTGGCCTTC
GGAAAAT

PK3:  -22.025000(kcal/mol): PK_start=1291 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1325
(fs_start=1283)
          AAA
CACTGAAAGACAGGCTAATTTTTTAGGGA

          CCCT   TCCGGTTT
                    AGGCCGGGAA
          ACAAGGGG

PK4:  -22.265000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1336
(fs_start=1283)
                    TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

          GGGCCGGA   GGGG
                    CTCCAG
          AAATTTTC

PK4B:  -25.145000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1361
(fs_start=1283)
                    TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

          GGGCCGGA   GGGG
                    CCCCAC
          AAATTTCTCCAGAACAGGCCAGCCAACAG

=====
(668) AY037280
=====
PK1:  -15.100000(kcal/mol): PK_start=1260 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1288
(fs_start=1280)
          CA
GAAAAGAAGGACACCAAATGAAAGACTG

          GAC   AGAGAGTC
                    TTTTTTAGGG
          GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1265 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1302
(fs_start=1280)
          C
GAAGGACACCAAATGAAAGACTGCACTGAGAGA

          GATTTTTT   AATCGGA
                    TTGGCCTTC
          GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1289 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1322
(fs_start=1280)
          AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA

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          CCT      TCCGGTTT
                AGGCCAGGGA
          AACAAAGGGG

PK4:  -25.010000(kcal/mol): PK_start=1295 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1332
(fs_start=1280)
                CAAC
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTTC
                GGACCGGAGG      GGAA
                                CCTTCA
          GAATTT

PK4B:  -26.865000(kcal/mol): PK_start=1295 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1358
(fs_start=1280)
                TCCAACAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
                GGACCGGA      GGGG
                                CCCAC
          GAATTTCCCTTCAGAACAGGCCAGAGCCGACAG

=====
(669) AY037281
=====
PK1:  -15.140000(kcal/mol): PK_start=1278 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1306
(fs_start=1298)
                CA
GAAGAGAAGGACACCAAATGAAAGACTG
                GAC      AGAAAGTC
                                TTTTTTTAGGG
          GCTAA

PK2:  -21.980000(kcal/mol): PK_start=1283 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1320
(fs_start=1298)
                C
GAAGGACACCAAATGAAAGACTGCACTGAAAGA
                GATTTTTT      AATCGGA
                                TTGGCCTTC
          GGAAAAT

PK3:  -18.320000(kcal/mol): PK_start=1307 sp=0 s1=4 s2=4 l1=5 l2=10 L3=0 PK_end=1337
(fs_start=1298)
                AATTT
ACTGAAAGACAGGCTAATTTTTTTAGGGAA
                CCTT      CCGG
                                GGCCCG
          AACAAAGGGGA

PK4:  -22.820000(kcal/mol): PK_start=1316 sp=10 s1=7 s2=4 l1=4 l2=9 L3=0 PK_end=1350
(fs_start=1298)
                CAAC
CAGGCTAATTTTTTTAGGGAAAATTTGGCCTTC

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CCGGAGG GGAA
 CCTTCA
 CGGAAATTT

PK4B: -24.675000(kcal/mol): PK_start=1316 sp=10 s1=5 s2=4 l1=8 l2=35 L3=0
 PK_end=1376 (fs_start=1298)

TCCAACAA
 CAGGCTAATTTTTTAGGGAAAATTTGGCCT

CCGGA GGGG
 CCCCCG
 CGGAAATTTTCCTTCAGAACAGGCCAGAGCCAACAG

=====
 (670) AY037282
 =====

PK1: -13.555000(kcal/mol): PK_start=1269 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1297
 (fs_start=1289)

A
 GAAAGGAAGGACACCAAATGAAGGATTGT

GACA GAGAGTC
 TTTTTAGGG
 GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1310
 (fs_start=1289)

C
 GAAGGACACCAAATGAAGGATTGTACTGAGAGA

GATTTTTT A ATCGGA
 TGGCCTTC
 GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1297 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1331
 (fs_start=1289)

AAA
 TACTGAGAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT
 AGGCCAGGGA
 ACAAAGGA

PK4: -24.115000(kcal/mol): PK_start=1304 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1341
 (fs_start=1289)

TCCCACA
 AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT

GGACCGGA AGGAA
 TTCTTCA
 GAATT

=====
 (671) AY037283
 =====

PK1: -15.140000(kcal/mol): PK_start=1254 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1282
(fs_start=1274)

CA
GAAGAGAAGGACACCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -21.980000(kcal/mol): PK_start=1259 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1296
(fs_start=1274)

C
GAAGGACACCAAATGAAAGACTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1283 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1316
(fs_start=1274)

AAA
ACTGAAAGACAGGCTAATTTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1289 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1326
(fs_start=1274)

CAAC
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
AAATTT

PK4B: -26.865000(kcal/mol): PK_start=1289 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1352
(fs_start=1274)

TCCAACAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCGC
AAATTTTCCTTCAGAACAGGCCAGAGCCAACAG

=====
(672) AY043173
=====

PK1: -14.985000(kcal/mol): PK_start=1263 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1291
(fs_start=1283)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1291 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1325
(fs_start=1283)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1298 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1335
(fs_start=1283)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1361
(fs_start=1283)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCCTTCAGAACAGACCAGAGCCAACAG

=====
(673) AY043174
=====

PK1: -14.985000(kcal/mol): PK_start=1260 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1288
(fs_start=1280)

A
GGAAAGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1265 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1302
(fs_start=1280)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1288 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1322
(fs_start=1280)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1295 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1332
(fs_start=1280)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1295 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1358
(fs_start=1280)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCCCTTCAGAGCAGGCCAGCCAACAG

=====
(674) AY043175
=====

PK1: -15.025000(kcal/mol): PK_start=1263 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1291
(fs_start=1283)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.370000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)

C
GAAGGACACCAAATGAAAGACTGTACTGAAAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1291 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1325
(fs_start=1283)

AAA
TACTGAAAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1298 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1335
(fs_start=1283)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1361
(fs_start=1283)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCCCTCAGAACAGACCAGAGCCAACAG

=====
(675) AY043176
=====

PK1: -12.195000(kcal/mol): PK_start=1263 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1291
(fs_start=1283)

A
GAAAGGAAGGACATCAAATGAAAGACTGT
GACG GAAAGTT
TTTTTAGGG
GCTAAT

PK2: -18.340000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)

C
GAAGGACATCAAATGAAAGACTGTATTGAAAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAGAT

PK3: -22.580000(kcal/mol): PK_start=1291 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1325
(fs_start=1283)

A
TATTGAAAGGCAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTTT
GCCAGGAA
ACAAGGGGAG

PK4: -25.010000(kcal/mol): PK_start=1298 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1335
(fs_start=1283)

CCAC
AGGCAGGCTAATTTTTTAGGGAAGATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
AAATTT

PK4B: -26.865000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1361
(fs_start=1283)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAGATTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTTCCTTCAGAACAGGCCAGGCCAACAG

=====
(676) AY046058
=====

PK1: -21.180000(kcal/mol): PK_start=1323 sp=0 s1=6 s2=7 l1=5 l2=14 L3=1 PK_end=1367
(fs_start=1361)

TCAAA
RGGGCTGTTGAAATGTGGGAAGGAAGGGCA
TCCCGT C AGAAAGT
TTTTTTAGG
GAGAGACAGGCTAA

PK2: -28.160000(kcal/mol): PK_start=1344 sp=0 s1=10 s2=7 l1=1 l2=5 L3=0 PK_end=1383
(fs_start=1361)

C
AGGAAGGGCATCAAATGAAAGACTGCCCTGAGAGA
GGGATTTTTT AATCGGA
TTGGCCTTC
AGGAT

PK3: -18.840000(kcal/mol): PK_start=1369 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1403
(fs_start=1361)

GA
CCCTGAGAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTTT
GCCAGGGA
AGCAAGGGAAG

PK4: -22.915000(kcal/mol): PK_start=1376 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1413
(fs_start=1361)

TCCAGCA
AGACAGGCTAATTTTTTAGGGAGGATTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(677) AY049708
=====

PK1: -12.705000(kcal/mol): PK_start=1458 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1485
(fs_start=1477)

A
AAAGGAAGGACACCAAATGAAAGAATGT
ACG GAGAGTC

TTTTTAGGG
GGCTAAT
PK2: -20.330000(kcal/mol): PK_start=1462 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1499
(fs_start=1477)

C
GAAGGACACCAAATGAAAGAATGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1485 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1519
(fs_start=1477)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGA

PK4: -25.490000(kcal/mol): PK_start=1492 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1529
(fs_start=1477)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(678) AY049709
=====

PK1: -12.705000(kcal/mol): PK_start=1458 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1485
(fs_start=1477)

A
AAAGGAAGGACACCAAATGAAAGAATGT
ACG GAGAGTC
TTTTTAGGG
GGCTAAT

PK2: -20.330000(kcal/mol): PK_start=1462 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1499
(fs_start=1477)

C
GAAGGACACCAAATGAAAGAATGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1485 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1519
(fs_start=1477)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT

AGGCCAGGGA

ACAAGGGA

PK4: -25.490000(kcal/mol): PK_start=1492 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1529
(fs_start=1477)

CCAC

AGGCAGGCTAATTTTTTTAGGGAAAATTTGGCCTTC

GGACCGGAAG GGAA

CCTTCA

GAATTT

=====
(679) AY049710
=====

PK1: -12.705000(kcal/mol): PK_start=1458 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1485
(fs_start=1477)

A

AAAGGAAGGACACCAAATGAAAGAATGT

ACG GAGAGTC

TTTTTAGGG

GGCTAAT

PK2: -20.330000(kcal/mol): PK_start=1462 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1499
(fs_start=1477)

C

GAAGGACACCAAATGAAAGAATGTACTGAGAGG

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1485 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1519
(fs_start=1477)

AAA

TACTGAGAGGCAGGCTAATTTTTTTAGGGA

CCCT TCCGGTTT

AGGCCAGGGA

ACAAGGGA

PK4: -25.490000(kcal/mol): PK_start=1492 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1529
(fs_start=1477)

CCAC

AGGCAGGCTAATTTTTTTAGGGAAAATTTGGCCTTC

GGACCGGAAG GGAA

CCTTCA

GAATTT

=====
(680) AY049711
=====

PK1: -12.705000(kcal/mol): PK_start=1457 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1484
(fs_start=1476)

A

AAAGGAAGGACACCAAATGAAAGAATGT

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          ACG      GAGAGTC
                TTTTTAGGG
      GGCTAAT
PK2:  -20.330000(kcal/mol): PK_start=1461 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1498
(fs_start=1476)
                C
GAAGGACACCAAATGAAAGAATGTACTGAGAGG
                GATTTTTT      AATCGGA
                TTGGCCTTC
      GGAAAAT
PK3:  -23.745000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1518
(fs_start=1476)
                AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
                CCCT      TCCGGTTT
                AGGCCAGGGA
      ACAAGGGA
PK4:  -25.490000(kcal/mol): PK_start=1491 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1528
(fs_start=1476)
                CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
                GGACCGAAG      GGAA
                CCTTCA
      GAATTT
=====
(681) AY074891
=====
PK1:  -14.985000(kcal/mol): PK_start=1425 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1453
(fs_start=1445)
                A
GAAAAGAAGGACACCAAATGAAAGACTGT
                GACG      GAGAGTC
                TTTTTAGGG
      GCCAAT
PK2:  -22.590000(kcal/mol): PK_start=1430 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1467
(fs_start=1445)
                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
                GATTTTTT      AACCGGA
                TTGGCCTTC
      GGAAAAT
PK3:  -23.745000(kcal/mol): PK_start=1453 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1487
(fs_start=1445)
                AAA
TACTGAGAGGCAGGCCAATTTTTTAGGGA

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          CCCT   TCCGGTTT
                AGGCCAGGGA
ACAAGGAG
PK4:  -24.475000(kcal/mol): PK_start=1460 sp=7 s1=9 s2=5 l1=5 l2=5 L3=0 PK_end=1497
(fs_start=1445)
                CCCAC
AGGCAGGCCAATTTTTTAGGGAAAATTTGGCCTT
                GGACCGGAG   AGGAA
                TCCTTCA
          GAATT

=====
(682) AY082968
=====
PK1:  -13.555000(kcal/mol): PK_start=1274 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1302
(fs_start=1294)
                A
GAAAAAAGGACACCAAATGAAGGATTGT
                GACA   GAGAGTC
                TTTTTAGGG
          GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1279 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1315
(fs_start=1294)
                C
AAAGGACACCAAATGAAGGATTGTACTGAGAGA
                GATTTTTT   A   ATCGGA
                TGGCCTTC
          GGAAGATC

PK3:  -26.110000(kcal/mol): PK_start=1302 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1336
(fs_start=1294)
                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                CCCTTC   CGGTCT
                GCCAGGGA
          ACAAGGGGAG

PK4:  -28.540000(kcal/mol): PK_start=1309 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1346
(fs_start=1294)
                CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
                GGACCGGAGG   GGAA
                CCTTCA
          GAATTT

PK4B:  -30.395000(kcal/mol): PK_start=1309 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1372
(fs_start=1294)
                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT

```

GGACCGGA GGGG
CCCCAC
GAATTTCCCTCAGAGCAGACCAGAGCCAACAG

=====
(683) AY093603
=====

PK1: -15.100000(kcal/mol): PK_start=1269 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1297
(fs_start=1289)

CA
GGAAGGAAGGACACCAAATGAAAGACTG

GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1311
(fs_start=1289)

C
GAAGGACACCAAATGAAAGACTGCACTGAGAGA

GATTTTTT AATCGGA
TTGGCCTTC
GGAAGAT

PK3: -22.580000(kcal/mol): PK_start=1297 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1331
(fs_start=1289)

A
CACTGAGAGACAGGCTAATTTTTAGGGAAG

CCCTTC CGGTTT
GCCAGGGA
ACAAGGGGAG

PK4: -22.215000(kcal/mol): PK_start=1304 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1341
(fs_start=1289)

CCCACA
AGACAGGCTAATTTTTAGGGAAGATTTGGCCTT

GGACCGGAG GGGA
TCCTCA
GAACTT

PK4B: -26.865000(kcal/mol): PK_start=1304 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1367
(fs_start=1289)

TCCCACAA
AGACAGGCTAATTTTTAGGGAAGATTTGGCCT

GGACCGGA GGGG
CCCCAC
GAACTTTCCCTCAGAGCAGACCGGAGCCATCAG

=====
(684) AY093604
=====

PK1: -15.10000(kcal/mol): PK_start=1254 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1282 (fs_start=1274)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTTAGGG
GCTAA

PK2: -21.94000(kcal/mol): PK_start=1259 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1296 (fs_start=1274)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.28500(kcal/mol): PK_start=1283 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1316 (fs_start=1274)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AACAAAGGG

PK4: -21.81500(kcal/mol): PK_start=1289 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1326 (fs_start=1274)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGG
TCCTCA
GAACTT

=====
(685) AY093605
=====

PK1: -15.10000(kcal/mol): PK_start=1269 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1297 (fs_start=1289)

CA
GGAAGGAAGGACACCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTTAGGG
GCTAA

PK2: -21.94000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1311 (fs_start=1289)

C
GAAGGACACCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1298 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1331
(fs_start=1289)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AACAAAGGG

PK4: -19.230000(kcal/mol): PK_start=1304 sp=7 s1=7 s2=4 l1=10 l2=5 L3=0 PK_end=1340
(fs_start=1289)

TTCCAACAAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCC
GGACCGG AGGG
TTCCYC
GAACT

=====
(686) AY093607
=====

PK1: -15.100000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
(fs_start=1283)

CA
GGAAGGAAGGACACCAAATGAAGGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)

C
GAAGGACACCAAATGAAGGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1292 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1325
(fs_start=1283)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AACAAAGGG

PK4: -24.085000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=4 l1=8 l2=25 L3=0 PK_end=1354
(fs_start=1283)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCTCA
GAACTTTCCTCAGAGCAGACCGGAG

=====
(687) AY118165
=====

PK1: -12.955000(kcal/mol): PK_start=1392 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1420
(fs_start=1412)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1397 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1434
(fs_start=1412)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAAT

PK3: -23.745000(kcal/mol): PK_start=1420 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1454
(fs_start=1412)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGA

PK4: -22.915000(kcal/mol): PK_start=1427 sp=7 s1=8 s2=5 l1=7 l2=4 L3=0 PK_end=1463
(fs_start=1412)

TCCCACA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA AGGGA
TTCCTCC
GAAT

=====
(688) AY118166
=====

PK1: -15.025000(kcal/mol): PK_start=1397 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1425
(fs_start=1417)

A
GAAAAGAAGGACACCAAATGAAAGACTGT
GACG GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.370000(kcal/mol): PK_start=1402 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1439
(fs_start=1417)

C
GAAGGACACCAAATGAAAGACTGTACTGAAAGG
GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAAT

PK3: -23.745000(kcal/mol): PK_start=1425 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1459
(fs_start=1417)

AAA

TACTGAAAGGCAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT

AGGCCAGGGA

ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1432 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1469
(fs_start=1417)

CCAC

AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC

GGACCGGAGG GGAA

CCTTCA

GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1432 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1495
(fs_start=1417)

TCCCACAA

AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG

CCCCAC

GAATTTCTTCAGAACAGGCCAGAACCAACAG

=====

(689) AY125894

=====

PK1: -15.100000(kcal/mol): PK_start=1268 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1296
(fs_start=1288)

CA

GGAAGGAAGGACATCAAATGAAAGACTG

GAC AGAGAGTC

TTTTTTAGGG

GCTAA

PK2: -21.940000(kcal/mol): PK_start=1273 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1310
(fs_start=1288)

C

GAAGGACATCAAATGAAAGACTGCACTGAGAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAAT

PK3: -18.565000(kcal/mol): PK_start=1297 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1330
(fs_start=1288)

AAA

ACTGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT

AGGCCGGGAA

AACAAGGGA

PK4: -22.625000(kcal/mol): PK_start=1303 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1340
(fs_start=1288)

TCCAACAA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGGCCGGA AGGG

TCCCCA

AAATTT

=====
(690) AY158533
=====

PK1: -15.025000(kcal/mol): PK_start=1402 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1430
(fs_start=1422)

A

GAAAGGAAGGACACCAAATGAAAGACTGT

GACG GAAAGTC

TTTTTAGGG

GCTAAT

PK2: -20.370000(kcal/mol): PK_start=1407 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1444
(fs_start=1422)

C

GAAGGACACCAAATGAAAGACTGTACTGAAAGG

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -22.025000(kcal/mol): PK_start=1430 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1464
(fs_start=1422)

AAA

TACTGAAAGGCAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT

AGGCCGGGGA

ACAAGGGA

PK4: -23.770000(kcal/mol): PK_start=1437 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1474
(fs_start=1422)

CCAC

AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC

GGGCCGGAAG GGAA

CCTTCA

GAATTT

=====
(691) AY158534
=====

PK1: -13.595000(kcal/mol): PK_start=1398 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1426
(fs_start=1418)

A

GAAAAGAAGGACACCAAATGAAAGATTGT

```

          GACA      GAAAGTC
                TTTTtaggg
    GCTAAT
PK2:  -21.980000(kcal/mol): PK_start=1403 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1440
(fs_start=1418)
                C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
                GATTTTTT      AATCGGA
                TTGGCCTTC
    GGAAAAT

PK3:  -22.025000(kcal/mol): PK_start=1426 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1460
(fs_start=1418)
                AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
                CCCT      TCCGGTTT
                AGGCCGGGGA
    ACAAGGGA

PK4:  -21.465000(kcal/mol): PK_start=1433 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1470
(fs_start=1418)
                CCAC
AGACAGGCTAATTTTTTAGGAAAATTTGGCCTTC
                GGGCCGAAG      GGAA
                TCTTCA
    GAATTT

=====
(692) AY158535
=====
PK1:  -17.225000(kcal/mol): PK_start=1400 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1428
(fs_start=1420)
                A
GAAAGGAAGGACACCAAATGAAAGACTGC
                GACG      GAAAGTC
                TTTTtaggg
    GCTAAT

PK2:  -20.370000(kcal/mol): PK_start=1405 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1442
(fs_start=1420)
                C
GAAGGACACCAAATGAAAGACTGCACTGAAAGG
                GATTTTTT      AATCGGA
                TTGGCCTTC
    GGAAAAT

PK3:  -23.745000(kcal/mol): PK_start=1428 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1462
(fs_start=1420)
                AAA
CACTGAAAGGCAGGCTAATTTTTTAGGGA

```

```

          CCCT   TCCGGTTT
                AGGCCAGGGA
ACAAGGGG

PK4:  -25.01000(kcal/mol): PK_start=1435 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1472
(fs_start=1420)
                CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
                GGACCGGAGG   GGAA
                                CCTTCA
                GAATTT

PK4B:  -26.865000(kcal/mol): PK_start=1435 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1498
(fs_start=1420)
                TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA   GGGG
                                CCCCAC
                GAATTTTCCTTCAGAACAGACCAGAGCCAACAG

=====
(693) AY162223
=====
PK1:  -14.985000(kcal/mol): PK_start=2051 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2079
(fs_start=2071)
                A
GACAGGAAGGACACCAAATGAAAGACTGT
                GACG   GAGAGTC
                                TTTTTAGGG
                GCTAAT

PK2:  -20.330000(kcal/mol): PK_start=2056 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2093
(fs_start=2071)
                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
                GATTTTTT   AATCGGA
                                TTGGCCTTC
                GGAAAAT

PK3:  -23.745000(kcal/mol): PK_start=2079 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2113
(fs_start=2071)
                AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTTT
                                AGGCCAGGGA
                ACAAGGGG

PK4:  -23.985000(kcal/mol): PK_start=2086 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=2124
(fs_start=2071)
                TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT

```

GGACCGGA GGGG
 CTCCAG
 GAATTTTC

PK4B: -26.865000(kcal/mol): PK_start=2086 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2149
 (fs_start=2071)

TCCCACAA
 AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG
 CCCCAC
 GAATTTCTCCAGAACAGACCAGAGCCAACAG

=====
 (694) AY162224
 =====

PK1: -14.985000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2092
 (fs_start=2084)

A
 GAAAGGAAGGACACCAAATGAAAGACTGT

GACG GAGAGTC
 TTTTTAGGG
 GCTAAT

PK2: -20.330000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2106
 (fs_start=2084)

C
 GAAGGACACCAAATGAAAGACTGTACTGAGAGG

GATTTTTT AATCGGA
 TTGGCCTTC
 GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=2092 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2126
 (fs_start=2084)

AAA
 TACTGAGAGGCAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT
 AGGCCAGGGA
 ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=2099 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2136
 (fs_start=2084)

CCAC
 AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC

GGACCGGAGG GGAA
 CCTTCA
 GAATTT

PK4B: -26.865000(kcal/mol): PK_start=2099 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2162
 (fs_start=2084)

TCCCACAA
 AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGG
CCCCAC
GAATTCCTTCAGAGCAGACCAGACCAACAG

=====
(695) AY162225
=====

PK1: -15.025000(kcal/mol): PK_start=2053 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2081
(fs_start=2073)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.370000(kcal/mol): PK_start=2058 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2095
(fs_start=2073)

C
GAAGGACACCAAATGAAAGACTGTACTGAAAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -21.525000(kcal/mol): PK_start=2079 sp=0 s1=5 s2=8 l1=4 l2=7 L3=0 PK_end=2115
(fs_start=2073)

AAAA
TGTAAGGAGGAGGCTAATTTTTTAGGG
ATCCT TCCGGTTT
AGGCCGGGGA
CAAGGGG

PK4: -23.290000(kcal/mol): PK_start=2088 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2125
(fs_start=2073)

CTAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGCCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -25.145000(kcal/mol): PK_start=2088 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2151
(fs_start=2073)

TCCTACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGCCGGGA GGG
CCCCAC
GAATTCCTTCAGAGCAGACCAGAACCATCAG

=====
(696) AY167123
=====

PK1: -13.555000(kcal/mol): PK_start=1582 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1610
(fs_start=1602)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1587 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1623
(fs_start=1602)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1610 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1644
(fs_start=1602)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1617 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1654
(fs_start=1602)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(697) AY173951
=====

PK1: -13.595000(kcal/mol): PK_start=1415 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1443
(fs_start=1435)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1420 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1456
(fs_start=1435)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1443 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1477
(fs_start=1435)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1450 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1487
(fs_start=1435)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(698) AY173952
=====

PK1: -13.555000(kcal/mol): PK_start=1410 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1438
(fs_start=1430)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1415 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1451
(fs_start=1430)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1438 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1472
(fs_start=1430)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1445 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1482
(fs_start=1430)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(699) AY173953
=====

PK1: -13.555000(kcal/mol): PK_start=1416 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1444
(fs_start=1436)

A
GAAAGGAAGGACATCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1421 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1457
(fs_start=1436)

C
GAAGGACATCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1444 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1478
(fs_start=1436)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1451 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1488
(fs_start=1436)

CTAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAACTT

=====
(700) AY173954
=====

PK1: -13.555000(kcal/mol): PK_start=1414 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1442
(fs_start=1434)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1419 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1455
(fs_start=1434)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA

TGGCCTTC

GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1442 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1476
(fs_start=1434)

A

TACTGAGAGACAGGCTAATTTTTTAGGGAAG

CCCTTC CGGTCT

GCCAGGGA

ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1449 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1486
(fs_start=1434)

CCAC

AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC

GGACCGGAAG GGAA

TCTTCA

GAATTT

=====
(701) AY173955
=====

PK1: -13.595000(kcal/mol): PK_start=1415 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1443
(fs_start=1435)

A

GAAAGGAAGGACACCAAATGAAAGATTGT

GACA GAAAGTC

TTTTTAGGG

GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1420 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1456
(fs_start=1435)

C

GAAGGACACCAAATGAAAGATTGTACTGAAAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1443 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1477
(fs_start=1435)

A

TACTGAAAGACAGGCTAATTTTTTAGGGAAG

TCCTTC CGGTCT

GCCAGGGA

ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1450 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1487
(fs_start=1435)

CTAC

AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC

GGACCGGAAG GGAA

TCTTCA

GAATTT

=====
(702) AY173956
=====

PK1: -10.425000(kcal/mol): PK_start=1317 sp=0 s1=4 s2=6 l1=2 l2=5 L3=0 PK_end=1343
(fs_start=1337)

TC

GAAAGGAAGGACACCAAATGAAAGATTGT

GACA GAGAGA

TTTTTTAG

GCTAA

PK2: -17.180000(kcal/mol): PK_start=1324 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=1358
(fs_start=1337)

C

AGGACACCAAATGAAAGATTGTTTCAGAGAGA

TTTTTT A ATCGGA

TGGCCTTC

AGGGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1345 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1379
(fs_start=1337)

A

TTCAGAGAGACAGGCTAATTTTTTTAGGGAAG

TCCTTC CGGTCT

GCCAGGGA

ACAAGGGAAG

PK4: -29.020000(kcal/mol): PK_start=1352 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1389
(fs_start=1337)

CTAC

AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCTTC

GGACCGGAAG GGAA

CCTTCA

GAACTT

=====
(703) AY173957
=====

PK1: -13.740000(kcal/mol): PK_start=1414 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1442
(fs_start=1434)

CA

GAAGAGAAGGACACCAAATGAAAGACTG

GAC AGGAAGTC

TTTTTTAGGG

GCTAA

PK2: -20.580000(kcal/mol): PK_start=1419 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1456
(fs_start=1434)

C

GAAGGACACCAAATGAAAGACTGCACTGAAGGA

```

          GATTTTTT   AATCGGA
                    TTGGCCTTC
GGAAAAT

PK3:  -21.780000(kcal/mol): PK_start=1442 sp=0 s1=5 s2=4 l1=5 l2=9 L3=0 PK_end=1473
(fs_start=1434)
          AATTT
CACTGAAGGACAGGCTAATTTTTTTAGGGAA
          CCCTT   CCGG
                    GGCCCG
          ACAAGGGGA

PK4:  -22.820000(kcal/mol): PK_start=1452 sp=10 s1=7 s2=4 l1=4 l2=9 L3=0 PK_end=1486
(fs_start=1434)
          CCAC
CAGGCTAATTTTTTTAGGGAAAATTTGGCCTTC
          CCGGAGG   GGAA
                    CCTTCA
          CGGAAATTT

PK4B:  -24.675000(kcal/mol): PK_start=1452 sp=10 s1=5 s2=4 l1=8 l2=35 L3=0
PK_end=1512 (fs_start=1434)
          TCCCACAA
CAGGCTAATTTTTTTAGGGAAAATTTGGCCT
          CCGGA   GGGG
                    CCCCAC
          CGGAAATTTCTTCAGAACAGGCCAGAGCCAACAG

=====
(704) AY173958
=====
PK1:  -13.740000(kcal/mol): PK_start=1397 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1425
(fs_start=1417)
          CA
GAAGAGAAGGACACCAAATGAAAGACTG
          GAC   AGGAAGTC
                    TTTTTTTAGGG
          GCTAA

PK2:  -20.580000(kcal/mol): PK_start=1402 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1439
(fs_start=1417)
          C
GAAGGACACCAAATGAAAGACTGCACTGAAGGA
          GATTTTTT   AATCGGA
                    TTGGCCTTC
          GGAAAAT

PK3:  -21.780000(kcal/mol): PK_start=1425 sp=0 s1=5 s2=4 l1=5 l2=9 L3=0 PK_end=1456
(fs_start=1417)
          AATTT
CACTGAAGGACAGGCTAATTTTTTTAGGGAA

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          CCCTT   CCGG
                GGCCCG
          ACAAGGGGA
PK4:  -22.820000(kcal/mol): PK_start=1435 sp=10 s1=7 s2=4 l1=4 l2=9 L3=0 PK_end=1469
(fs_start=1417)
                CCAC
CAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
                CCGGAGG   GGAA
                CCTTCA
          CGGAAATTT
PK4B:  -24.675000(kcal/mol): PK_start=1435 sp=10 s1=5 s2=4 l1=8 l2=35 L3=0
PK_end=1495 (fs_start=1417)
                TCCCACAA
CAGGCTAATTTTTTAGGGAAAATTTGGCCT
                CCGGA   GGGG
                CCCCCG
          CGGAAATTTCTTTCAGAACAGGCCAGAGCCAACAG
=====
(705) AY180905
=====
PK1:  -13.555000(kcal/mol): PK_start=1444 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1472
(fs_start=1464)
                A
GAAGGGAAGGACACCAGATGAAGGATTGT
                GACA   GAGAGTC
                TTTTTAGGG
          GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1449 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1485
(fs_start=1464)
                C
GAAGGACACCAGATGAAGGATTGTACTGAGAGA
                GATTTTTT   A   ATCGGA
                TGGCCTTC
          GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1472 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1506
(fs_start=1464)
                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTCT
                AGGCCAGGGA
          ACAAGGGG
PK4:  -26.235000(kcal/mol): PK_start=1479 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1516
(fs_start=1464)
                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

```

GGACCGGAGG GGAA
TCTTCA
GAACTT

PK4B: -30.395000(kcal/mol): PK_start=1479 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1542
(fs_start=1464)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT

GGACCGGA GGGG
CCCCAC
GAACTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(706) AY227107
=====

PK1: -15.100000(kcal/mol): PK_start=1417 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1445
(fs_start=1437)

CA
GAAGAGAAGGACACCAAATGAAAGACTG

GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -20.460000(kcal/mol): PK_start=1422 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1458
(fs_start=1437)

C
GAAGGACACCAAATGAAAGACTGCACTGAGAGA

GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1445 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1479
(fs_start=1437)

AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT
AGGCCAGGGA
ACAGGGGG

PK4: -30.870000(kcal/mol): PK_start=1452 sp=7 s1=10 s2=4 l1=4 l2=25 L3=0 PK_end=1508
(fs_start=1437)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAGG GGGA
CCCTCA
GAACTTTCTCCAGAGCAGGCCAGAA

PK4B: -31.255000(kcal/mol): PK_start=1452 sp=7 s1=9 s2=4 l1=6 l2=32 L3=0 PK_end=1515
(fs_start=1437)

CCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT

GGACCGGAG GGGG
CCCCAC
GAACTTTCTCCAGAGCAGGCCAGAACCCTCAG

=====
(707) AY228556
=====

PK1: -14.985000(kcal/mol): PK_start=2045 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2073
(fs_start=2065)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=2050 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2087
(fs_start=2065)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=2073 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2107
(fs_start=2065)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGAA
ACAAGGGA

PK4: -25.490000(kcal/mol): PK_start=2080 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2117
(fs_start=2065)

CCAC
AGGCAGGCTAATTTTTTAGGAAAATTTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
AAATTT

=====
(708) AY228557
=====

PK1: -13.005000(kcal/mol): PK_start=2076 sp=0 s1=4 s2=6 l1=5 l2=6 L3=0 PK_end=2106
(fs_start=2099)

ACTAA
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGT
TTTTTAGG
GCTAAT

PK2: -19.660000(kcal/mol): PK_start=2085 sp=0 s1=7 s2=7 l1=1 l2=8 L3=0 PK_end=2121 (fs_start=2099)

C
GACACCAAATGAAAGACTGTACTAATGAGAGA
 ATTTTTT AATCGGA
 TTGGCCTTC
 GGGAAAAT

PK3: -23.745000(kcal/mol): PK_start=2107 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2141 (fs_start=2099)

AAA
TAATGAGAGACAGGCTAATTTTTTTAGGGA
 CCCT TCCGGTTT
 AGGCCAGGGA
 ACAAGGGG

PK4: -23.985000(kcal/mol): PK_start=2114 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=2152 (fs_start=2099)

TCCCACAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
 GGACCGGA GGGG
 CTCCAG
 GAATTTTC

PK4B: -26.865000(kcal/mol): PK_start=2114 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2177 (fs_start=2099)

TCCCACAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
 GGACCGGA GGGG
 CCCCAC
 GAATTTCCCTCCAGAGCAGGCCAGAGCCAACAG

=====
(709) AY253303
=====

PK1: -15.585000(kcal/mol): PK_start=1260 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1288 (fs_start=1280)

A
GGAAAGAGGGACACCAAATGAAAGACTGT
 GACA GAGAGTC
 TTTTTAGGG
 GCTAAT

PK2: -19.300000(kcal/mol): PK_start=1265 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1302 (fs_start=1280)

C
GAGGGACACCAAATGAAAGACTGTACTGAGAGA
 GATTTTTT AATCGGA
 TTGGTCTTC
 GGAAAAT

PK3: -21.655000(kcal/mol): PK_start=1288 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1322
(fs_start=1280)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCTGGTTT
AGACCAGGGA
ACAAGGGG

PK4: -22.920000(kcal/mol): PK_start=1295 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1332
(fs_start=1280)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGTCTTC
GGACCAGAGG GGAA
CCTTCA
GAATTT

PK4B: -24.775000(kcal/mol): PK_start=1295 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1358
(fs_start=1280)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGTCT
GGACCAGA GGGG
CCCCAC
GAATTTTCCTTCAGAGCAGACCAGAGCCAACAG

=====
(710) AY253304
=====

PK1: -15.585000(kcal/mol): PK_start=1260 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1288
(fs_start=1280)

A
GGAGGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1265 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1301
(fs_start=1280)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1288 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1322
(fs_start=1280)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -28.540000(kcal/mol): PK_start=1295 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1332
(fs_start=1280)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1295 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=1358
(fs_start=1280)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCCTTCAGAGCAGACCAGAGCCAACAG

=====
(711) AY253305
=====

PK1: -15.100000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 l3=0 PK_end=1291
(fs_start=1283)

CA
GGAAAGAGGGACACCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1305
(fs_start=1283)

C
GAGGGACACCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1292 sp=0 s1=3 s2=8 l1=3 l2=9 l3=0 PK_end=1325
(fs_start=1283)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AGCAAAGGG

PK4: -22.840000(kcal/mol): PK_start=1298 sp=7 s1=7 s2=4 l1=10 l2=6 l3=0 PK_end=1335
(fs_start=1283)

TCCAGCAAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCC
GGACCGG AGGG
TCCCA
AAATTT

=====
(712) AY253307
=====

PK1: -14.985000(kcal/mol): PK_start=1278 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1306
(fs_start=1298)

A
GGAAAGAAGGACATCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGA
GCTAAT

PK2: -18.720000(kcal/mol): PK_start=1283 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1319
(fs_start=1298)

C
GAAGGACATCAAATGAAAGACTGTACTGAGAGG
GATTTTTT A ATCGGA
TGGCCTTC
GAAGACTC

PK3: -22.850000(kcal/mol): PK_start=1306 sp=0 s1=5 s2=6 l1=2 l2=11 l3=0 PK_end=1340
(fs_start=1298)

AC
TACTGAGAGGCAGGCTAATTTTTTAGGAAG
CCTTC CGGTCT
GCCAGGAA
CACAAAGGGGAG

PK4: -28.540000(kcal/mol): PK_start=1313 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1350
(fs_start=1298)

CCAC
AGGCAGGCTAATTTTTTAGGAAGACTCTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
AAATTT

PK4B: -30.395000(kcal/mol): PK_start=1313 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=1376
(fs_start=1298)

TCCCACAA
AGGCAGGCTAATTTTTTAGGAAGACTCTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTCTTCAAACAGACCAGAGCCAACAG

=====
(713) AY253308
=====

PK1: -14.985000(kcal/mol): PK_start=1254 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1282
(fs_start=1274)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC

TTTTTAGGG
GCTAAT
PK2: -20.330000(kcal/mol): PK_start=1259 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1296
(fs_start=1274)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAAT

PK3: -23.745000(kcal/mol): PK_start=1282 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1316
(fs_start=1274)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1289 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1326
(fs_start=1274)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1289 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1352
(fs_start=1274)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCTTCAGAACAGGTCAGAGCCAACAG

=====
(714) AY253309
=====

PK1: -12.155000(kcal/mol): PK_start=1260 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1288
(fs_start=1280)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTT
TTTTTAGGG
GCTAAT

PK2: -18.300000(kcal/mol): PK_start=1265 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1302
(fs_start=1280)

C
GAAGGACACCAAATGAAAGACTGTATTGAGAGG
GATTTTTT AATCGGA

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                                TTGGCCTTC
                GGAAAAAT
PK3:  -23.745000(kcal/mol): PK_start=1288 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1322
(fs_start=1280)
                                AAA
TATTGAGAGGCAGGCTAATTTTTTAGGGA
                CCCT      TCCGGTTT
                                AGGCCAGGGA
                ACAAGGGG
PK4:  -25.075000(kcal/mol): PK_start=1295 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1332
(fs_start=1280)
                                TCCCACA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA      GGGGA
                                TCCCTCA
                GAATT
PK4B:  -26.865000(kcal/mol): PK_start=1295 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1358
(fs_start=1280)
                                TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA      GGGG
                                CCCCAC
                GAATTTCCCTCAGAGCAGACTAGAGCCAACAG
=====
(715) AY253310
=====
PK1:  -14.985000(kcal/mol): PK_start=1257 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1285
(fs_start=1277)
                                A
GAAAGGAAGGACACCAAATGAAAGACTGT
                GACG      GAGAGTC
                                TTTTTAGGG
                GCCAAT
PK2:  -22.590000(kcal/mol): PK_start=1262 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1299
(fs_start=1277)
                                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
                GATTTTTT      AACCGGA
                                TTGGCCTTC
                GGAAAAAT
PK3:  -23.745000(kcal/mol): PK_start=1285 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1319
(fs_start=1277)
                                AAA
TACTGAGAGGCAGGCCAATTTTTTAGGGA
                CCCT      TCCGGTTT

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AGGCCAGGGA

ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1292 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1329
(fs_start=1277)

CCAC

AGGCAGGCCAATTTTTTAGGGAAAATTTGGCCTTC

GGACCGGAGG GGAA

CCTTCA

GAATTT

PK4B: -23.985000(kcal/mol): PK_start=1292 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1355
(fs_start=1277)

TCCCACAA

AGGCAGGCCAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG

CTCCAC

GAATTTCTTCAGAGCAGGCCAGAGCCAACAG

=====
(716) AY253311
=====

PK1: -10.640000(kcal/mol): PK_start=1251 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1289
(fs_start=1282)

A

TTGGAAATGTGGAAAGGAAGGACACCAA

GTT AGAAAGT

TTTTTTTAGG

CACTGAAAGACAGGCTAA

PK2: -21.980000(kcal/mol): PK_start=1267 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1304
(fs_start=1282)

C

GAAGGACACCAAATGAAAGATTGCACTGAAAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1290 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1324
(fs_start=1282)

AAA

CACTGAAAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT

AGGCCAGGGA

ACAAAGGA

PK4: -23.395000(kcal/mol): PK_start=1297 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1334
(fs_start=1282)

TCCCACA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA AGGAA

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                                TCCTTCA
                                GAACT
=====
(717) AY253312
=====
PK1:  -15.025000(kcal/mol): PK_start=1260 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1288
(fs_start=1280)
                                A
GAAAGGAGGGACATCAAATGAAAGACTGT
                                GACG   GAAAGTC
                                TTTTtaggg
                                GCTAAT

PK2:  -20.370000(kcal/mol): PK_start=1265 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1302
(fs_start=1280)
                                C
GAGGGACATCAAATGAAAGACTGTACTGAAAGG
                                GATTTTTT   AATCGGA
                                TTGGCCTTC
                                GGAAAAT

PK3:  -22.025000(kcal/mol): PK_start=1288 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1322
(fs_start=1280)
                                AAA
TACTGAAAGGCAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTTT
                                AGGCCGGGGA
                                ACAAGGGG

PK4:  -20.985000(kcal/mol): PK_start=1295 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1332
(fs_start=1280)
                                CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
                                GGGCCGAGG   GGAA
                                TCTTCA
                                GAATTT

PK4B: -25.145000(kcal/mol): PK_start=1295 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1358
(fs_start=1280)
                                TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
                                GGGCCGGA   GGGG
                                CCCCAC
                                GAATTTCTTCAAAGCAGACCAGAACCAACAG

=====
(718) AY253313
=====
PK1:  -15.585000(kcal/mol): PK_start=1260 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1288
(fs_start=1280)
                                A
GAAAGGAAGGACACCAAATGAAAGACTGT

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          GACA    GAGAGTC
                TTTTATAGGG
    GCTAAT
PK2:  -21.940000(kcal/mol): PK_start=1265 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1302
(fs_start=1280)
                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
                GATTTTTT    AATCGGA
                TTGGCCTTC
    GGAAAAT

PK3:  -23.745000(kcal/mol): PK_start=1288 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1322
(fs_start=1280)
                AAA
TACTGAGAGACAGGCTAATTTTTATAGGGA
                CCCT    TCCGGTTT
                AGGCCAGGGA
    ACAAGGGG

PK4:  -25.010000(kcal/mol): PK_start=1295 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1332
(fs_start=1280)
                CCAC
AGACAGGCTAATTTTTATAGGAAAATTTGGCCTTC
                GGACCGGAGG    GGAA
                CCTTCA
    GAATTT

PK4B:  -26.865000(kcal/mol): PK_start=1295 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1358
(fs_start=1280)
                TCCCACAA
AGACAGGCTAATTTTTATAGGAAAATTTGGCCT
                GGACCGGA    GGGG
                CCCAC
    GAATTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(719) AY253314
=====
PK1:  -15.140000(kcal/mol): PK_start=1266 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1294
(fs_start=1286)
                CA
GGAAGGAGGGACACCAAATGAAAGACTG
                GAC    AGAAAGTC
                TTTTTTATAGGG
    GCTAA

PK2:  -21.980000(kcal/mol): PK_start=1271 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1308
(fs_start=1286)
                C
GAGGGACACCAAATGAAAGACTGCACTGAAAGA

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GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT
PK3: -20.285000(kcal/mol): PK_start=1295 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1328
(fs_start=1286)

AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AACAAAGGGG

PK4: -22.215000(kcal/mol): PK_start=1301 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1338
(fs_start=1286)

CCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGAG GGGA
TCCTCA
AAATTT

PK4B: -26.865000(kcal/mol): PK_start=1301 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1364
(fs_start=1286)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGA GGGG
CCCCAC
AAATTTTCCTCAGAGCAGACTGGAGCCAACAG

=====
(720) AY253316
=====

PK1: -15.100000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
(fs_start=1283)

CA
GAAAAGAGGGACACCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)

C
GAGGGACACCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1292 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1325
(fs_start=1283)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA


```

          CCT   TCCGGTTT
                AGGCCAGGGA
          AGCAAGGGA

PK4:  -25.015000(kcal/mol): PK_start=1298 sp=7 s1=9 s2=4 l1=6 l2=33 L3=0 PK_end=1362
(fs_start=1283)
                CCAGCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
                GGACCGGAA   GGGA
                        CCCTCC
          GAATTTCCCTCCAGAGCAGACCAGAGCCCACAGC

=====
(721) AY253317
=====
PK1:  -12.455000(kcal/mol): PK_start=1257 sp=0 s1=4 s2=6 l1=2 l2=5 L3=0 PK_end=1283
(fs_start=1277)
                GC
GAAAGGAAGGACACCAAATGAAAGACTGT
                GACA   GAGAGA
                        TTTTTTAG
          GCTAA

PK2:  -18.660000(kcal/mol): PK_start=1264 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1299
(fs_start=1277)
                C
AGGACACCAAATGAAAGACTGTGCAGAGAGA
                TTTTTT   AATCGGA
                        TTGGCCTTC
          AGGGAAAAT

PK3:  -23.245000(kcal/mol): PK_start=1283 sp=0 s1=5 s2=8 l1=4 l2=7 L3=0 PK_end=1319
(fs_start=1277)
                AAAA
TGTGCAGAGAGACAGGCTAATTTTTTAGGG
                ATCCT   TCCGGTTT
                        AGGCCAGGGA
          CAAGGGG

PK4:  -23.985000(kcal/mol): PK_start=1292 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1330
(fs_start=1277)
                TCCTACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA   GGGG
                        CTCCAG
          GAACTTC

PK4B: -26.865000(kcal/mol): PK_start=1292 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1355
(fs_start=1277)
                TCCTACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

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GGACCGGA GGG
CCCCAC
GAACTTCCTCCAGAACAGGCCAGAGCCAACAG

=====
(722) AY253318
=====

PK1: -14.985000(kcal/mol): PK_start=1254 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1282
(fs_start=1274)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCCAAT

PK2: -22.590000(kcal/mol): PK_start=1259 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1296
(fs_start=1274)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AACCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1282 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1316
(fs_start=1274)

AAA
TACTGAGAGGCAGGCCAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -22.705000(kcal/mol): PK_start=1289 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1326
(fs_start=1274)

CCAC
AGGCAGGCCAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -23.985000(kcal/mol): PK_start=1289 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1352
(fs_start=1274)

TCCCACAA
AGGCAGGCCAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGG
CTCCAC
GAATTTTCTTCAGAACAGGACAGAGCCAACAG

=====
(723) AY253320
=====

PK1: -15.625000(kcal/mol): PK_start=1257 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1285
(fs_start=1277)

A
GAAAAGAAGGACACCAAATGAAAGACTGT
GACA GAAAGTC
TTTTTAGGG
GCAAAT

PK2: -14.350000(kcal/mol): PK_start=1262 sp=0 s1=8 s2=4 l1=4 l2=6 L3=0 PK_end=1295
(fs_start=1277)

CAGG
GAAGGACACCAAATGAAAGACTGTACTGAAAGA
GATTTTTT AAAC
TTTGGC
GGAAAA

PK3: -23.745000(kcal/mol): PK_start=1285 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1319
(fs_start=1277)

AAA
TACTGAAAGACAGGCAAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGAA
ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1292 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1329
(fs_start=1277)

CCAC
AGACAGGCAAATTTTTTAGGGAAAATTTGGCCTC
GGACCGGAGG GGAA
CCTTCA
AAATTT

PK4B: -26.865000(kcal/mol): PK_start=1292 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1355
(fs_start=1277)

TCCCACAA
AGACAGGCAAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(724) AY253321
=====

PK1: -15.025000(kcal/mol): PK_start=1257 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1285
(fs_start=1277)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.370000(kcal/mol): PK_start=1262 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1299
(fs_start=1277)

C
GAAGGACACCAAATGAAAGACTGTACTGAAAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -22.025000(kcal/mol): PK_start=1285 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1319
(fs_start=1277)

AAA
TACTGAAAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCGGGGA
ACAAGGGG

PK4: -23.290000(kcal/mol): PK_start=1292 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1329
(fs_start=1277)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGGCCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -25.145000(kcal/mol): PK_start=1292 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1355
(fs_start=1277)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA GGGG
CCCCAC
GAATTTTCCTTCAGAGCAGACCAGAGCCAACAG

=====
(725) AY253322
=====

PK1: -14.985000(kcal/mol): PK_start=1266 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1294
(fs_start=1286)

A
GACAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1271 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1308
(fs_start=1286)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1294 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1328
(fs_start=1286)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGA

PK4: -25.490000(kcal/mol): PK_start=1301 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1338
(fs_start=1286)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(726) AY255823
=====

PK1: -15.585000(kcal/mol): PK_start=1260 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1288
(fs_start=1280)

A
GAAGGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1265 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1301
(fs_start=1280)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -23.815000(kcal/mol): PK_start=1289 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1322
(fs_start=1280)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTCT
AGGCCAGGGA
AACAAGGGG

PK4: -27.515000(kcal/mol): PK_start=1295 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1333
(fs_start=1280)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CTCCAG
GAATTTTC

PK4B: -30.395000(kcal/mol): PK_start=1295 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1358
(fs_start=1280)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCCCTCCAGAGCAGACCAGAGCCAACAG

=====
(727) AY255824
=====

PK1: -15.025000(kcal/mol): PK_start=1257 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1285
(fs_start=1277)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.370000(kcal/mol): PK_start=1262 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1299
(fs_start=1277)

C
GAAGGACACCAAATGAAAGACTGTACTGAAAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAATT

PK3: -23.275000(kcal/mol): PK_start=1285 sp=0 s1=4 s2=9 l1=2 l2=8 L3=0 PK_end=1320
(fs_start=1277)

AA
TACTGAAAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTTT
AGGCCAGGGAA
ACAAGGGG

PK4: -19.785000(kcal/mol): PK_start=1291 sp=6 s1=9 s2=4 l1=8 l2=6 L3=0 PK_end=1330
(fs_start=1277)

TCCCACAA
AAGGCAGGCTAATTTTTTAGGGAAATTTTGGCCT
GGGACCGGA GGGG
CTTCAG
AATTC

PK4B: -26.395000(kcal/mol): PK_start=1291 sp=6 s1=9 s2=4 l1=8 l2=31 L3=0 PK_end=1355
(fs_start=1277)

TCCCACAA
AAGGCAGGCTAATTTTTTAGGGAAATTTTGGCCT
GGGACCGGA GGGG
CCCCAC
AATTTCCCTTCAGAGCAGACCAGAGCCAACAG

=====
(728) AY255825
=====

PK1: -15.585000(kcal/mol): PK_start=1257 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1285
(fs_start=1277)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -21.940000(kcal/mol): PK_start=1262 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1299
(fs_start=1277)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAAT

PK3: -20.285000(kcal/mol): PK_start=1286 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1319
(fs_start=1277)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1292 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1329
(fs_start=1277)

CAAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1292 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1355
(fs_start=1277)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(729) AY262830
=====

PK1: -15.025000(kcal/mol): PK_start=1266 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1294
(fs_start=1286)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAAAGTC

TTTTTAGGG
GCTAAT
PK2: -20.370000(kcal/mol): PK_start=1271 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1308
(fs_start=1286)

C
GAAGGACACCAAATGAAAGACTGTACTGAAAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAAT

PK3: -23.745000(kcal/mol): PK_start=1294 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1328
(fs_start=1286)

AAA
TACTGAAAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -22.215000(kcal/mol): PK_start=1301 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1338
(fs_start=1286)

CCCACA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGAG GGGA
TCCTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1301 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1364
(fs_start=1286)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCCTCAGAGCAGACCAGAGCCAACAG

=====
(730) AY304496
=====

PK1: -10.640000(kcal/mol): PK_start=1261 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1299
(fs_start=1292)

A
TTGGAAATGTGGAAAGGAGGGACACCAA
GTT AGAAAGT
TTTTTTAGG
CACTGAAAGACAGGCTAA

PK2: -21.980000(kcal/mol): PK_start=1277 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1314
(fs_start=1292)

C
GAGGGACACCAAATGAAAGATTGCACTGAAAGA
GATTTTTT AATCGGA


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                                TTGGCCTTC
          GGAAAAAT
PK3:  -23.745000(kcal/mol): PK_start=1300 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1334
(fs_start=1292)
                                AAA
CACTGAAAGACAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTTT
                                AGGCCAGGGA
          ACAAGGGA
PK4:  -25.490000(kcal/mol): PK_start=1307 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1344
(fs_start=1292)
                                CCAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
                                GGACCGGAAG   GGAA
                                CCTTCA
          GAACTT
=====
(731) AY308760
=====
PK1:  -13.595000(kcal/mol): PK_start=1275 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1303
(fs_start=1295)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                                GACA   GAAAGTC
                                TTTTTAGGG
          GCTAAT
PK2:  -19.120000(kcal/mol): PK_start=1280 sp=0 s1=8 s2=5 l1=2 l2=8 L3=1 PK_end=1315
(fs_start=1295)
                                CA
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
                                GATTTTTT   A   ATCGG
                                TGGCCCT
          GGAAAATC
PK3:  -24.730000(kcal/mol): PK_start=1303 sp=0 s1=4 s2=7 l1=3 l2=9 L3=1 PK_end=1336
(fs_start=1295)
                                AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
                                CCCT   C   CCGGTCT
                                GGCCAGGGA
          ACAAGGGAA
PK4:  -23.190000(kcal/mol): PK_start=1310 sp=7 s1=7 s2=6 l1=8 l2=4 L3=0 PK_end=1347
(fs_start=1295)
                                CTCCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCC
                                GGACCGG   AAGGGA

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                                TTTCTTCA
                                GAAT
=====
(732) AY308761
=====
PK1:  -13.555000(kcal/mol): PK_start=1275 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1303
(fs_start=1295)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                                GACA    GAGAGTC
                                TTTTTAGGG
                                GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1280 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1316
(fs_start=1295)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                                GATTTTTT  A  ATCGGA
                                TGGCCTTC
                                GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1303 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1337
(fs_start=1295)
                                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCCT    TCCGGTCT
                                AGGCCAGGGA
                                ACAAAGGA

PK4:  -24.115000(kcal/mol): PK_start=1310 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1347
(fs_start=1295)
                                TCCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                                GGACCGGA    AGGAA
                                TTCTTCA
                                GAATT

=====
(733) AY308762
=====
PK1:  -13.555000(kcal/mol): PK_start=1275 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1303
(fs_start=1295)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                                GACA    GAGAGTC
                                TTTTTAGGG
                                GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1280 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1316
(fs_start=1295)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA

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          GATTTTTT A ATCGGA
                    TGGCCTTC
    GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1303 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1337
(fs_start=1295)
          AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
          CCCT   TCCGGTCT
                    AGGCCAGGGA
    ACAAAGGA
PK4:  -24.115000(kcal/mol): PK_start=1310 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1347
(fs_start=1295)
                    TCCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
          GGACCGGA   AGGAA
                    TTCTTCA
    GAATT

=====
(734) AY314045
=====
PK1:  -13.555000(kcal/mol): PK_start=1521 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1549
(fs_start=1541)
          A
GAAAGGAAGGACACCAAATGAAGGATTGT
          GACA   GAGAGTC
                    TTTTTAGGG
    GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1526 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1562
(fs_start=1541)
          C
GAAGGACACCAAATGAAGGATTGTACTGAGAGA
          GATTTTTT A ATCGGA
                    TGGCCTTC
    GGAAGATC
PK3:  -25.060000(kcal/mol): PK_start=1549 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1583
(fs_start=1541)
          A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
          TCCTTC   CGGTCT
                    GCCAGGGA
    CCAAGGGAAG
PK4:  -26.715000(kcal/mol): PK_start=1556 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1593
(fs_start=1541)
                    CTCC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC

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                GGACCGGAAG    GGAA
                                TCTTCA
          GAATTT
PK4B:  -26.530000(kcal/mol): PK_start=1556 sp=7 s1=8 s2=4 l1=1 l2=40 L3=7 PK_end=1620
(fs_start=1541)
                                T
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
                GGACCGGA  AGGGAAC  CTCC
                                GAGGAG
          GAATTTTCTTCAGAGCAGACCAGAGCCAACAGCCCCACCA

=====
(735) AY314046
=====
PK1:  -10.975000(kcal/mol): PK_start=1521 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=1548
(fs_start=1541)
                                AC
GAAAGGAAGGACACCAAATGAAGGATTGT
                GACA    GAGAGT
                                TTTTTAAG
          GCTAAT
PK2:  -17.980000(kcal/mol): PK_start=1527 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1562
(fs_start=1541)
                                C
AAGGACACCAAATGAAGGATTGTACTGAGAGA
                ATTTTTT  A  ATCGGA
                                TGGCCTTC
          AGGAAGATC
PK3:  -25.030000(kcal/mol): PK_start=1549 sp=0 s1=6 s2=6 l1=1 l2=13 L3=0 PK_end=1586
(fs_start=1541)
                                A
TACTGAGAGACAGGCTAATTTTTTAAGGAAG
                TCCTTC    CGGTCT
                                GCCAGGAA
          CCAAGGGGGAAG
PK4:  -30.780000(kcal/mol): PK_start=1556 sp=7 s1=11 s2=4 l1=5 l2=7 L3=0 PK_end=1597
(fs_start=1541)
                                TCCAA
AGACAGGCTAATTTTTTAAGGAAGATCTGGCCTTCC
                GGACCGGAAGG    GGGG
                                CTTCAG
          AAATTTT
PK4B:  -37.390000(kcal/mol): PK_start=1556 sp=7 s1=11 s2=4 l1=5 l2=32 L3=0
PK_end=1622 (fs_start=1541)
                                TCCAA
AGACAGGCTAATTTTTTAAGGAAGATCTGGCCTTCC

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GGACCGGAAGG GGGG
CCCCAC
AAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(736) AY314047
=====

PK1: -13.555000(kcal/mol): PK_start=1521 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1549
(fs_start=1541)

A
GAAAGGAAGGACACCAAATGAAGGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1526 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1562
(fs_start=1541)

C
GAAGGACACCAAATGAAGGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1549 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1583
(fs_start=1541)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
CCAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1556 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1593
(fs_start=1541)

CTCC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

PK4B: -26.530000(kcal/mol): PK_start=1556 sp=7 s1=8 s2=4 l1=1 l2=40 L3=7 PK_end=1620
(fs_start=1541)

T
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGGAAC CTCC
GAGGAG
GAATTTTCTTCAGAGCAGACCAGAGCCAACAGCCCCACCA

=====
(737) AY314048
=====

PK1: -13.595000(kcal/mol): PK_start=1521 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1549 (fs_start=1541)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1526 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1562 (fs_start=1541)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGCCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1549 sp=0 s1=6 s2=6 l1=1 l2=13 L3=0 PK_end=1586 (fs_start=1541)

A
TACTGAAAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
CCAAGGGGGGAG

PK4: -30.300000(kcal/mol): PK_start=1556 sp=7 s1=11 s2=4 l1=5 l2=7 L3=0 PK_end=1597 (fs_start=1541)

TCCAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTCC
GGACCGGAGGG GGGG
CTTCAG
GAATTTT

PK4B: -36.910000(kcal/mol): PK_start=1556 sp=7 s1=11 s2=4 l1=5 l2=32 L3=0 PK_end=1622 (fs_start=1541)

TCCAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTCC
GGACCGGAGGG GGGG
CCCCAC
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(738) AY314049
=====

PK1: -13.555000(kcal/mol): PK_start=1521 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1549 (fs_start=1541)

A
GAAAGGAAGGACACCAAATGAAGGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1526 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1562
(fs_start=1541)

C
GAAGGACACCAAATGAAGGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1549 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1583
(fs_start=1541)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
CCAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1556 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1593
(fs_start=1541)

CTCC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

PK4B: -26.530000(kcal/mol): PK_start=1556 sp=7 s1=8 s2=4 l1=1 l2=40 L3=7 PK_end=1620
(fs_start=1541)

T
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGGAAC CTCC
GAGGAG
GAATTTTCTTCAGAGCAGACCAGAGCCAACAGCCCCACCA

=====
(739) AY314050
=====

PK1: -13.555000(kcal/mol): PK_start=1521 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1549
(fs_start=1541)

A
GAAAGGAAGGACACCAAATGAAGGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1526 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1562
(fs_start=1541)

C
GAAGGACACCAAATGAAGGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1549 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1583
(fs_start=1541)

A
TACTGAGAGACAGGCTAATTTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
CCAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1556 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1593
(fs_start=1541)

CTCC
AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

PK4B: -26.530000(kcal/mol): PK_start=1556 sp=7 s1=8 s2=4 l1=1 l2=40 l3=7 PK_end=1620
(fs_start=1541)

T
AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGGAAC CTCC
GAGGAG
GAATTTTCTTCAGAGCAGACCAGAGCCAACAGCCCCACCA

=====
(740) AY314052
=====

PK1: -10.975000(kcal/mol): PK_start=1521 sp=0 s1=4 s2=6 l1=2 l2=6 l3=0 PK_end=1548
(fs_start=1541)

AC
GAAAGGAAGGACACCAAATGAAGGATTGT
GACA GAGAGT
TTTTTAAG
GCTAAT

PK2: -17.980000(kcal/mol): PK_start=1527 sp=0 s1=7 s2=6 l1=1 l2=9 l3=1 PK_end=1562
(fs_start=1541)

C
AAGGACACCAAATGAAGGATTGTACTGAGAGA
ATTTTTT A ATCGGA
TGGCCTTC
AGGAAGATC

PK3: -25.030000(kcal/mol): PK_start=1549 sp=0 s1=6 s2=6 l1=1 l2=13 l3=0 PK_end=1586
(fs_start=1541)

A
TACTGAGAGACAGGCTAATTTTTTTAAGGAAG
TCCTTC CGGTCT
GCCAGGAA
CCAAGGGGGAAG

PK4: -30.780000(kcal/mol): PK_start=1556 sp=7 s1=11 s2=4 l1=5 l2=7 l3=0 PK_end=1597
(fs_start=1541)

TCCAA
AGACAGGCTAATTTTTTAAGGAAGATCTGGCCTTCC
GGACCGGAAGG GGGG
CTTCAG
AAATTTT

PK4B: -37.390000(kcal/mol): PK_start=1556 sp=7 s1=11 s2=4 l1=5 l2=32 l3=0
PK_end=1622 (fs_start=1541)

TCCAA
AGACAGGCTAATTTTTTAAGGAAGATCTGGCCTTCC
GGACCGGAAGG GGGG
CCCCAC
AAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(741) AY314053
=====

PK1: -13.555000(kcal/mol): PK_start=1521 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1549
(fs_start=1541)

A
GAAAGGAAGGACACCAAATGAAGGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1526 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1562
(fs_start=1541)

C
GAAGGACACCAAATGAAGGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1549 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1583
(fs_start=1541)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
CCAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1556 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1593
(fs_start=1541)

CTCC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

PK4B: -26.530000(kcal/mol): PK_start=1556 sp=7 s1=8 s2=4 l1=1 l2=40 L3=7 PK_end=1620
(fs_start=1541)

T
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGGAAC CTCC
GAGGAG
GAATTTTCTTCAGAGCAGACCAGAGCCAACAGCCCCACCA

=====
(742) AY314054
=====

PK1: -13.555000(kcal/mol): PK_start=1521 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1549
(fs_start=1541)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1526 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1562
(fs_start=1541)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1549 sp=0 s1=6 s2=6 l1=1 l2=13 L3=0 PK_end=1586
(fs_start=1541)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
CCAAGGGGGGAG

PK4: -30.300000(kcal/mol): PK_start=1556 sp=7 s1=11 s2=4 l1=5 l2=7 L3=0 PK_end=1597
(fs_start=1541)

TCCAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTCC
GGACCGGAGGG GGGG
CTTCAG
GAATTTT

PK4B: -36.910000(kcal/mol): PK_start=1556 sp=7 s1=11 s2=4 l1=5 l2=32 L3=0
PK_end=1622 (fs_start=1541)

TCCAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTCC
GGACCGGAGGG GGGG
CCCCAC
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(743) AY314055
=====

PK1: -13.555000(kcal/mol): PK_start=1521 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1549
(fs_start=1541)

A
GAAAGGAAGGACACCAAATGAAGGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1526 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1562
(fs_start=1541)

C
GAAGGACACCAAATGAAGGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1549 sp=0 s1=6 s2=6 l1=1 l2=13 l3=0 PK_end=1586
(fs_start=1541)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGAA
CCAAGGGGGGAAG

PK4: -30.780000(kcal/mol): PK_start=1556 sp=7 s1=11 s2=4 l1=5 l2=7 l3=0 PK_end=1597
(fs_start=1541)

TCCAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTCC
GGACCGGAAGG GGGG
CTTCAG
AAATTTT

PK4B: -37.390000(kcal/mol): PK_start=1556 sp=7 s1=11 s2=4 l1=5 l2=32 l3=0
PK_end=1622 (fs_start=1541)

TCCAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTCC
GGACCGGAAGG GGGG
CCCCAC
AAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(744) AY314056
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PK1: -13.555000(kcal/mol): PK_start=1521 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1549
(fs_start=1541)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC

TTTTTAGGG
GCTAAT
PK2: -20.460000(kcal/mol): PK_start=1526 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1562
(fs_start=1541)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1549 sp=0 s1=6 s2=6 l1=1 l2=13 L3=0 PK_end=1586
(fs_start=1541)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
CCAAGGGGGAAG

PK4: -30.780000(kcal/mol): PK_start=1556 sp=7 s1=11 s2=4 l1=5 l2=7 L3=0 PK_end=1597
(fs_start=1541)

TCCAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTCC
GGACCGGAAGG GGGG
CTTCAG
GAATTTT

PK4B: -37.390000(kcal/mol): PK_start=1556 sp=7 s1=11 s2=4 l1=5 l2=32 L3=0
PK_end=1622 (fs_start=1541)

TCCAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTCC
GGACCGGAAGG GGGG
CCCCAC
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

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(745) AY314057
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PK1: -13.555000(kcal/mol): PK_start=1521 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1549
(fs_start=1541)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1526 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1562
(fs_start=1541)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA

GGAAGATC TGGCCTTC
PK3: -25.060000(kcal/mol): PK_start=1549 sp=0 s1=6 s2=6 l1=1 l2=13 l3=0 PK_end=1586
(fs_start=1541)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
CCAAGGGGGGAAG

PK4: -30.780000(kcal/mol): PK_start=1556 sp=7 s1=11 s2=4 l1=5 l2=7 l3=0 PK_end=1597
(fs_start=1541)

TCCAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTCC
GGACCGGAAGG GGGG
CTTCAG
GAATTTT

PK4B: -37.390000(kcal/mol): PK_start=1556 sp=7 s1=11 s2=4 l1=5 l2=32 l3=0
PK_end=1622 (fs_start=1541)

TCCAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTCC
GGACCGGAAGG GGGG
CCCCAC
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(746) AY314058
=====

PK1: -13.555000(kcal/mol): PK_start=1521 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1549
(fs_start=1541)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1526 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1562
(fs_start=1541)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1549 sp=0 s1=6 s2=6 l1=1 l2=13 l3=0 PK_end=1586
(fs_start=1541)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT

GCCAGGGA
CCAAGGGGGGAG
PK4: -30.30000(kcal/mol): PK_start=1556 sp=7 s1=11 s2=4 l1=5 l2=7 l3=0 PK_end=1597
(fs_start=1541)

TCCAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTCC
GGACCGGAGGG GGGG
CTTCAG
GAATTTT

PK4B: -36.91000(kcal/mol): PK_start=1556 sp=7 s1=11 s2=4 l1=5 l2=32 l3=0
PK_end=1622 (fs_start=1541)

TCCAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTCC
GGACCGGAGGG GGGG
CCCCAC
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(747) AY314059
=====

PK1: -13.55500(kcal/mol): PK_start=1521 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1549
(fs_start=1541)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.46000(kcal/mol): PK_start=1526 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1562
(fs_start=1541)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.06000(kcal/mol): PK_start=1549 sp=0 s1=6 s2=6 l1=1 l2=13 l3=0 PK_end=1586
(fs_start=1541)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
CCAAGGGGGGAAG

PK4: -30.78000(kcal/mol): PK_start=1556 sp=7 s1=11 s2=4 l1=5 l2=7 l3=0 PK_end=1597
(fs_start=1541)

TCCAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTCC
GGACCGGAAGG GGGG

CTTCAG

GAATTTT

PK4B: -37.390000(kcal/mol): PK_start=1556 sp=7 s1=11 s2=4 l1=5 l2=32 L3=0
 PK_end=1622 (fs_start=1541)

TCCAA

AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCTTCC

GGACCGGAAGG GGGG

CCCCAC

GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

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(748) AY314060

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PK1: -13.555000(kcal/mol): PK_start=1521 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1549
 (fs_start=1541)

A

GAAAGGAAGGACACCAAATGAAAGATTGT

GACA GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1526 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1562
 (fs_start=1541)

C

GAAGGACACCAAATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1549 sp=0 s1=6 s2=6 l1=1 l2=13 L3=0 PK_end=1586
 (fs_start=1541)

A

TACTGAGAGACAGGCTAATTTTTTTAGGGAAG

TCCTTC CGGTCT

GCCAGGGA

CCAAGGGGGGAAG

PK4: -30.780000(kcal/mol): PK_start=1556 sp=7 s1=11 s2=4 l1=5 l2=7 L3=0 PK_end=1597
 (fs_start=1541)

TCCAA

AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCTTCC

GGACCGGAAGG GGGG

CTTCAG

GAATTTT

PK4B: -37.390000(kcal/mol): PK_start=1556 sp=7 s1=11 s2=4 l1=5 l2=32 L3=0
 PK_end=1622 (fs_start=1541)

TCCAA

AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCTTCC

GGACCGGAAGG GGGG

CCCCAC
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(749) AY314061
=====

PK1: -13.555000(kcal/mol): PK_start=1521 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1549
(fs_start=1541)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1526 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1562
(fs_start=1541)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1549 sp=0 s1=6 s2=6 l1=1 l2=13 L3=0 PK_end=1586
(fs_start=1541)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
CCAAGGGGGGAAG

PK4: -30.780000(kcal/mol): PK_start=1556 sp=7 s1=11 s2=4 l1=5 l2=7 L3=0 PK_end=1597
(fs_start=1541)

TCCAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTCC
GGACCGGAAGG GGGG
CTTCAG
GAATTTT

PK4B: -37.390000(kcal/mol): PK_start=1556 sp=7 s1=11 s2=4 l1=5 l2=32 L3=0
PK_end=1622 (fs_start=1541)

TCCAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTCC
GGACCGGAAGG GGGG
CCCCAC
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(750) AY314062
=====

PK1: -13.555000(kcal/mol): PK_start=1521 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1549
(fs_start=1541)

A
GAAAGGAAGGACACCAAATGAAAGATTGT


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          GACA   GAGAGTC
                TTTTATAGGG
      GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1526 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1562
(fs_start=1541)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT  A  ATCGGA
                                TGGCCTTC
      GGAAGATC
PK3:  -25.060000(kcal/mol): PK_start=1549 sp=0 s1=6 s2=6 l1=1 l2=13 L3=0 PK_end=1586
(fs_start=1541)
                A
TACTGAGAGACAGGCTAATTTTTATAGGGAAG
                TCCTTC   CGGTCT
                                GCCAGGGA
      CCAAGGGGGGGAG
PK4:  -30.300000(kcal/mol): PK_start=1556 sp=7 s1=11 s2=4 l1=5 l2=7 L3=0 PK_end=1597
(fs_start=1541)
                TCCAA
AGACAGGCTAATTTTTATAGGGAAGATCTGGCCTTCC
                GGACCGGAGGG   GGGG
                                CTCAG
      GAATTTT
PK4B: -36.910000(kcal/mol): PK_start=1556 sp=7 s1=11 s2=4 l1=5 l2=32 L3=0
PK_end=1622 (fs_start=1541)
                TCCAA
AGACAGGCTAATTTTTATAGGGAAGATCTGGCCTTCC
                GGACCGGAGGG   GGGG
                                CCCCAC
      GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(751) AY314063
=====
PK1:  -13.555000(kcal/mol): PK_start=1521 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1549
(fs_start=1541)
                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                GACA   GAGAGTC
                                TTTTATAGGG
      GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1526 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1562
(fs_start=1541)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA

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          GATTTTTT  A  ATCGGA
                                TGGCCTTC
      GGAAGATC
PK3:  -25.060000(kcal/mol): PK_start=1549 sp=0 s1=6 s2=6 l1=1 l2=13 L3=0 PK_end=1586
(fs_start=1541)
                                A
TACTGAGAGACAGGCTAATTTTTTTAGGGAAG
                                TCCTTC  CGGTCT
                                GCCAGGGA
      CCAAGGGGGGAAG
PK4:  -30.780000(kcal/mol): PK_start=1556 sp=7 s1=11 s2=4 l1=5 l2=7 L3=0 PK_end=1597
(fs_start=1541)
                                TCCAA
AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCTTCC
                                GGACCGGAAGG  GGGG
                                CTCAG
      GAATTTT
PK4B:  -37.390000(kcal/mol): PK_start=1556 sp=7 s1=11 s2=4 l1=5 l2=32 L3=0
PK_end=1622 (fs_start=1541)
                                TCCAA
AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCTTCC
                                GGACCGGAAGG  GGGG
                                CCCCAC
      GAATTTTCTTCAGAGCAGACCAGAGCCAACAG
=====
(752) AY322184
=====
PK1:  -11.500000(kcal/mol): PK_start=1430 sp=0 s1=3 s2=7 l1=5 l2=17 L3=1 PK_end=1471
(fs_start=1465)
                                CAAA
GCTGTTGAAATGTGGAAGGAGGGACA
                                TGT  A  AGAAAGT
                                TTTTTTAGG
      ACCGAAAGACAGGCTAA
PK2:  -18.700000(kcal/mol): PK_start=1452 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1487
(fs_start=1465)
                                C
GGGACACCAAATGAAAGAATGTACCGAAAGA
                                TTTTTT  AATCGGA
                                TTGGCCTTC
      AGGGAAAAT
PK3:  -20.285000(kcal/mol): PK_start=1474 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1507
(fs_start=1465)
                                AAA
ACCGAAAGACAGGCTAATTTTTTTAGGGA

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          CCT   TCCGGTTT
                AGGCCAGGGA
AGCAAGGGG

PK4:  -22.215000(kcal/mol): PK_start=1480 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1517
(fs_start=1465)
                CCAGCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
                GGACCGGAG   GGGA
                        TCCTCA
                GAATTT

PK4B:  -26.865000(kcal/mol): PK_start=1480 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1543
(fs_start=1465)
                TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA   GGGG
                        CCCAC
                GAATTTTCCTCAGAGCAGACCGGAGCCAACAG

=====
(753) AY322187
=====
PK1:  -10.640000(kcal/mol): PK_start=1517 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1555
(fs_start=1548)
                A
TTGGAATGTGGAAGGGAAGGACACCAA
                GTT   AGAAAGT
                        TTTTTTAGG
                CACTGAAAGACAGGCTAA

PK2:  -21.980000(kcal/mol): PK_start=1533 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1570
(fs_start=1548)
                C
GAAGGACACCAAATGAAAGATTGCACTGAAAGA
                GATTTTTT   AATCGGA
                        TTGGCCTTC
                GGAGAAT

PK3:  -18.840000(kcal/mol): PK_start=1556 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1590
(fs_start=1548)
                AA
CACTGAAAGACAGGCTAATTTTTTAGGGAG
                CCTTC   CGGTTT
                        GCCAGGGA
                CACAAGGGGAG

PK4:  -25.010000(kcal/mol): PK_start=1563 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1600
(fs_start=1548)
                CCAC
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCTTC

```

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GGACCGGAGG   GGAA
                CCTTCA
GAATTT
PK4B:  -26.865000(kcal/mol): PK_start=1563 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1626
(fs_start=1548)
                TCCCACAA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
                GGACCGGA   GGGG
                CCCCAC
GAATTTCC TTCAGAGCAGACCAGAGCCAACAG

```

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=====
(754) AY322189
=====

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PK1:  -10.640000(kcal/mol): PK_start=1522 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1560
(fs_start=1553)

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                A
TTGGAATGTGGACAGGAAGGACACCAA
                GTT   AGAAAGT
                TTTTTTAGG
CACTGAAAGACAGGCTAA

```

```

PK2:  -20.500000(kcal/mol): PK_start=1538 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1574
(fs_start=1553)

```

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                C
GAAGGACACCAAATGAAAGATTGCACTGAAAGA
                GATTTTTT   A   ATCGGA
                TGGCCTTC
GGAAAATC

```

```

PK3:  -23.815000(kcal/mol): PK_start=1562 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1595
(fs_start=1553)

```

```

                AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
                CCT   TCCGGTCT
                AGGCCAGGGA
AACAAAGGA

```

```

PK4:  -24.040000(kcal/mol): PK_start=1568 sp=7 s1=7 s2=4 l1=10 l2=4 L3=0 PK_end=1603
(fs_start=1553)

```

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                TTCCAACAAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCC
                GGACCGG   AAGG
                TTCCCT
GAAC

```

```

=====
(755) AY322190
=====

```

PK1: -10.640000(kcal/mol): PK_start=1533 sp=0 s1=3 s2=7 l1=1 l2=18 l3=0 PK_end=1571
(fs_start=1564)

A
TTGGAAATGTGGAAAGGAAGGACACCAA
GTT AGAAAGT
TTTTTTTAGG
CACTGAGAGACAGGCTAA

PK2: -21.940000(kcal/mol): PK_start=1549 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1586
(fs_start=1564)

C
GAAGGACACCAAATGAAAGATTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1573 sp=0 s1=3 s2=8 l1=3 l2=9 l3=0 PK_end=1606
(fs_start=1564)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AGCAAAGGG

PK4: -21.815000(kcal/mol): PK_start=1579 sp=7 s1=8 s2=4 l1=8 l2=6 l3=0 PK_end=1616
(fs_start=1564)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGG
TCCTCA
AAATTT

=====
(756) AY322191
=====

PK1: -10.640000(kcal/mol): PK_start=1515 sp=0 s1=3 s2=7 l1=1 l2=18 l3=0 PK_end=1553
(fs_start=1546)

A
TTGGAAATGTGGAAAAGAAGGACACCAA
GTT AGAAAGT
TTTTTTTAGG
CACTGAAAGACAGGCTAA

PK2: -21.980000(kcal/mol): PK_start=1531 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1568
(fs_start=1546)

C
GAAGGACACCAAATGAAAGATTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTCC
GGAGAAT

PK3: -21.65000(kcal/mol): PK_start=1554 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1588
(fs_start=1546)

AA
CACTGAAAGACAGGCTAATTTTTTAGGGAG
CCCTC CGGTTT
GCCAGGAA
AACAAGGGGAG

PK4: -24.585000(kcal/mol): PK_start=1561 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1598
(fs_start=1546)

CCAACA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCTC
GGACCGGAG GGGA
TCCTCA
AAACTT

PK4B: -26.865000(kcal/mol): PK_start=1561 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1624
(fs_start=1546)

CCCAACAA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
GGACCGGA GGGG
CCCCAC
AAACTTTCCTCAGAACAGGTTGGAGCCAACAG

=====
(757) AY322193
=====

PK1: -10.640000(kcal/mol): PK_start=1508 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1546
(fs_start=1539)

A
TTGGAAATGTGGGAAGGAGGGACACCAA
GTT AGAAAGT
TTTTTTAGG
CACTGAAAGACAGGCTAA

PK2: -20.500000(kcal/mol): PK_start=1524 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1560
(fs_start=1539)

C
GAGGGACACCAAATGAAAGATTGCACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -23.815000(kcal/mol): PK_start=1548 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1581
(fs_start=1539)

AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTCT
AGGCCAGGGA
AGCAAGGGG

PK4: -27.650000(kcal/mol): PK_start=1554 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=1592
(fs_start=1539)

TTCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCC
GGACCGG AGGGG
TCCTCAG
GAACTT

PK4B: -22.830000(kcal/mol): PK_start=1555 sp=8 s1=6 s2=4 l1=9 l2=33 L3=1 PK_end=1616
(fs_start=1539)

TTCCAGCAA
GACAGGCTAATTTTTTAGGGAAAATCTGGCC
GACCGG A GGGG
CTCCAC
GGAACCTTCTCAGAACAGACTGGAGCCAACAG

=====
(758) AY331282
=====

PK1: -13.555000(kcal/mol): PK_start=1278 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1306
(fs_start=1298)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1283 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1319
(fs_start=1298)

C
GAAGGACACCAAATGAAAGATTGTTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -22.650000(kcal/mol): PK_start=1307 sp=0 s1=5 s2=6 l1=1 l2=11 L3=0 PK_end=1340
(fs_start=1298)

A
ACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCTTC CGGTCT
GCCAGGGA
AACAAGGGGAG

PK4: -28.540000(kcal/mol): PK_start=1313 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1350
(fs_start=1298)

CAAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1313 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1376
(fs_start=1298)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCCTTCAGAGCAGACCAGAGCCAACAG

=====
(759) AY331283
=====

PK1: -13.555000(kcal/mol): PK_start=1278 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1306
(fs_start=1298)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1283 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1319
(fs_start=1298)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -22.650000(kcal/mol): PK_start=1307 sp=0 s1=5 s2=6 l1=1 l2=11 L3=0 PK_end=1340
(fs_start=1298)

A
ACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCTTC CGGTCT
GCCAGGGA
AACAAGGGGAG

PK4: -28.540000(kcal/mol): PK_start=1313 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1350
(fs_start=1298)

CAAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1313 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1376
(fs_start=1298)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCCTTCAGAGCAGACCAGAGCCAACAG

=====
(760) AY331284
=====

PK1: -13.595000(kcal/mol): PK_start=1278 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1306
(fs_start=1298)

A
GACAGGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1283 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1319
(fs_start=1298)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1306 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1340
(fs_start=1298)

A
TACTGAAAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.445000(kcal/mol): PK_start=1313 sp=7 s1=8 s2=5 l1=7 l2=4 L3=0 PK_end=1349
(fs_start=1298)

TCCCACA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGGA
TTCCTCC
GAAT

=====
(761) AY331285
=====

PK1: -13.555000(kcal/mol): PK_start=1276 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1304
(fs_start=1296)

A
GGAAGGAAGGACATCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1281 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1317
(fs_start=1296)

C
GAAGGACATCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA

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                                TGGCCTTC
                GGAAGATC
PK3:  -26.110000(kcal/mol): PK_start=1304 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1338
(fs_start=1296)
                                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                                CCCTTC    CGGTCT
                                GCCAGGGA
                ACAAGGGGAG

PK4:  -25.745000(kcal/mol): PK_start=1311 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1348
(fs_start=1296)
                                CCCACA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTT
                                GGACCGGAG    GGGG
                                TCCTCA
                GAATTT

PK4B:  -30.395000(kcal/mol): PK_start=1311 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1374
(fs_start=1296)
                                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
                                GGACCGGA    GGGG
                                CCCCAC
                GAATTTTCCTCAGAGCAGAACAGAGCCAACAG

=====
(762) AY331286
=====
PK1:  -13.555000(kcal/mol): PK_start=1276 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1304
(fs_start=1296)
                                A
GGAAGGAAGGACATCAAATGAAAGATTGT
                                GACA    GAGAGTC
                                TTTTtaggg
                GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1281 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1317
(fs_start=1296)
                                C
GAAGGACATCAAATGAAAGATTGTACTGAGAGA
                                GATTTTTT    A    ATCGGA
                                TGGCCTTC
                GGAAGATC

PK3:  -26.110000(kcal/mol): PK_start=1304 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1338
(fs_start=1296)
                                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                                CCCTTC    CGGTCT

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                                GCCAGGGA
          ACAAGGGGAG
PK4:  -25.745000(kcal/mol): PK_start=1311 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1348
(fs_start=1296)
                                CCCACA
AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCTT
                                GGACCGGAG    GGGA
                                TCCTCA
          GAATTT

PK4B:  -30.395000(kcal/mol): PK_start=1311 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1374
(fs_start=1296)
                                TCCCACAA
AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCTT
                                GGACCGGA    GGGG
                                CCCCAC
          GAATTTTCCTCAGAGCAGAACAGAGCCAACAG

=====
(763) AY331287
=====
PK1:  -13.595000(kcal/mol): PK_start=1275 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1303
(fs_start=1295)
                                A
GACAGGAAGGACACCAAATGAAAGATTGT
                                GACA    GAAAGTC
                                TTTTtaggg
          GCTAAT

PK2:  -20.500000(kcal/mol): PK_start=1280 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1316
(fs_start=1295)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
                                GATTTTTT    A    ATCGGA
                                TGGCCTTC
          GGAAGCTC

PK3:  -23.230000(kcal/mol): PK_start=1303 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1337
(fs_start=1295)
                                C
TACTGAAAGACAGGCTAATTTTTTTAGGGAAG
                                CTCTTC    CGGTCT
                                GCCAGGGA
          AGAAGGGAAG

PK4:  -33.265000(kcal/mol): PK_start=1309 sp=6 s1=12 s2=4 l1=2 l2=6 L3=0 PK_end=1348
(fs_start=1295)
                                CA
AAGACAGGCTAATTTTTTTAGGGAAGCTCTGGCCTTCT
                                GGGACCGGAAGG    GAAG

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                                CTCAG
AATTTT

=====
(764) AY331288
=====
PK1:  -13.595000(kcal/mol): PK_start=1275 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1303
(fs_start=1295)
                                A
GACAGGAAGGACACCAAATGAAAGATTGT
                                GACA    GAAAGTC
                                TTTTtaggg
GCTAAT

PK2:  -20.500000(kcal/mol): PK_start=1280 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1316
(fs_start=1295)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
                                GATTTTTT A  ATCGGA
                                TGGCCTTC
GGAAGCTC

PK3:  -23.230000(kcal/mol): PK_start=1303 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1337
(fs_start=1295)
                                C
TACTGAAAGACAGGCTAATTTTTTAGGGAAG
                                CTCTTC    CGGTCT
                                GCCAGGGA
AGAAGGGAAG

PK4:  -33.265000(kcal/mol): PK_start=1309 sp=6 s1=12 s2=4 l1=2 l2=6 L3=0 PK_end=1348
(fs_start=1295)
                                CA
AAGACAGGCTAATTTTTTAGGGAAGCTCTGGCCTTCT
                                GGGACCGGAAGG    GAAG
                                CTCAG
AATTTT

=====
(765) AY331289
=====
PK1:  -13.205000(kcal/mol): PK_start=1277 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1304
(fs_start=1296)
                                A
AAAGGAAGGACACCAAATGAAAGAGTGT
                                ACA    GAGAGTC
                                TTTTtaggg
GGCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1281 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1317
(fs_start=1296)
                                C
GAAGGACACCAAATGAAAGAGTGTACTGAGAGA

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          GATTTTTT A ATCGGA
                                TGGCCTTC
      GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1304 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1338
(fs_start=1296)
          AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
          CCCT   TCCGGTCT
                                AGGCCAGGGA
      ACAAGGGG
PK4:  -26.235000(kcal/mol): PK_start=1311 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1348
(fs_start=1296)
                                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
          GGACCGGAGG   GGAA
                                TCTTCA
      GAACTT
PK4B:  -30.395000(kcal/mol): PK_start=1311 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1374
(fs_start=1296)
                                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
          GGACCGGA   GGGG
                                CCCCAC
      GAACTTTCCTCAGAGCAGACCAGAGCCAACAG
=====
(766) AY331290
=====
PK1:  -13.205000(kcal/mol): PK_start=1277 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1304
(fs_start=1296)
          A
AAAGGAAGGACACCAAATGAAAGAGTGT
          ACA   GAGAGTC
                                TTTTTAGGG
      GGCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1281 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1317
(fs_start=1296)
          C
GAAGGACACCAAATGAAAGAGTGTACTGAGAGA
          GATTTTTT A ATCGGA
                                TGGCCTTC
      GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1304 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1338
(fs_start=1296)
          AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA

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          CCCT   TCCGGTCT
                AGGCCAGGGA
ACAAGGGG

PK4:  -26.235000(kcal/mol): PK_start=1311 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1348
(fs_start=1296)
                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                GGACCGGAGG   GGAA
                                TCTTCA
                GAACTT

PK4B:  -30.395000(kcal/mol): PK_start=1311 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1374
(fs_start=1296)
                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                GGACCGGA   GGGG
                                CCCCAC
                GAACTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(767) AY331291
=====
PK1:  -13.555000(kcal/mol): PK_start=1266 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1294
(fs_start=1286)
                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                GACA   GAGAGTC
                                TTTTTAGGG
                GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1271 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1307
(fs_start=1286)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT   A   ATCGGA
                                TGGCCTTC
                GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1294 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1328
(fs_start=1286)
                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTCT
                                AGGCCAGGGA
                ACAAGGGG

PK4:  -24.345000(kcal/mol): PK_start=1301 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1338
(fs_start=1286)
                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT

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                GGACCGGA    GGGG
                                TCTCCA
          GAATTT
PK4B:  -30.395000(kcal/mol): PK_start=1301 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1364
(fs_start=1286)
                                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                GGACCGGA    GGGG
                                CCCCAC
          GAATTTTCTCCAGAGCCGACCAGAGCCAACAG

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=====
(768) AY331292
=====

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PK1:  -13.555000(kcal/mol): PK_start=1280 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1308
(fs_start=1300)

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                A
GCAGGGAAGGGCACCAAATGAAAGATTGT
                GACA    GAGAGTC
                                TTTTTAGGG
          GCTAAT

```

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PK2:  -20.460000(kcal/mol): PK_start=1285 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1321
(fs_start=1300)

```

```

                C
GAAGGGCACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT    A    ATCGGA
                                TGGCCTTC
          GGAAAATC

```

```

PK3:  -27.275000(kcal/mol): PK_start=1308 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1342
(fs_start=1300)

```

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                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                CCCT    TCCGGTCT
                                AGGCCAGGGA
          ACAAGGGA

```

```

PK4:  -29.020000(kcal/mol): PK_start=1315 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1352
(fs_start=1300)

```

```

                                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                GGACCGGAAG    GGAA
                                CCTTCA
          GAATTT

```

```

=====
(769) AY331293
=====

```

PK1: -13.555000(kcal/mol): PK_start=1278 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1306
(fs_start=1298)

A
GCAGGGAAGGGCACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1283 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1319
(fs_start=1298)

C
GAAGGGCACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1306 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1340
(fs_start=1298)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -29.020000(kcal/mol): PK_start=1313 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1350
(fs_start=1298)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(770) AY331294
=====

PK1: -14.685000(kcal/mol): PK_start=1251 sp=0 s1=3 s2=9 l1=4 l2=14 L3=0 PK_end=1292
(fs_start=1285)

CAAA
CTGTTGGAAATGTGGAAAAGAAGGACAC
GTG TTAGAAAGT
AATTTTTTAGG
ATCAGAGACAGGCT

PK2: -15.910000(kcal/mol): PK_start=1273 sp=0 s1=5 s2=6 l1=1 l2=11 L3=1 PK_end=1306
(fs_start=1285)

C
GGACACCAAATGAAAGATTGTGATCAGAGA
TTTTT A ATCGGA
TGGCCTTC
TAGGGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1293 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1327 (fs_start=1285)

A
TGATCAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAAGGAAG

PK4: -24.115000(kcal/mol): PK_start=1300 sp=7 s1=8 s2=5 l1=7 l2=5 l3=0 PK_end=1337 (fs_start=1285)

TCCCACA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGAA
TTCTTCA
GAATT

=====
(771) AY331295
=====

PK1: -14.685000(kcal/mol): PK_start=1249 sp=0 s1=3 s2=9 l1=4 l2=14 l3=0 PK_end=1290 (fs_start=1283)

CAAA
CTGTTGGAAATGTGAAAAGAAGGACAC
GTG TTAGAAAGT
AATTTTTTAGG
ATCAGAGACAGGCT

PK2: -15.910000(kcal/mol): PK_start=1271 sp=0 s1=5 s2=6 l1=1 l2=11 l3=1 PK_end=1304 (fs_start=1283)

C
GGACACCAAATGAAAGATTGTGATCAGAGA
TTTTT A ATCGGA
TGGCCTC
TAGGGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1291 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1325 (fs_start=1283)

A
TGATCAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAAGGAAG

PK4: -24.115000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=5 l1=7 l2=5 l3=0 PK_end=1335 (fs_start=1283)

TCCCACA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGAA
TTCTTCA
GAATT

=====
(772) AY331296
=====

PK1: -13.305000(kcal/mol): PK_start=1285 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1312
(fs_start=1304)

A
GAAGGAAGGACACCAAATGAAAGAATGT
ACA GAGAGTC
TTTTTAGGG
GGCTAAT

PK2: -20.460000(kcal/mol): PK_start=1289 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1325
(fs_start=1304)

C
GAAGGACACCAAATGAAAGAATGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1312 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1346
(fs_start=1304)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -29.020000(kcal/mol): PK_start=1319 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1356
(fs_start=1304)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(773) AY331297
=====

PK1: -13.305000(kcal/mol): PK_start=1285 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1312
(fs_start=1304)

A
GAAGGAAGGACACCAAATGAAAGAATGT
ACA GAGAGTC
TTTTTAGGG
GGCTAAT

PK2: -20.460000(kcal/mol): PK_start=1289 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1325
(fs_start=1304)

C
GAAGGACACCAAATGAAAGAATGTACTGAGAGA
GATTTTTT A ATCGGA

```

                                TGGCCTTC
                GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1312 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1346
(fs_start=1304)
                                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCCT    TCCGGTCT
                                AGGCCAGGGA
                ACAAGGGA
PK4:  -29.020000(kcal/mol): PK_start=1319 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1356
(fs_start=1304)
                                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAAG    GGAA
                                CCTTCA
                GAATTT

=====
(774) AY332236
=====
PK1:  -13.595000(kcal/mol): PK_start=1278 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1306
(fs_start=1298)
                                A
GACAGGAAGGACACCAAATGAAAGATTGT
                                GACA    GAAAGTC
                                TTTTTAGGG
                GCTAAT
PK2:  -20.500000(kcal/mol): PK_start=1283 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1319
(fs_start=1298)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
                                GATTTTTT    A    ATCGGA
                                TGGCCTTC
                GGAAGATC
PK3:  -26.110000(kcal/mol): PK_start=1306 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1340
(fs_start=1298)
                                A
TACTGAAAGACAGGCTAATTTTTTAGGGAAG
                                CCCTTC    CGGTCT
                                GCCAGGGA
                ACAAGGGAAG
PK4:  -26.445000(kcal/mol): PK_start=1313 sp=7 s1=8 s2=5 l1=7 l2=4 L3=0 PK_end=1349
(fs_start=1298)
                                TCCCACA
AGACAGGCTAATTTTTTAGGGGAAGATCTGGCCT
                                GGACCGGA    AGGGA

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                                TTCCTCC
                                GAAT

=====
(775) AY332237
=====
PK1:  -13.555000(kcal/mol): PK_start=1266 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1294
(fs_start=1286)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                                GACA    GAGAGTC
                                TTTTtaggg
                                GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1271 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1307
(fs_start=1286)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                                GATTTTTT A  ATCGGA
                                TGGCCTTC
                                GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1294 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1328
(fs_start=1286)
                                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCCT    TCCGGTCT
                                AGGCCAGGGA
                                ACAAGGGG

PK4:  -24.345000(kcal/mol): PK_start=1301 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1338
(fs_start=1286)
                                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                                GGACCGGA    GGGG
                                TCTCCA
                                GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1301 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1364
(fs_start=1286)
                                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                                GGACCGGA    GGGG
                                CCCCAC
                                GAATTTTCTCCAGAGCCGACCAGAGCCAACAG

=====
(776) AY352275
=====
PK1:  -13.555000(kcal/mol): PK_start=2066 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2094
(fs_start=2086)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT

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          GACA   GAGAGTC
                TTTTtaggg
    GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=2071 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2107
(fs_start=2086)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT A  ATCGGA
                TGGCCTTC
    GGAAGATC
PK3:  -26.110000(kcal/mol): PK_start=2094 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=2128
(fs_start=2086)
                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                CCCTTC   CGGTCT
                GCCAGGGA
    ACAAGGGGAG
PK4:  -26.235000(kcal/mol): PK_start=2101 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2138
(fs_start=2086)
                CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
                GGACCGGAGG   GGAA
                TCTTCA
    GAATTT
PK4B:  -30.395000(kcal/mol): PK_start=2101 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2164
(fs_start=2086)
                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
                GGACCGGA   GGGG
                CCCCAc
    GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(777) AY352654
=====
PK1:  -11.420000(kcal/mol): PK_start=1438 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=1464
(fs_start=1458)
                CACA
GAAAAGAGGGACATCAAATGAAAGACTG
                GAC   AGAGAG
                TTTTTTAG
    GCTAA
PK2:  -18.660000(kcal/mol): PK_start=1445 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1480
(fs_start=1458)
                C
GGGACATCAAATGAAAGACTGCACAGAGAGA

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                TTTTTT   AATCGGA
                    TTGGCCTTC
AGGGAAGAT
PK3:  -19.120000(kcal/mol): PK_start=1467 sp=0 s1=5 s2=6 l1=1 l2=11 L3=0 PK_end=1500
(fs_start=1458)
                A
ACAGAGAGACAGGCTAATTTTTTTAGGGAAG
                CCTTC   CGGTTT
                    GCCAGGAA
                AACAAAGGGGAG

PK4:  -22.705000(kcal/mol): PK_start=1473 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1510
(fs_start=1458)
                    CAAC
AGACAGGCTAATTTTTTTAGGGAAGATTTGGCCTTC
                GGACCGGAGG   GGAA
                    TCTTCA
                AAATTT

PK4B:  -26.865000(kcal/mol): PK_start=1473 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1536
(fs_start=1458)
                    TCCAACAA
AGACAGGCTAATTTTTTTAGGGAAGATTTGGCCT
                GGACCGGA   GGGG
                    CCCCCG
                AAATTTTCTTCAGAGCAGGCCAGAGCCAACAG

=====
(778) AY352655
=====
PK1:  -11.420000(kcal/mol): PK_start=1392 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=1418
(fs_start=1412)
                CACA
GAAAGGAGGGACATCAAATGAAAGACTG
                GAC   AGAGAG
                    TTTTTTAG
                GCTAA

PK2:  -18.660000(kcal/mol): PK_start=1399 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1434
(fs_start=1412)
                C
GGGACATCAAATGAAAGACTGCACAGAGAGA
                TTTTTT   AATCGGA
                    TTGGCCTTC
                AGGGAAAAT

PK3:  -23.745000(kcal/mol): PK_start=1420 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1454
(fs_start=1412)
                AAA
CACAGAGAGACAGGCTAATTTTTTTAGGGA

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          CCCT   TCCGGTTT
                AGGCCAGGGA
ACAAGGGG
PK4:  -25.010000(kcal/mol): PK_start=1427 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1464
(fs_start=1412)
                CCAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
                GGACCGGAGG   GGAA
                                CCTTCA
                GAATTT

PK4B:  -26.865000(kcal/mol): PK_start=1427 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1490
(fs_start=1412)
                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA   GGGG
                                CCCCCG
                GAATTCCTTCAGAACAGGCCAGCCAACAG

=====
(779) AY352656
=====
PK1:  -11.420000(kcal/mol): PK_start=1422 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=1448
(fs_start=1442)
                CACC
GGAAAGAAGGACACCAAATGAAAGACTG
                GAC   AGAGAG
                                TTTTTTAG
                GCTAA

PK2:  -18.660000(kcal/mol): PK_start=1429 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1464
(fs_start=1442)
                C
AGGACACCAAATGAAAGACTGCACCGAGAGA
                TTTTTT   AATCGGA
                                TTGGCCTTC
                AGGGAGAAT

PK3:  -18.840000(kcal/mol): PK_start=1450 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1484
(fs_start=1442)
                AA
CACCGAGAGACAGGCTAATTTTTTAGGGAG
                CCTTC   CGGTTT
                                GCCAGGAA
                AGCAAGGGGAG

PK4:  -22.215000(kcal/mol): PK_start=1457 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1494
(fs_start=1442)
                CCAGCA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCTT

```

GGACCGGAG GGGA
 TCCTCA
 AAATTT

PK4B: -26.865000(kcal/mol): PK_start=1457 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1520
 (fs_start=1442)

TCCAGCAA
 AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT

GGACCGGA GGGG
 CCCCAC
 AAATTTTCCTCAGAGCAGACCGGAACCAACAG

=====
 (780) AY352657
 =====

PK1: -15.140000(kcal/mol): PK_start=1422 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1450
 (fs_start=1442)

CA
 GGAAAGAAGGACACCAAATGAAAGACTG

GAC AGAAAGTC
 TTTTTTAGGG
 GCTAA

PK2: -21.980000(kcal/mol): PK_start=1427 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1464
 (fs_start=1442)

C
 GAAGGACACCAAATGAAAGACTGCACTGAAAGA

GATTTTTT AATCGGA
 TTGGCCTTC
 GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1451 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1484
 (fs_start=1442)

AAA
 ACTGAAAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT
 AGGCCAGGGA
 AGCAAGGGG

PK4: -22.215000(kcal/mol): PK_start=1457 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1494
 (fs_start=1442)

CCAGCA
 AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT

GGACCGGAG GGGA
 TCCTCG
 GAACTT

PK4B: -26.865000(kcal/mol): PK_start=1457 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1520
 (fs_start=1442)

TCCAGCAA
 AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG
CCCCAC
GAACTTTCCTCGGAGCAGACCGGAGCCAACAG

=====
(781) AY358036
=====

PK1: -15.10000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
(fs_start=1283)

CA
GGAAAGAAGGACACCAAATGAAAGACTG

GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.94000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)

C
GAAGGACACCAAATGAAAGACTGCACTGAGAGA

GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -18.56500(kcal/mol): PK_start=1292 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1325
(fs_start=1283)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT
AGGCCGGGGA
AGCAAAGGA

PK4: -20.74500(kcal/mol): PK_start=1298 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1335
(fs_start=1283)

TCCAGCAA
AGACAGGCTAATTTTTTAGGAAAATTTGGCCT

GGCCGGA AGGA
TCCTCA
GAATTT

=====
(782) AY358037
=====

PK1: -15.58500(kcal/mol): PK_start=1263 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1291
(fs_start=1283)

A
GGAAGGAGGGACATCAAATGAAAGACTGT

GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.46000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1304
(fs_start=1283)

C
GAGGGACATCAAATGAAAGACTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -23.145000(kcal/mol): PK_start=1292 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1325
(fs_start=1283)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTCT
AGGCCGGGGA
AACAAGGGA

PK4: -25.775000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1335
(fs_start=1283)

TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGGCCGGA AGGGA
TTCCTCA
GAATT

=====
(783) AY358038
=====

PK1: -15.100000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
(fs_start=1283)

CA
GGAAAGAAGGACACCAAATGAAGGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)

C
GAAGGACACCAAATGAAGGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1292 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1325
(fs_start=1283)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGGA
AGCAAGGGA

PK4: -21.195000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1335
(fs_start=1283)

```

                                TCCAGCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                                GGGCCGGA   AGGGA
                                TTCCTCA
                                GAATT
```

=====
(784) AY358040
=====

PK1: -15.100000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
(fs_start=1283)

```

                                CA
GGAAGGAAGGACATCAAATGAAAGACTG
                                GAC   AGAGAGTC
                                TTTTTTAGGG
                                GCTAA
```

PK2: -21.940000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)

```

                                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                                GATTTTTT   AATCGGA
                                TTGGCCTTC
                                GGAAAAT
```

PK3: -20.285000(kcal/mol): PK_start=1292 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1325
(fs_start=1283)

```

                                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCT   TCCGGTTT
                                AGGCCAGGGA
                                AACAAGGGA
```

PK4: -22.915000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1335
(fs_start=1283)

```

                                TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                                GGACCGGA   AGGGA
                                TTCCTCA
                                GAATT
```

=====
(785) AY358041
=====

PK1: -15.100000(kcal/mol): PK_start=1257 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1285
(fs_start=1277)

```

                                CA
GGAAGGAAGGACATCAAATGAAAGACTG
                                GAC   AGAGAGTC
```

```

                TTTTTTAGGG
          GCTAA
PK2:  -21.940000(kcal/mol): PK_start=1262 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1299
(fs_start=1277)
                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT   AATCGGA
                TTGGCCTTC
          GGAAAAT

PK3:  -18.565000(kcal/mol): PK_start=1286 sp=0 s1=3 s2=8 l1=3 l2=6 L3=0 PK_end=1316
(fs_start=1277)
                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                CCT   TCCGGTTT
                AGGCCGGAA
          AAGGGA

PK4:  -21.195000(kcal/mol): PK_start=1292 sp=7 s1=8 s2=5 l1=4 l2=5 L3=0 PK_end=1326
(fs_start=1277)
                TCCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGGCCGGA   AGGGA
                TTCCTCA
          AAATT

=====
(786) AY358042
=====
PK1:  -15.100000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
(fs_start=1283)
                CA
GAAAGGAAGGACATCAAATGAAAGACTG
                GAC   AGAGAGTC
                TTTTTTAGGG
          GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)
                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT   AATCGGA
                TTGGCCTTC
          GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1292 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1325
(fs_start=1283)
                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                CCT   TCCGGTTT

```

AGGCCAGGGA
 AACAAGGGA

PK4: -22.915000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1335
 (fs_start=1283)

TCCAACA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA AGGGA

TTCCTCA

GAATT

=====
 (787) AY358043
 =====

PK1: -15.100000(kcal/mol): PK_start=1269 sp=0 s1=3 s2=8 l1=5 l2=5 L3=0 PK_end=1300
 (fs_start=1292)

CGCTG

GGAAGGAAGGACATCAAATGAAAGACTG

GAC AGAGAGTC

TTTTTTAGGG

GCTAA

PK2: -21.640000(kcal/mol): PK_start=1277 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1314
 (fs_start=1292)

C

GGACATCAAATGAAAGACTGCGCTGCTGAGAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1301 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1334
 (fs_start=1292)

AAA

GCTGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT

AGGCCGGGGA

AACAAGGGA

PK4: -23.295000(kcal/mol): PK_start=1307 sp=7 s1=9 s2=4 l1=6 l2=33 L3=0 PK_end=1371
 (fs_start=1292)

CCAACA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT

GGGCCGGA GGGA

CCCTCC

GAATTTTCCTCAGAGCAAAACAGAGCCAACAGC

=====
 (788) AY358044
 =====

PK1: -15.100000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
 (fs_start=1283)

CA

GGAAGGAAGGACATCAAATGAAAGACTG

GAC AGAGAGTC
TTTTTTTAGGG
GCTAA
PK2: -21.940000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1292 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1325
(fs_start=1283)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
ACAAGGGA

PK4: -22.915000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1335
(fs_start=1283)

TCCAACA
AGACAGGCTAATTTTTTAGGAAAATTTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(789) AY358045
=====

PK1: -15.100000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
(fs_start=1283)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1292 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1325
(fs_start=1283)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA

```

          CCT   TCCGGTTT
                AGGCCAGGGA
AACAAAGGGA
PK4:  -22.915000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1335
(fs_start=1283)
                TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA   AGGGA
                TTCCTCA
          GAATT

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=====
(790) AY358049
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PK1:  -10.440000(kcal/mol): PK_start=1252 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1290
(fs_start=1283)
          A
TTGGAAATGCGGGAAGGAAGGACATCAA
                GTT   AGAAAGT
                TTTTTTAGG
          CACTGAAAGACAGGCTAA

```

```

PK2:  -21.980000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)
          C
GAAGGACATCAAATGAAAGATTGCACTGAAAGA
                GATTTTTT   AATCGGA
                TTGGCCTTC
          GGAAAAT

```

```

PK3:  -18.565000(kcal/mol): PK_start=1292 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1325
(fs_start=1283)
          AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
                CCT   TCCGGTTT
                AGGCCGGGGA
          AACAAAGGGA

```

```

PK4:  -21.195000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1335
(fs_start=1283)
                TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGGCCGGA   AGGGA
                TTCCTCA
          GAATT

```

```

=====
(791) AY358050
=====

```

PK1: -15.10000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291 (fs_start=1283)

CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.94000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305 (fs_start=1283)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -18.56500(kcal/mol): PK_start=1292 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1325 (fs_start=1283)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGAA
AACAAGGGA

PK4: -21.19500(kcal/mol): PK_start=1298 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1335 (fs_start=1283)

TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA AGGGA
TTCCTCA
AAATT

=====
(792) AY358051
=====

PK1: -12.16000(kcal/mol): PK_start=1252 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1290 (fs_start=1283)

A
TTGGAAATGCGGGAAGGAAGGACATCAG
GTC AGAAAGT
TTTTTTAGG
CACTGAGAGACAGGCTAA

PK2: -21.94000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305 (fs_start=1283)

C
GAAGGACATCAGATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAGAT

PK3: -19.120000(kcal/mol): PK_start=1292 sp=0 s1=5 s2=6 l1=1 l2=11 l3=0 PK_end=1325 (fs_start=1283)

A
ACTGAGAGACAGGCTAATTTTTTTAGGGAAG
CCTTC CGGTTT
GCCAGGAA
AACAAGGGAAG

PK4: -22.915000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=5 l1=7 l2=5 l3=0 PK_end=1335 (fs_start=1283)

TCCAACA
AGACAGGCTAATTTTTTTAGGGAAGATTGGCCT
GGACCGGA AGGGA
TTCCTCA
AAATT

=====
(793) AY358052
=====

PK1: -15.100000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 l3=0 PK_end=1291 (fs_start=1283)

CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1305 (fs_start=1283)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1292 sp=0 s1=3 s2=8 l1=3 l2=9 l3=0 PK_end=1325 (fs_start=1283)

AAA
ACTGAGAGACAGGCTAATTTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGAA
AACAAGGGA

PK4: -21.195000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=5 l1=7 l2=5 l3=0 PK_end=1335 (fs_start=1283)

TCCAACA
AGACAGGCTAATTTTTTTAGGAAAATTGGCCT
GGGCCGGA AGGGA
TTCCTCA
AAATT

=====
(794) AY358056
=====

PK1: -15.100000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
(fs_start=1283)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1292 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1325
(fs_start=1283)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGGA
AACAAGGGA

PK4: -21.195000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1335
(fs_start=1283)

TCCAACA
AGACAGGCTAATTTTTTAGGAAAATTTGGCCT
GGCCGGA AGGGA
TTCCTCA
GAATT

=====
(795) AY358057
=====

PK1: -15.100000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
(fs_start=1283)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1292 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1325
(fs_start=1283)

AAA

ACTGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT

AGGCCGGGAA

AACAAGGGA

PK4: -21.195000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1335
(fs_start=1283)

TCCAACA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGGCCGGA AGGGA

TTCCTCA

AAATT

=====
(796) AY358059
=====

PK1: -15.100000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
(fs_start=1283)

CA

GGAAAGAAGGACATCAAATGAAAGACTG

GAC AGAGAGTC

TTTTTTTAGGG

GCTAA

PK2: -21.940000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)

C

GAAGGACATCAAATGAAAGACTGCACTGAGAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1292 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1325
(fs_start=1283)

AAA

ACTGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT

AGGCCAGGGA

AACAAGGGA

PK4: -22.915000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1335
(fs_start=1283)

TCCAACA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA AGGGA

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                                TTCCTCA
                                GAATT
=====
(797) AY358060
=====
PK1:  -15.100000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
(fs_start=1283)
                                CA
GGAAAGAAGGACATCAAATGAAAGACTG
                                GAC   AGAGAGTC
                                TTTTTTAGGG
                                GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)
                                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                                GATTTTTT   AATCGGA
                                TTGGCCTTC
                                GGAAAAT

PK3:  -18.565000(kcal/mol): PK_start=1292 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1325
(fs_start=1283)
                                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCT   TCCGGTTT
                                AGGCCGGGAA
                                AACAGGGGA

PK4:  -23.795000(kcal/mol): PK_start=1298 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1335
(fs_start=1283)
                                CAAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
                                GGGCCGGAAG   GGGA
                                TCCTCA
                                AAATTT

PK4B:  -26.075000(kcal/mol): PK_start=1298 sp=7 s1=9 s2=4 l1=6 l2=32 L3=0 PK_end=1361
(fs_start=1283)
                                CCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
                                GGGCCGGAA   GGGG
                                CCCCCG
                                AAATTTTCCTCAGAGCAGACCAGAGCCAACAG

=====
(798) AY358061
=====
PK1:  -10.440000(kcal/mol): PK_start=1252 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1290
(fs_start=1283)
                                A
TTGGAAATGCGGGAAGGAAGGACATCAA

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          GTT   AGAAAGT
                TTTTTTAGG
          CACTGAAAGACAGGCTAA

PK2:  -21.980000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)
                C
          GAAGGACATCAAATGAAAGATTGCACTGAAAGA
                GATTTTTT   AATCGGA
                TTGGCCTTC
          GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1292 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1325
(fs_start=1283)
                AAA
          ACTGAAAGACAGGCTAATTTTTTAGGGA
                CCT   TCCGGTTT
                AGGCCAGGGA
          AACAAGGGA

PK4:  -22.915000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1335
(fs_start=1283)
                TCCAACA
          AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA   AGGGA
                TTCCTCA
          GAATT

=====
(799) AY358062
=====
PK1:  -15.585000(kcal/mol): PK_start=1263 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1291
(fs_start=1283)
                A
          GGAAGGAGGGACATCAAATGAAAGACTGT
                GACA   GAGAGTC
                TTTTTTAGGG
          GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1304
(fs_start=1283)
                C
          GAGGGACATCAAATGAAAGACTGTACTGAGAGA
                GATTTTTT   A   ATCGGA
                TGGCCTTC
          GGAAAATC

PK3:  -23.145000(kcal/mol): PK_start=1292 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1325
(fs_start=1283)
                AAA
          ACTGAGAGACAGGCTAATTTTTTAGGGA

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          CCT      TCCGGTCT
                AGGCCGGGGA
          AACAAAGGGA

PK4:  -25.775000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1335
(fs_start=1283)
                TCCAACA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT
                GGGCCGGA      AGGGA
                TTCCTCA
          GAATT

=====
(800) AY358063
=====
PK1:  -13.110000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
(fs_start=1283)
                CA
GGAAGGAAGGACATCAAATGAAGGATTG
                GAC      AGAAAGTC
                TTTTTTAGGA
          GCTAA

PK2:  -21.980000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)
                C
GAAGGACATCAAATGAAGGATTGCACTGAAAGA
                GATTTTTT      AATCGGA
                TTGGCCTTC
          GAAAGCT

PK3:  -12.090000(kcal/mol): PK_start=1294 sp=0 s1=3 s2=6 l1=1 l2=13 L3=0 PK_end=1325
(fs_start=1283)
                C
TGAAAGACAGGCTAATTTTTTTAGGAAAG
                TTC      CGGTTT
                GCCGGGGA
          CCAACAAGGGAAG

PK4:  -23.505000(kcal/mol): PK_start=1297 sp=6 s1=9 s2=5 l1=7 l2=4 L3=0 PK_end=1335
(fs_start=1283)
                TCCAACA
AAGACAGGCTAATTTTTTTAGGAAAGCTTTGGCCT
                GGGGCCGGA      AGGGA
                TTCCTCA
          AATT

=====
(801) AY358064
=====

```

PK1: -15.10000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
(fs_start=1283)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTTAGGG
GCTAA

PK2: -21.94000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -18.56500(kcal/mol): PK_start=1292 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1325
(fs_start=1283)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGA
AACAAGGGA

PK4: -21.19500(kcal/mol): PK_start=1298 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1335
(fs_start=1283)

TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA AGGGA
TTCCTCA
GAATT

=====
(802) AY358065
=====

PK1: -15.10000(kcal/mol): PK_start=1266 sp=0 s1=3 s2=8 l1=5 l2=5 L3=0 PK_end=1297
(fs_start=1289)

CACTG
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTTAGGG
GCTAA

PK2: -21.64000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1311
(fs_start=1289)

C
GGACATCAAATGAAAGACTGCACTGCTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1298 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1331
(fs_start=1289)

AAA
GCTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGA
AACAAGGGA

PK4: -23.295000(kcal/mol): PK_start=1304 sp=7 s1=9 s2=4 l1=6 l2=33 L3=0 PK_end=1368
(fs_start=1289)

CCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGGCCGGAA GGGA
CCCTCC
GAATTTTCCTCAGAGCAGAACAGAGCCAACAGC

=====
(803) AY358067
=====

PK1: -15.140000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
(fs_start=1283)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -21.980000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)

C
GAAGGACATCAAATGAAAGACTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1292 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1325
(fs_start=1283)

AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AACAAGGGA

PK4: -22.915000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1335
(fs_start=1283)

TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(804) AY358068
=====

PK1: -15.10000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
(fs_start=1283)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.94000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -18.56500(kcal/mol): PK_start=1292 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1325
(fs_start=1283)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGAA
AACAAGGGG

PK4: -20.49500(kcal/mol): PK_start=1298 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1335
(fs_start=1283)

CCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGCCGGAG GGGA
TCCTCA
AAATTT

PK4B: -25.14500(kcal/mol): PK_start=1298 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1361
(fs_start=1283)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGCCGGGA GGGG
CCCCAC
AAATTTTCCTCAGAGCAGACCAGAGCCAACAG

=====
(805) AY358069
=====

PK1: -15.58500(kcal/mol): PK_start=1260 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1288
(fs_start=1280)

A
GGAAGGAAGGACATCAAATGAAAGACTGT
GACA GAGAGTC

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                TTTT TAGGC
      GCTAAT
PK2:  -21.940000(kcal/mol): PK_start=1265 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1302
(fs_start=1280)
                C
GAAGGACATCAAATGAAAGACTGTACTGAGAGA
                GATTTTTT   AATCGGA
                TTGGCCTTC
      GCAAAAT
PK3:  -14.220000(kcal/mol): PK_start=1287 sp=0 s1=4 s2=6 l1=1 l2=20 L3=1 PK_end=1327
(fs_start=1280)
                A
GTACTGAGAGACAGGCTAATTTTTTAGGC
                TCCG  G  TTTAAA
                GAATTTCC
      TCCCACAAGGGAAGGCCGGG
PK4:  -24.005000(kcal/mol): PK_start=1295 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1332
(fs_start=1280)
                TCCCACA
AGACAGGCTAATTTTTTAGGCAAAATTTGGCCT
                GGGCCGGA   AGGGA
                TCCCTCA
      GAATT

=====
(806) AY358070
=====
PK1:  -15.100000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
(fs_start=1283)
                CA
GGAAGGAAGGACATCAAATGAAAGACTG
                GAC   AGAGAGTC
                TTTTTTAGGG
      GCTAA
PK2:  -21.940000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)
                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT   AATCGGA
                TTGGCCTTC
      GGAAAAT
PK3:  -18.565000(kcal/mol): PK_start=1292 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1325
(fs_start=1283)
                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                CCT   TCCGGTTT

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AGGCCGGGGA
 AACAAAGGGA
 PK4: -21.195000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1335
 (fs_start=1283)
 TCCAACA
 AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
 GGGCCGGA AGGGA
 TTCCTCA
 GAATT

=====
 (807) AY358071
 =====

PK1: -15.100000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
 (fs_start=1283)
 CA
 GAAAGGAAGGACACCAAATGAAAGACTG
 GAC AGAGAGTC
 TTTTTTAGGG
 GCTAA

PK2: -19.080000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=5 l1=2 l2=8 L3=1 PK_end=1303
 (fs_start=1283)
 CA
 GAAGGACACCAAATGAAAGACTGCACTGAGAGA
 GATTTTTT A ATCGG
 TGGCCCT
 GGAAAATC

PK3: -24.730000(kcal/mol): PK_start=1291 sp=0 s1=4 s2=7 l1=3 l2=9 L3=1 PK_end=1324
 (fs_start=1283)
 AAA
 CACTGAGAGACAGGCTAATTTTTTAGGGA
 CCCT C CCGGTCT
 GGCCAGGGA
 ACAAGGGAA

PK4: -23.190000(kcal/mol): PK_start=1298 sp=7 s1=7 s2=6 l1=8 l2=4 L3=0 PK_end=1335
 (fs_start=1283)
 CTCCCACA
 AGACAGGCTAATTTTTTAGGGAAAATCTGGCC
 GGACCGG AAGGGA
 TTTCTTCA
 GAAT

=====
 (808) AY358072
 =====

PK1: -15.585000(kcal/mol): PK_start=1269 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1297
 (fs_start=1289)
 A
 GAAAGGAAGGACACCAAATGAAAGACTGT

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          GACA    GAGAGTC
                TTTTATAGGG
    GCTAAT
PK2:  -19.080000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=5 l1=2 l2=8 L3=1 PK_end=1309
(fs_start=1289)
                CA
    GAAGGACACCAAATGAAAGACTGTACTGAGAGA
                GATTTTTT  A  ATCGG
                        TGGCCCT
    GGAAAATC
PK3:  -24.730000(kcal/mol): PK_start=1297 sp=0 s1=4 s2=7 l1=3 l2=9 L3=1 PK_end=1330
(fs_start=1289)
                AAA
    TACTGAGAGACAGGCTAATTTTTATAGGGA
                CCCT  C  CCGGTCT
                        GGCCAGGGA
    ACAAGGGAA
PK4:  -23.190000(kcal/mol): PK_start=1304 sp=7 s1=7 s2=6 l1=8 l2=4 L3=0 PK_end=1341
(fs_start=1289)
                CTCCCACA
    AGACAGGCTAATTTTTATAGGAAAATCTGGCC
                GGACCGG  AAGGGA
                        TTTCTTCA
    GAAT
=====
(809) AY358073
=====
PK1:  -10.425000(kcal/mol): PK_start=1269 sp=0 s1=4 s2=6 l1=2 l2=5 L3=0 PK_end=1295
(fs_start=1289)
                AC
    GAAAGGAAGGACACCAAATGAAAGATTGT
                GACA    GAGAGA
                        TTTTTTAG
    GCTAA
PK2:  -17.180000(kcal/mol): PK_start=1276 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=1310
(fs_start=1289)
                C
    AGGACACCAAATGAAAGATTGTACAGAGAGA
                TTTTTT  A  ATCGGA
                        TGGCCTTC
    AGGGAAGATC
PK3:  -26.110000(kcal/mol): PK_start=1297 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1331
(fs_start=1289)
                A
    TACAGAGAGACAGGCTAATTTTTATAGGGAAG

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          CCCTTC   CGGTCT
                GCCAGGGA
    ACAAGGGGAG

PK4:  -26.235000(kcal/mol): PK_start=1304 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1341
(fs_start=1289)
                CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
                GGACCGGAGG   GGAA
                                TCTTCA
                GAATTT

PK4B:  -30.395000(kcal/mol): PK_start=1304 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1367
(fs_start=1289)
                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
                GGACCGGA   GGGG
                                CCCCCG
                GAATTTTCTTCAGAACAGACCAGAGCCAACAG

=====
(810) AY371121
=====
PK1:  -12.160000(kcal/mol): PK_start=1258 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1296
(fs_start=1289)
                A
TTGGAAATGTGGAAAGGAGGGACATCAG
                GTC   AGAAAGT
                                TTTTTTAGG
                CACAGAGAGACAGGCTAA

PK2:  -17.180000(kcal/mol): PK_start=1276 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=1310
(fs_start=1289)
                C
GGGACATCAGATGAAAGACTGCACAGAGAGA
                TTTTTT   A   ATCGGA
                                TGGCCTTC
                AGGGAGAATC

PK3:  -22.370000(kcal/mol): PK_start=1297 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1331
(fs_start=1289)
                AA
CACAGAGAGACAGGCTAATTTTTTAGGGAG
                CCTTC   CGGTCT
                                GCCAGGGA
                AACAAAGGGAG

PK4:  -23.490000(kcal/mol): PK_start=1304 sp=7 s1=7 s2=4 l1=10 l2=6 L3=0 PK_end=1341
(fs_start=1289)
                TTCCAACAAA
AGACAGGCTAATTTTTTAGGGAGAATCTGGCC

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                GGACCGG    AGGG
                    TCTCCA
    GAACTT
=====
(811) AY371122
=====
PK1:  -15.585000(kcal/mol): PK_start=1254 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1282
(fs_start=1274)
                    A
GGAAGGAAGGACACCAAATGAAGGACTGT
                GACA    GAGAGTC
                    TTTTATAGGG
    GCTAAT

PK2:  -21.940000(kcal/mol): PK_start=1259 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1296
(fs_start=1274)
                    C
GAAGGACACCAAATGAAGGACTGTACTGAGAGA
                GATTTTTT    AATCGGA
                    TTGGCCTTC
    GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1283 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1316
(fs_start=1274)
                    AAA
ACTGAGAGACAGGCTAATTTTTTATAGGGA
                CCT    TCCGGTTT
                    AGGCCAGGAA
    AGCAAAGGG

PK4:  -22.840000(kcal/mol): PK_start=1289 sp=7 s1=7 s2=4 l1=10 l2=6 L3=0 PK_end=1326
(fs_start=1274)
                    TTCCAGCAAA
AGACAGGCTAATTTTTTATAGGAAAATTTGGCC
                GGACCGG    AGGG
                    TCCCCA
    AAATTT

=====
(812) AY371123
=====
PK1:  -15.100000(kcal/mol): PK_start=1254 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1282
(fs_start=1274)
                    CA
GGAAGGAAGGACACCAAATGAAAGACTG
                GAC    AGAGAGTC
                    TTTTTTATAGGG
    GCTAA

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PK2: -21.940000(kcal/mol): PK_start=1259 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1296
(fs_start=1274)

C
GAAGGACACCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1283 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1316
(fs_start=1274)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AGCAAGGGG

PK4: -22.215000(kcal/mol): PK_start=1289 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1326
(fs_start=1274)

CCAGCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGAG GGGA
TCCTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1289 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1352
(fs_start=1274)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCCTCAGAGCAGACCGGAGCCAACAG

=====
(813) AY371124
=====

PK1: -15.585000(kcal/mol): PK_start=1257 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1285
(fs_start=1277)

A
GGAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -21.940000(kcal/mol): PK_start=1262 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1299
(fs_start=1277)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1286 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1319
(fs_start=1277)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AGCAAAGGG

PK4: -21.815000(kcal/mol): PK_start=1292 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1329
(fs_start=1277)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGG
TCCTCA
AAATTT

=====
(814) AY371125
=====

PK1: -15.100000(kcal/mol): PK_start=1251 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1279
(fs_start=1271)

CA
GAAAGGAAGGACACCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTTAGGG
GCAAA

PK2: -14.310000(kcal/mol): PK_start=1256 sp=0 s1=8 s2=4 l1=4 l2=6 L3=0 PK_end=1289
(fs_start=1271)

CAGG
GAAGGACACCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AAAC
TTTGGC
GGAAAA

PK3: -20.285000(kcal/mol): PK_start=1280 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1313
(fs_start=1271)

AAA
ACTGAGAGACAGGCAAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AACAAGGGA

PK4: -24.345000(kcal/mol): PK_start=1286 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1323
(fs_start=1271)

TCCAACAA
AGACAGGCAAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA AGGG
TCCCA
AAATTT

=====
(815) AY371126
=====

PK1: -15.585000(kcal/mol): PK_start=1254 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1282
(fs_start=1274)

A
GAAAGGAAGGACACCAAATGAAGGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -21.940000(kcal/mol): PK_start=1259 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1296
(fs_start=1274)

C
GAAGGACACCAAATGAAGGACTGTACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1283 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1316
(fs_start=1274)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AGCAAAGAG

PK4: -18.140000(kcal/mol): PK_start=1289 sp=7 s1=7 s2=4 l1=10 l2=3 L3=0 PK_end=1323
(fs_start=1274)

TTCCAGCAAA
AGACAGGCTAATTTTTTAGGAAAATTTGGCC
GGACCGG AGAG
TTTCCC
AAA

=====
(816) AY371127
=====

PK1: -15.585000(kcal/mol): PK_start=1254 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1282
(fs_start=1274)

A
GGAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -21.940000(kcal/mol): PK_start=1259 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1296
(fs_start=1274)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT AATCGGA

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                                TTGGCCTTC
                GGAAAAAT
PK3:  -20.285000(kcal/mol): PK_start=1283 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1316
(fs_start=1274)
                                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCT   TCCGGTTT
                                AGGCCAGGAA
                AACAAGGGG
PK4:  -27.000000(kcal/mol): PK_start=1289 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=1327
(fs_start=1274)
                                TTCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCC
                                GGACCGG   AGGGG
                                TCCCCAG
                AAATTT
PK4B:  -24.080000(kcal/mol): PK_start=1290 sp=8 s1=6 s2=4 l1=9 l2=33 L3=1 PK_end=1351
(fs_start=1274)
                                TTCCAACAA
GACAGGCTAATTTTTTAGGGAAAATTTGGCC
                                GACCGG   A   GGGG
                                CCCCAC
                GAAATTTTCCCCAGAGCAGACCAGAACCAACAG

=====
(817) AY371128
=====
PK1:  -15.585000(kcal/mol): PK_start=1254 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1282
(fs_start=1274)
                                A
GGAAGGAAGGACACCAAATGAAAGACTGT
                                GACA   GAGAGTC
                                TTTTtaggg
                GCTAAT
PK2:  -21.940000(kcal/mol): PK_start=1259 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1296
(fs_start=1274)
                                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
                                GATTTTTT   AATCGGA
                                TTGGCCTTC
                GGAAAAAT
PK3:  -20.285000(kcal/mol): PK_start=1283 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1316
(fs_start=1274)
                                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCT   TCCGGTTT

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                AGGCCAGGAA
            AACAAGGGG

PK4:  -22.215000(kcal/mol): PK_start=1289 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1326
(fs_start=1274)
                CCAACA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTT
                GGACCGGAG    GGGA
                TCCTCA
            AAATTT

PK4B:  -26.865000(kcal/mol): PK_start=1289 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1352
(fs_start=1274)
                TCCAACAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
                GGACCGGA    GGGG
                CCCCAC
            AAATTTTCCTCAGAGCAGACCAGAACCAACAG

=====
(818) AY371129
=====
PK1:  -11.420000(kcal/mol): PK_start=1251 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=1277
(fs_start=1271)
                CACC
GGAAGGAAGGACACCAAATGAAAGACTG
                GAC    AGAGAG
                TTTTTTAG
            GCGAA

PK2:  -6.875000(kcal/mol): PK_start=1265 sp=0 s1=3 s2=6 l1=1 l2=5 L3=0 PK_end=1288
(fs_start=1271)
                C
CAAATGAAAGACTGCACCGAGAGACAGG
                TTT    TTTAAG
                AAATTTGG
            AGGGA

PK3:  -20.285000(kcal/mol): PK_start=1280 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1313
(fs_start=1271)
                AAA
ACCGAGAGACAGGCGAATTTTTTTAGGGA
                CCT    TCCGGTTT
                AGGCCAGGAA
            AACAAGGGG

PK4:  -27.000000(kcal/mol): PK_start=1286 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=1324
(fs_start=1271)
                TTCCAACAA
AGACAGGCGAATTTTTTTAGGGAAAATTTGGCC
                GGACCGG    AGGGG

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                                TCCCCAG
AAATTT

PK4B:  -24.08000(kcal/mol): PK_start=1287 sp=8 s1=6 s2=4 l1=9 l2=33 L3=1 PK_end=1348
(fs_start=1271)
                                TTCCAACAA
GACAGGCGAATTTTTTTAGGGAAAATTTGGCC

                                GACCGG  A  GGGG

                                CCCCAC
GAAATTTTCCCCAGAGCAGACCAGAACCAACAG

=====
(819) AY371130
=====
PK1:  -15.10000(kcal/mol): PK_start=1254 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1282
(fs_start=1274)
                                CA
GGAAGGAAGGACACCAAATGAAAGACTG

                                GAC  AGAGAGTC

                                TTTTTTAGGG
GCTAA

PK2:  -20.46000(kcal/mol): PK_start=1259 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1295
(fs_start=1274)
                                C
GAAGGACACCAAATGAAAGACTGCACTGAGAGA

                                GATTTTTT  A  ATCGGA

                                TGGCCTTC
GGAAAATC

PK3:  -23.81500(kcal/mol): PK_start=1283 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1316
(fs_start=1274)
                                AAA
ACTGAGAGACAGGCTAATTTTTTTAGGGA

                                CCT  TCCGGTCT

                                AGGCCAGGAA
AACAAGGGG

PK4:  -25.74500(kcal/mol): PK_start=1289 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1326
(fs_start=1274)
                                CCAACA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTT

                                GGACCGGAG  GGGA

                                TCCTCA
AAATTT

PK4B:  -30.39500(kcal/mol): PK_start=1289 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1352
(fs_start=1274)
                                TTCCAACAA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT

                                GGACCGGA  GGGG

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CCCCAC
AAATTTTCCTCAGAGCAGACCAGAACCAACAG

=====
(820) AY371131
=====

PK1: -15.100000(kcal/mol): PK_start=1254 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1282
(fs_start=1274)

CA
GGAAGGAAGGACACCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1259 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1296
(fs_start=1274)

C
GAAGGACACCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1283 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1316
(fs_start=1274)

AAA
ACTGAGAGACAGGCTAATTTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AGCAAGGGG

PK4: -27.000000(kcal/mol): PK_start=1289 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=1327
(fs_start=1274)

TTCCAGCAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCC
GGACCGG AGGGG
TCCCCAG
AAACTT

PK4B: -24.080000(kcal/mol): PK_start=1290 sp=8 s1=6 s2=4 l1=9 l2=33 L3=1 PK_end=1351
(fs_start=1274)

TTCCAGCAA
GACAGGCTAATTTTTTTAGGGAAAATTTGGCC
GACCGG A GGGG
CCCCAC
GAAACTTTCCCAGAGCAGGCCAGAACCAACAG

=====
(821) AY371132
=====

PK1: -15.100000(kcal/mol): PK_start=1275 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1303
(fs_start=1295)

CA
GAAAGGAAGGACATCAAATGAAAGACTG

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          GAC   AGAGAGTC
                TTTTTTAGGG
      GCGAA
PK2:  -13.950000(kcal/mol): PK_start=1280 sp=0 s1=8 s2=4 l1=4 l2=6 L3=0 PK_end=1313
(fs_start=1295)
                CAGG
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT   AAGC
                        TTTGGC
      GGAAAA
PK3:  -20.285000(kcal/mol): PK_start=1304 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1337
(fs_start=1295)
                AAA
ACTGAGAGACAGGCGAATTTTTTAGGGA
                CCT   TCCGGTTT
                        AGGCCAGGAA
      AACAAAGGGG
PK4:  -27.000000(kcal/mol): PK_start=1310 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=1348
(fs_start=1295)
                TTCCAACAA
AGACAGGCGAATTTTTTAGGGAAAATTTGGCC
                GGACCGG   AGGGG
                        TCCCCAG
      AAATTT
PK4B:  -24.080000(kcal/mol): PK_start=1311 sp=8 s1=6 s2=4 l1=9 l2=33 L3=1 PK_end=1372
(fs_start=1295)
                TTCCAACAA
GACAGGCGAATTTTTTAGGGAAAATTTGGCC
                GACCGG  A  GGGG
                        CCCCAC
      GAAATTTTCCCCAGAGCAGACCGGAACCAACAG

=====
(822) AY371134
=====
PK1:  -15.100000(kcal/mol): PK_start=1254 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1282
(fs_start=1274)
                CA
GGAAGGAAGGACACCAAATGAAAGACTG
                GAC   AGAGAGTC
                        TTTTTTAGGG
      GCTAA
PK2:  -21.940000(kcal/mol): PK_start=1259 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1296
(fs_start=1274)
                C
GAAGGACACCAAATGAAAGACTGCACTGAGAGA

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          GATTTTTT   AATCGGA
                    TTGGCCTTC
GGAAAAT
PK3:  -20.285000(kcal/mol): PK_start=1283 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1316
(fs_start=1274)
          AAA
ACTGAGAGACAGGCTAATTTTTTTAGGGA
          CCT   TCCGGTTT
                    AGGCCAGGAA
AGCAAGGGG
PK4:  -22.215000(kcal/mol): PK_start=1289 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1326
(fs_start=1274)
                    CCAGCA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTT
          GGACCGGAG   GGGA
                    TCCTCA
AAACTT
PK4B: -26.865000(kcal/mol): PK_start=1289 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1352
(fs_start=1274)
                    TCCAGCAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTT
          GGACCGGA   GGGG
                    CCCCAC
AAACTTTCCTCAGAGCAGACCAGAACCAACAG
=====
(823) AY371136
=====
PK1:  -15.100000(kcal/mol): PK_start=1251 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1279
(fs_start=1271)
          CA
GAAAGGAAGGACACCAAATGAAAGACTG
          GAC   AGAGAGTC
                    TTTTTTTAGGG
GCGAA
PK2:  -13.950000(kcal/mol): PK_start=1256 sp=0 s1=8 s2=4 l1=4 l2=6 L3=0 PK_end=1289
(fs_start=1271)
                    CAGG
GAAGGACACCAAATGAAAGACTGCACTGAGAGA
          GATTTTTT   AAGC
                    TTTGGC
GGAAAA
PK3:  -20.285000(kcal/mol): PK_start=1280 sp=0 s1=3 s2=8 l1=3 l2=12 L3=0 PK_end=1316
(fs_start=1271)
          AAA
ACTGAGAGACAGGCGAATTTTTTTAGGGA

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          CCT      TCCGGTTT
                AGGCCAGGAA
          AACAAAGGGGGG

PK4:  -30.620000(kcal/mol): PK_start=1288 sp=9 s1=9 s2=4 l1=5 l2=9 L3=0 PK_end=1327
(fs_start=1271)
                AACAA
ACAGGCGAATTTTTTAGGGAAAATTTGGCCTTCC
                ACCGGAGGG      GGGG
                                CCTCAG
                GGAAATTTT

PK4B:  -30.620000(kcal/mol): PK_start=1288 sp=9 s1=9 s2=4 l1=5 l2=34 L3=0 PK_end=1352
(fs_start=1271)
                AACAA
ACAGGCGAATTTTTTAGGGAAAATTTGGCCTTCC
                ACCGGAGGG      GGGG
                                CTCCAC
                GGAAATTTTCCTCAGAGCAGACCAACCAACAG

=====
(824) AY371137
=====
PK1:  -15.100000(kcal/mol): PK_start=1251 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1279
(fs_start=1271)
                CA
GGAAGGAAGGACACCAAATAAAAGACTG
                GAC      AGAGAGTC
                                TTTTTTAGGG
                GCGAA

PK2:  -13.950000(kcal/mol): PK_start=1256 sp=0 s1=8 s2=4 l1=4 l2=6 L3=0 PK_end=1289
(fs_start=1271)
                CAGG
GAAGGACACCAAATAAAAGACTGCACTGAGAGA
                GATTTTTT      AAGC
                                TTTGGC
                GGAGAA

PK3:  -18.840000(kcal/mol): PK_start=1279 sp=0 s1=5 s2=6 l1=2 l2=8 L3=0 PK_end=1310
(fs_start=1271)
                AA
CACTGAGAGACAGGCGAATTTTTTAGGGAG
                CCTTC      CGGTTT
                                GCCAGGAA
                AAGGGGAG

PK4:  -22.215000(kcal/mol): PK_start=1286 sp=7 s1=9 s2=4 l1=3 l2=6 L3=0 PK_end=1320
(fs_start=1271)
                CCA
AGACAGGCGAATTTTTTAGGGAGAATTTGGCCTT

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                GGACCGGAG    GGGA
                    TCCTCA
AAATTT
PK4B:  -26.865000(kcal/mol): PK_start=1286 sp=7 s1=8 s2=4 l1=5 l2=32 L3=0 PK_end=1346
(fs_start=1271)
                    TCCAA
AGACAGGCGAATTTTTTAGGGAGAATTTGGCCT
                GGACCGGA    GGGG
                    CCCCAC
AAATTTTCCTCAGAGCAGACCGGAACCAACAG

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=====
(825) AY371138
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PK1:  -15.100000(kcal/mol): PK_start=1251 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1279
(fs_start=1271)
                    CA
GAAAGGAAGGACACCAAATGAAAGACTG
                GAC    AGAGAGTC
                    TTTTTTAGGG
GCAAA

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PK2:  -14.310000(kcal/mol): PK_start=1256 sp=0 s1=8 s2=4 l1=4 l2=6 L3=0 PK_end=1289
(fs_start=1271)
                    CAGG
GAAGGACACCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT    AAAC
                    TTTGGC
GGAAAA

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PK3:  -20.285000(kcal/mol): PK_start=1280 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1313
(fs_start=1271)
                    AAA
ACTGAGAGACAGGCAAATTTTTTAGGGA
                CCT    TCCGGTTT
                    AGGCCAGGAA
AGCAAGGGA

```

```

PK4:  -22.915000(kcal/mol): PK_start=1286 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1323
(fs_start=1271)
                    TCCAGCA
AGACAGGCAAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA    AGGGA
                    TTCCTCA
AAATT

```

```

=====
(826) AY371139
=====

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PK1: -15.585000(kcal/mol): PK_start=1254 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1282 (fs_start=1274)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -21.940000(kcal/mol): PK_start=1259 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1296 (fs_start=1274)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT AATCGGA
TTGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1283 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1316 (fs_start=1274)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGTTT
AGGCCAGGAA
AGCAAGGGG

PK4: -25.075000(kcal/mol): PK_start=1289 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1326 (fs_start=1274)

TCCAGCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGGA
TCCCTCA
AAATT

PK4B: -26.865000(kcal/mol): PK_start=1289 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1352 (fs_start=1274)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTCCCTCAAAGCAGACCAGAACCAACAG

=====
(827) AY371140
=====

PK1: -13.005000(kcal/mol): PK_start=1254 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=1281 (fs_start=1274)

AA
GGAAGGAAGGACACCAAATGAAGGACTGT
GACA GAGAGT
TTTTTAGG
GCTAAT

PK2: -19.660000(kcal/mol): PK_start=1260 sp=0 s1=7 s2=7 l1=1 l2=8 L3=0 PK_end=1296
(fs_start=1274)

C
AAGGACACCAAATGAAGGACTGTAATGAGAGA
 ATTTTTT AATCGGA
 TTGGCCTTC
 GGGAGAAT

PK3: -18.840000(kcal/mol): PK_start=1282 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1316
(fs_start=1274)

AA
TAATGAGAGACAGGCTAATTTTTTTAGGGAG
 CCTTC CGGTTT
 GCCAGGAA
 AGCAAAGGGAG

PK4: -21.815000(kcal/mol): PK_start=1289 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1326
(fs_start=1274)

TCCAGCAA
AGACAGGCTAATTTTTTTAGGGAGAATTTGGCCT
 GGACCGGA GGGA
 TCCTCA
 AAATTT

=====
(828) AY371141
=====

PK1: -15.585000(kcal/mol): PK_start=1254 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1282
(fs_start=1274)

A
GGAAGGAAGGACACCAAATGAAAGACTGT
 GACA GAGAGTC
 TTTTTAGGA
 GCTAAT

PK2: -21.940000(kcal/mol): PK_start=1259 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1296
(fs_start=1274)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
 GATTTTTT AATCGGA
 TTGGCCTTC
 GAAAAAT

PK3: -20.485000(kcal/mol): PK_start=1282 sp=0 s1=3 s2=8 l1=4 l2=9 L3=0 PK_end=1316
(fs_start=1274)

AAAA
TACTGAGAGACAGGCTAATTTTTTTAGGA
 CCT TCCGGTTT
 AGGCCAGGAA
 AACAAGGGG

PK4: -22.215000(kcal/mol): PK_start=1289 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1326
(fs_start=1274)

```
CCAACA
AGACAGGCTAATTTTTTAGGAAAAATTTGGCCTT
GGACCGGAG GGGG
TCCTCA
AAATTT
```

PK4B: -26.865000(kcal/mol): PK_start=1289 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1352
(fs_start=1274)

```
TCCAACAA
AGACAGGCTAATTTTTTAGGAAAAATTTGGCCTT
GGACCGGA GGGG
CCCCAC
AAATTTTCCTCAGAGCAGACCAGAACCAACAG
```

=====
(829) AY371142
=====

PK1: -13.070000(kcal/mol): PK_start=1254 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1282
(fs_start=1274)

```
CA
GGAAGGAAGGACACCAAATGAAGGATTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA
```

PK2: -20.460000(kcal/mol): PK_start=1259 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1295
(fs_start=1274)

```
C
GAAGGACACCAAATGAAGGATTGCACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC
```

PK3: -23.815000(kcal/mol): PK_start=1283 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1316
(fs_start=1274)

```
AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTCT
AGGCCAGGAA
AACAAGGGG
```

PK4: -25.745000(kcal/mol): PK_start=1289 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1326
(fs_start=1274)

```
CCAACA
AGACAGGCTAATTTTTTAGGAAAAATCTGGCCTT
GGACCGGAG GGGG
TCCTCA
AAATTT
```

PK4B: -30.395000(kcal/mol): PK_start=1289 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1352
(fs_start=1274)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTTCCTCAGAGCAGACCGGAACCAACAG

=====
(830) AY371143
=====

PK1: -15.140000(kcal/mol): PK_start=1272 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1300
(fs_start=1292)

CA
GGAAGGAGGGACACCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -20.500000(kcal/mol): PK_start=1277 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1313
(fs_start=1292)

C
GAGGGACACCAAATGAAAGACTGCACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -22.650000(kcal/mol): PK_start=1301 sp=0 s1=5 s2=6 l1=1 l2=11 L3=0 PK_end=1334
(fs_start=1292)

A
ACTGAAAGACAGGCTAATTTTTTAGGGAAG
CCTTC CGGTCT
GCCAGGAA
AGCAAGGGGAG

PK4: -25.745000(kcal/mol): PK_start=1307 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1344
(fs_start=1292)

CCAGCA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTT
GGACCGGAG GGGG
TCCTCA
AAATTT

PK4B: -30.395000(kcal/mol): PK_start=1307 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1370
(fs_start=1292)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTTCCTCAGAGCGGGCCAGAGCCAACAG

=====
(831) AY371145
=====

PK1: -15.140000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
(fs_start=1283)

CA
GGAAGGAAGGACACCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTAGGG
GCGAA

PK2: -13.990000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=4 l1=4 l2=6 L3=0 PK_end=1301
(fs_start=1283)

CAGG
GAAGGACACCAAATGAAAGACTGCACTGAAAGA
GATTTTTT AAGC
TTTGGC
GGAAAA

PK3: -20.285000(kcal/mol): PK_start=1292 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1325
(fs_start=1283)

AAA
ACTGAAAGACAGGCGAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AACAAGGGG

PK4: -27.000000(kcal/mol): PK_start=1298 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=1336
(fs_start=1283)

TTCCAACAA
AGACAGGCGAATTTTTTAGGGAAAATTTGGCC
GGACCGG AGGGG
TCCCCAG
AAATTT

PK4B: -24.080000(kcal/mol): PK_start=1299 sp=8 s1=6 s2=4 l1=9 l2=33 L3=1 PK_end=1360
(fs_start=1283)

TTCCAACAA
GACAGGCGAATTTTTTAGGGAAAATTTGGCC
GACCGG A GGGG
CCCCAC
GAAATTTTCCCCAGAGCAGACCGGAACCAACAG

=====
(832) AY371146
=====

PK1: -15.100000(kcal/mol): PK_start=1254 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1282
(fs_start=1274)

CA
GAAAGGAGGGACACCAAATGAAAGACTG
GAC AGAGAGTC

```

          TTTTTTAGGG
    GCTAA
PK2:  -21.940000(kcal/mol): PK_start=1259 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1296
(fs_start=1274)
          C
GAGGGACACCAAATGAAAGACTGCACTGAGAGA
          GATTTTTT   AATCGGA
          TTGGCCTTC
    GGAAAAAT
PK3:  -20.285000(kcal/mol): PK_start=1283 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1316
(fs_start=1274)
          AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
          CCT   TCCGGTTT
          AGGCCAGGAA
    AACAAGGGG
PK4:  -24.120000(kcal/mol): PK_start=1289 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=1327
(fs_start=1274)
          TTCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCC
          GGACCGG   AGGGG
          TCCTCAG
    AAACCT
PK4B:  -21.200000(kcal/mol): PK_start=1290 sp=8 s1=6 s2=4 l1=9 l2=33 L3=1 PK_end=1351
(fs_start=1274)
          TTCCAACAA
GACAGGCTAATTTTTTAGGGAAAATTTGGCC
          GACCGG  A  GGGG
          CTCCAC
    GAAACTTTCCTCAGAGCAGGCCGGAACCAACAG
=====
(833) AY371147
=====
PK1:  -15.585000(kcal/mol): PK_start=1272 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1300
(fs_start=1292)
          A
GGAAGGAAGGGCACCAAATGAAAGACTGT
          GACA   GAGAGTC
          TTTTTTAGGG
    GCTAAT
PK2:  -21.940000(kcal/mol): PK_start=1277 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1314
(fs_start=1292)
          C
GAAGGGCACCAAATGAAAGACTGTACTGAGAGA
          GATTTTTT   AATCGGA

```

TTGGCCTTC

GGAAAAAT

PK3: -20.285000(kcal/mol): PK_start=1301 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1334
(fs_start=1292)

AAA

ACTGAGAGACAGGCTAATTTTTTTAGGGA

CCT TCCGGTTT

AGGCCAGGAA

AGCAAGGGG

PK4: -22.215000(kcal/mol): PK_start=1307 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1344
(fs_start=1292)

CCAGCA

AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTT

GGACCGGAG GGGA

TCCTCA

AAATTT

PK4B: -26.865000(kcal/mol): PK_start=1307 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1370
(fs_start=1292)

TCCAGCAA

AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG

CCCCGC

AAATTTTCCTCAGAGCAGACCAGAACCAACAG

=====
(834) AY371149
=====

PK1: -11.420000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=1289
(fs_start=1283)

CACA

GGCAGGAAGGACACCAAATGAAAGACTG

GAC AGAGAG

TTTTTTAG

GCAAA

PK2: -6.535000(kcal/mol): PK_start=1277 sp=0 s1=3 s2=6 l1=1 l2=5 L3=0 PK_end=1300
(fs_start=1283)

C

CAAATGAAAGACTGCACAGAGAGACAGG

TTT TTAAAA

AAATTTGG

AGGGA

PK3: -20.285000(kcal/mol): PK_start=1292 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1325
(fs_start=1283)

AAA

ACAGAGAGACAGGCAAATTTTTTTAGGGA

CCT TCCGGTTT


```

                                AGGCCAGGGA
                AACAAGGGA

PK4:  -21.465000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1335
(fs_start=1283)
                                TCCAACAA
AGACAGGCAAATTTTTTAGGGAAAATTTGGCCT

                                GGACCGGA    AGGG
                                TCTCCA
                GAATTT

=====
(835) AY371150
=====
PK1:  -15.100000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
(fs_start=1283)
                                CA
GGAAGGAAGGACATCAAATGAAAGACTG

                                GAC    AGAGAGTC
                                TTTTTTAGGG
                GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)
                                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA

                                GATTTTTT    AATCGGA
                                TTGGCCTTC
                GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1292 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1325
(fs_start=1283)
                                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA

                                CCT    TCCGGTTT
                                AGGCCAGGGA
                AACAAGGGG

PK4:  -18.485000(kcal/mol): PK_start=1298 sp=7 s1=9 s2=4 l1=6 l2=5 L3=0 PK_end=1334
(fs_start=1283)
                                CCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT

                                GGACCGGAG    GGGA
                                TTCTCC
                GAATT

PK4B: -26.865000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1361
(fs_start=1283)
                                TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

                                GGACCGGA    GGGG

```

CCCCGC
GAATTTTCTCCAAAGCAGACCAGAGCCAACAG

=====
(836) AY371151
=====

PK1: -15.100000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
(fs_start=1283)

CA
GGAAGGAAGGACACCAAATGAAGGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)

C
GAAGGACACCAAATGAAGGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1292 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1325
(fs_start=1283)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AGCAAAGGG

PK4: -19.960000(kcal/mol): PK_start=1298 sp=7 s1=7 s2=4 l1=10 l2=6 L3=0 PK_end=1335
(fs_start=1283)

TTCCAGCAAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCC
GGACCGG AGGG
TCTCCA
GAACTT

=====
(837) AY371153
=====

PK1: -15.100000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
(fs_start=1283)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA

```

          GATTTTTT   AATCGGA
                    TTGGCCTTC
GGAAAAT
PK3:  -20.285000(kcal/mol): PK_start=1292 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1325
(fs_start=1283)
          AAA
ACTGAGAGACAGGCTAATTTTTTTAGGGA
          CCT   TCCGGTTT
                    AGGCCAGGGA
          AACAAGGGG
PK4:  -18.485000(kcal/mol): PK_start=1298 sp=7 s1=9 s2=4 l1=6 l2=5 L3=0 PK_end=1334
(fs_start=1283)
                    CCAACA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTT
          GGACCGGAG   GGGA
                    TTCTCC
          GAATT
PK4B: -26.865000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1361
(fs_start=1283)
                    TCCAACAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTT
          GGACCGGA   GGGG
                    CCCCCG
          GAATTTTCTCCAAGCAGACCAGAGCCAACAG
=====
(838) AY371154
=====
PK1:  -11.460000(kcal/mol): PK_start=1272 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=1298
(fs_start=1292)
          CACG
GAAGGGAGGGACATCAAATGAAAGACTG
          GAC   AGAAAG
                    TTTTTTAG
          GCTAA
PK2:  -17.320000(kcal/mol): PK_start=1279 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=1313
(fs_start=1292)
          C
GGGACATCAAATGAAAGACTGCACGGAAAGA
          TTTTTT   A   ATCGGA
                    TGGCCTTC
          AGGGAAGATC
PK3:  -22.650000(kcal/mol): PK_start=1301 sp=0 s1=5 s2=6 l1=1 l2=11 L3=0 PK_end=1334
(fs_start=1292)
          A
ACGGAAAGACAGGCTAATTTTTTTAGGGAAG

```

CCTTC CGGTCT
 GCCAGGGA
 AGCAGTGGGAG

PK4: -30.585000(kcal/mol): PK_start=1307 sp=7 s1=8 s2=5 l1=7 l2=33 L3=0 PK_end=1372
 (fs_start=1292)

TCCAGCA
 AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT

GGACCGGA GGGTG
 CCCACCA
 GAATTTTCTTCAGAGCAAGCCAGAACCAACAGC

=====
 (839) AY371155
 =====

PK1: -10.640000(kcal/mol): PK_start=1249 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1287
 (fs_start=1280)

A

TTGGAAATGTGGAAAGGAAGGACACCAA

GTT AGAAAGT
 TTTTTTAGG
 CACTGAAAGACAGGCTAA

PK2: -21.980000(kcal/mol): PK_start=1265 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1302
 (fs_start=1280)

C

GAAGGACACCAAATGAAAGATTGCACTGAAAGA

GATTTTTT AATCGGA
 TTGGCCTTC
 GGAAAAT

PK3: -22.025000(kcal/mol): PK_start=1288 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1322
 (fs_start=1280)

AAA

CACTGAAAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT
 AGGCCGGGGA
 ACAAGGGA

PK4: -21.465000(kcal/mol): PK_start=1295 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1332
 (fs_start=1280)

CCAC

AGACAGGCTAATTTTTTAGGAAAATTTGGCCTTC

GGGCCGGAAG GGAA
 TCTTCA
 GAACTT

=====
 (840) AY371156
 =====

PK1: -10.640000(kcal/mol): PK_start=1249 sp=0 s1=3 s2=7 l1=1 l2=18 l3=0 PK_end=1287 (fs_start=1280)

A
TTGGAATGTGGAAGGAAGGACACCAA
GTT AGAAAGT
TTTTTTAGG
CACTGAAAGACAGGCTAA

PK2: -21.980000(kcal/mol): PK_start=1265 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1302 (fs_start=1280)

C
GAAGGACACCAAATGAAAGATTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1289 sp=0 s1=3 s2=8 l1=3 l2=9 l3=0 PK_end=1322 (fs_start=1280)

AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGGA
AACAAGGGA

PK4: -21.465000(kcal/mol): PK_start=1295 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1332 (fs_start=1280)

CAAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGGCCGGAAG GGAA
TCTTCA
GAACTT

=====
(841) AY371157
=====

PK1: -10.640000(kcal/mol): PK_start=1264 sp=0 s1=3 s2=7 l1=1 l2=18 l3=0 PK_end=1302 (fs_start=1295)

A
TTGGAATGTGGAAGAGAAGGACACCAA
GTT AGAAAGT
TTTTTTAGG
CACAGAAAGACAGGCTAA

PK2: -18.700000(kcal/mol): PK_start=1282 sp=0 s1=6 s2=7 l1=1 l2=9 l3=0 PK_end=1317 (fs_start=1295)

C
AGGACACCAAATGAAAGATTGCACAGAAAGA
TTTTTT AATCGGA
TTGGCCTTC
AGGGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1304 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1337
(fs_start=1295)

AAA
ACAGAAAGACAGGCTAATTTTTTAGGGA
CCT TCCGTTT
AGGCCAGGGA
AACAAGGGA

PK4: -23.185000(kcal/mol): PK_start=1310 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1347
(fs_start=1295)

CAAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAACTT

=====
(842) AY371160
=====

PK1: -10.640000(kcal/mol): PK_start=1246 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1284
(fs_start=1277)

A
TTGGAAATGTGGACAGGAAGGACACCAA
GTT AGAAAGT
TTTTTTAGG
CACGGAGAGACAGGCTAA

PK2: -18.760000(kcal/mol): PK_start=1264 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1299
(fs_start=1277)

C
AGGACACCAAATGAAAGATTGCACGGAGAGA
TTTTTT AATCGGA
TTGGCCTTC
AGGGAAAAT

PK3: -22.025000(kcal/mol): PK_start=1285 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1319
(fs_start=1277)

AAA
CACGGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGTTT
AGGCCGGGAA
ACAAGGGG

PK4: -20.985000(kcal/mol): PK_start=1292 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1329
(fs_start=1277)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGGCCGGAGG GGAA
TCTTCA
AAACTT

PK4B: -25.145000(kcal/mol): PK_start=1292 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1355
(fs_start=1277)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA GGGG
CCCCGC
AAACTTTCTTCAGAACAGACCAGAGCCAACAG

=====
(843) AY371161
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PK1: -15.140000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
(fs_start=1283)

CA
GGAAGGAAGGACACCAAATGAAAGACTG
GAC AAAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.980000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)

C
GAAGGACACCAAATGAAAGACTGCACTGAGAAA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1292 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1325
(fs_start=1283)

AAA
ACTGAGAAACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AACAAAGGG

PK4: -21.815000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1335
(fs_start=1283)

TCCAACAA
AAACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
TCCTCA
GAACTT

=====
(844) AY371162
=====

PK1: -15.100000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=5 l2=5 L3=0 PK_end=1294
(fs_start=1286)

CACTA
GGAAGGAAGGACACCAAATGAAAGACTG
GAC AGAGAGTC

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                TTTTTTAGGG
          GCTAA
PK2:  -21.940000(kcal/mol): PK_start=1271 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1308
(fs_start=1286)
                C
GGACACCAAATGAAAGACTGCACTACTGAGAGA
                GATTTTTT   AATCGGA
                TTGGCCTTC
          GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1295 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1328
(fs_start=1286)
                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                CCT   TCCGGTTT
                AGGCCAGGGA
          AACAAAGGG

PK4:  -21.815000(kcal/mol): PK_start=1301 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1338
(fs_start=1286)
                TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA   GGG
                TCCTCA
          GAACTT

=====
(845) AY371163
=====
PK1:  -15.585000(kcal/mol): PK_start=1263 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1291
(fs_start=1283)
                A
GAAAGGAAGGACATCAAATGAAAGACTGT
                GACA   GAGAGTC
                TTTTTAGGG
          GCTAAT

PK2:  -21.940000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)
                C
GAAGGACATCAAATGAAAGACTGTACTGAGAGA
                GATTTTTT   AATCGGA
                TTGGCCTTC
          GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1292 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1325
(fs_start=1283)
                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                CCT   TCCGGTTT

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                                AGGCCAGGAA
                                AGCAAAGGG
PK4:  -22.840000(kcal/mol): PK_start=1298 sp=7 s1=7 s2=4 l1=10 l2=6 l3=0 PK_end=1335
(fs_start=1283)
                                TTCCAGCAAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCC
                                GGACCGG   AGGG
                                TCCCCA
                                AAATTT

=====
(846) AY371164
=====
PK1:  -15.100000(kcal/mol): PK_start=1254 sp=0 s1=3 s2=8 l1=2 l2=5 l3=0 PK_end=1282
(fs_start=1274)
                                CA
GAAAGGAAGGACACCAAATGAAAGACTG
                                GAC   AGAGAGTC
                                TTTTTTAGGG
                                GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1259 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1296
(fs_start=1274)
                                C
GAAGGACACCAAATGAAAGACTGCACTGAGAGA
                                GATTTTTT   AATCGGA
                                TTGGCCTTC
                                GGAAAAT

PK3:  -18.720000(kcal/mol): PK_start=1283 sp=0 s1=4 s2=4 l1=5 l2=10 l3=0 PK_end=1313
(fs_start=1274)
                                AATTT
ACTGAGAGACAGGCTAATTTTTTTAGGGAA
                                CCTT   CCGG
                                GGCTG
                                AACAAAGGGGA

PK4:  -20.515000(kcal/mol): PK_start=1292 sp=10 s1=7 s2=4 l1=4 l2=9 l3=0 PK_end=1326
(fs_start=1274)
                                CAAC
CAGGCTAATTTTTTTAGGGAAAATTTGGCCTTC
                                CCGGAGG   GGAA
                                TCTTCA
                                TGGAAATTT

PK4B:  -24.675000(kcal/mol): PK_start=1292 sp=10 s1=5 s2=4 l1=8 l2=35 l3=0
PK_end=1352 (fs_start=1274)
                                TCCAACAA
CAGGCTAATTTTTTTAGGGAAAATTTGGCCT
                                CCGGA   GGGG

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CCCCGC
TGGAAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(847) AY371165
=====

PK1: -15.580000(kcal/mol): PK_start=1267 sp=0 s1=4 s2=7 l1=1 l2=4 L3=0 PK_end=1293
(fs_start=1286)

G
GGAAGGACACCAAATGAAGGAATGCCCTG
GGAC AGAGAGT
TTTTTTAGG
CTAA

PK2: -19.560000(kcal/mol): PK_start=1272 sp=0 s1=7 s2=7 l1=1 l2=8 L3=0 PK_end=1308
(fs_start=1286)

C
GACACCAAATGAAGGAATGCCCTGGTGAGAGA
ATTTTTT AATCGGA
TTGGCCTCC
GGGAAAAT

PK3: -22.240000(kcal/mol): PK_start=1294 sp=0 s1=4 s2=7 l1=3 l2=10 L3=0 PK_end=1328
(fs_start=1286)

AAA
TGGTGAGAGACAGGCTAATTTTTTTAGGGA
CCCT CCGGTTT
GGCCAGGGA
AGCAAGGGGA

PK4: -27.000000(kcal/mol): PK_start=1301 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=1339
(fs_start=1286)

TCCCAGCAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCC
GGACCGG AGGGG
TCCCAGCAA
GAATTT

PK4B: -24.080000(kcal/mol): PK_start=1302 sp=8 s1=6 s2=4 l1=9 l2=33 L3=1 PK_end=1363
(fs_start=1286)

TCCCAGCAA
GACAGGCTAATTTTTTTAGGGAAAATTTGGCC
GACCGG A GGGG
CCCCAC
GGAATTTTCCCCAAAACAGACTAGAGCCAACAG

=====
(848) AY371166
=====

PK1: -12.300000(kcal/mol): PK_start=1259 sp=0 s1=3 s2=6 l1=2 l2=22 L3=0 PK_end=1300
(fs_start=1292)

AA
TGTTGGAAGTGTGGAAAGGAGGGACATC

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TAG      AAAGTC

          TTTTAGGG
TGCACAGAGAGACAGGCTAATT

PK2:  -17.180000(kcal/mol): PK_start=1279 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=1313
(fs_start=1292)
          C
GGGACATCAACTGAAAGATTGCACAGAGAGA

          TTTTTT A  ATCGGA

          TGGCCTTC
AGGGAAAATC

PK3:  -23.815000(kcal/mol): PK_start=1301 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1334
(fs_start=1292)
          AAA
ACAGAGAGACAGGCTAATTTTTTAGGGA

          CCT      TCCGGTCT

          AGGCCAGGAA
ACAAGGGG

PK4:  -25.745000(kcal/mol): PK_start=1307 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1344
(fs_start=1292)
          CCAACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT

          GGACCGGAG      GGGA

          TCCTCA
AAATTT

PK4B:  -30.395000(kcal/mol): PK_start=1307 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1370
(fs_start=1292)
          TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT

          GGACCGGA      GGGG

          CCCAC
AAATTTTCCTCAGAGCAGGCCAGAGCCAACGG

=====
(849) AY371167
=====
PK1:  -15.140000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
(fs_start=1283)
          CA
GGAAGGAAGGACACCAAATGAAAGACTG

          GAC      AAAGAGTC

          TTTTTTAGGG
GCTAA

PK2:  -21.980000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)
          C
GAAGGACACCAAATGAAAGACTGCACTGAGAAA

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          GATTTTTT   AATCGGA
                    TTGGCCTTC
GGAGAAT
PK3:  -17.955000(kcal/mol): PK_start=1292 sp=0 s1=4 s2=4 l1=5 l2=10 L3=0 PK_end=1322
(fs_start=1283)
                    AATTT
ACTGAGAAACAGGCTAATTTTTTTAGGGAG
                    CCTT   CCGG
                                GGCCCG
                    AACAGAGGGA
PK4:  -23.575000(kcal/mol): PK_start=1301 sp=10 s1=5 s2=5 l1=7 l2=9 L3=0 PK_end=1336
(fs_start=1283)
                    TCCAACA
CAGGCTAATTTTTTTAGGGAGAATTTGGCCT
                    CCGGA   GGGAG
                                TCCTCAG
                    CGGAAATTT

=====
(850) AY371168
=====
PK1:  -10.640000(kcal/mol): PK_start=1255 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1293
(fs_start=1286)
                    A
TTGGAAATGTGGAAAGGAAGGACACCAA
                    GTT   AGAAAGT
                                TTTTTTAGG
                    CACTGAAAGACAGGCTAA
PK2:  -21.980000(kcal/mol): PK_start=1271 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1308
(fs_start=1286)
                    C
GAAGGACACCAAATGAAAGATTGCACTGAAAGA
                    GATTTTTT   AATCGGA
                                TTGGCCTTC
                    GGAAGAT
PK3:  -20.860000(kcal/mol): PK_start=1294 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1328
(fs_start=1286)
                    A
CACTGAAAGACAGGCTAATTTTTTTAGGGAAG
                    CCCTTC   CGGTTT
                                GCCGGGGA
                    ACAAGGGAAG
PK4:  -21.465000(kcal/mol): PK_start=1301 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1338
(fs_start=1286)
                    CCAC
AGACAGGCTAATTTTTTTAGGGAAGATTTGGCCTTC

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GGGCCGGAAG    GGAA
                TCTTCA
    GAACTT

=====
(851) AY371169
=====
PK1:  -11.420000(kcal/mol): PK_start=1275 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=1301
(fs_start=1295)
                CACA
GAAAGGATGGACATCAAATGAAAGACTG
                GAC    AGAGAG
                TTTTTTAG
    GCTAA

PK2:  -17.180000(kcal/mol): PK_start=1282 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=1316
(fs_start=1295)
                C
TGGACATCAAATGAAAGACTGCACAGAGAGA
                TTTTTT  A  ATCGGA
                TGGCCTTC
    AGGGAGGATC

PK3:  -22.370000(kcal/mol): PK_start=1303 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1337
(fs_start=1295)
                GA
CACAGAGAGACAGGCTAATTTTTTAGGGAG
                CCTTC    CGGTCT
                GCCAGGGA
    AGCAAAGGGAG

PK4:  -23.490000(kcal/mol): PK_start=1310 sp=7 s1=7 s2=4 l1=10 l2=6 L3=0 PK_end=1347
(fs_start=1295)
                TTCCAGCAAA
AGACAGGCTAATTTTTTAGGGAGGATCTGGCC
                GGACCGG    AGGG
                TCTCCA
    GAACTT

=====
(852) AY371170
=====
PK1:  -10.440000(kcal/mol): PK_start=1255 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1293
(fs_start=1286)
                A
TTGGAAATGTGGAAAGGAAGGACATCAA
                GTT    AGAAAGT
                TTTTTTAGG
    CACAGAAAGACAGGCTAA

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PK2: -18.700000(kcal/mol): PK_start=1273 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1308
(fs_start=1286)

C
AGGACATCAAATGAAAGATTGCACAGAAAAGA
TTTTTT AATCGGA
TTGGCCTTC
AGGGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1295 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1328
(fs_start=1286)

AAA
ACAGAAAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AACAAGGGG

PK4: -22.215000(kcal/mol): PK_start=1301 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1338
(fs_start=1286)

CCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGAG GGGA
TCCTCA
GAACTT

PK4B: -26.865000(kcal/mol): PK_start=1301 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1364
(fs_start=1286)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGA GGGG
CCCCAC
GAACTTTCCTCAGAGCAGACCAGAGCCAACAG

=====
(853) AY423381
=====

PK1: -13.555000(kcal/mol): PK_start=1598 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1626
(fs_start=1618)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1603 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1639
(fs_start=1618)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATN

PK3: -24.465000(kcal/mol): PK_start=1626 sp=0 s1=4 s2=6 l1=5 l2=8 L3=0 PK_end=1658
(fs_start=1618)

AGATN
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGT
AGGCCAGG
ACAAGGGG

PK4: -22.625000(kcal/mol): PK_start=1635 sp=9 s1=8 s2=4 l1=4 l2=8 L3=0 PK_end=1670
(fs_start=1618)

CCAC
ACAGGCTAATTTTTTAGGGAAGATNTGGCCTC
ACCGGAGG GGAA
TCTTCA
GGGAATTT

PK4B: -28.195000(kcal/mol): PK_start=1635 sp=9 s1=6 s2=6 l1=6 l2=34 L3=0 PK_end=1698
(fs_start=1618)

TCCCAC
ACAGGCTAATTTTTTAGGGAAGATNTGGCCT
ACCGGA GGGGAA
CCCCTTTT
GGGAATTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(854) AY423382
=====

PK1: -13.555000(kcal/mol): PK_start=1702 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1730
(fs_start=1722)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -21.940000(kcal/mol): PK_start=1707 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1744
(fs_start=1722)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAGAT

PK3: -22.580000(kcal/mol): PK_start=1730 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1764
(fs_start=1722)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTTT
GCCAGGGA
ACAAGGGGAG

PK4: -28.395000(kcal/mol): PK_start=1739 sp=9 s1=6 s2=6 l1=6 l2=34 L3=0 PK_end=1802
(fs_start=1722)

TCCCAC
ACAGGCTAATTTTTTAGGGAAGATTGGCCT
ACCGGA GGGGAA
CCCCTTTT
GGGAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(855) AY423383
=====

PK1: -13.555000(kcal/mol): PK_start=1604 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1632
(fs_start=1624)

A
GAAAGGAAGGACACCAAATGAAGGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1609 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1645
(fs_start=1624)

C
GAAGGACACCAAATGAAGGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATN

PK3: -24.465000(kcal/mol): PK_start=1632 sp=0 s1=4 s2=6 l1=5 l2=8 L3=0 PK_end=1664
(fs_start=1624)

AGATN
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGT
AGGCCAGG
ACAAGGGG

PK4: -22.625000(kcal/mol): PK_start=1641 sp=9 s1=8 s2=4 l1=4 l2=8 L3=0 PK_end=1676
(fs_start=1624)

CCAC
ACAGGCTAATTTTTTAGGGAAGATNTGGCCTTC
ACCGGAGG GGAA
TCTTCA
GGGAATTT

PK4B: -28.195000(kcal/mol): PK_start=1641 sp=9 s1=6 s2=6 l1=6 l2=34 L3=0 PK_end=1704
(fs_start=1624)

TCCCAC
ACAGGCTAATTTTTTAGGGAAGATNTGGCCT
ACCGGA GGGGAA
CCCCTTTT
GGGAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(856) AY423384
=====

PK1: -13.555000(kcal/mol): PK_start=1608 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1636
(fs_start=1628)

A
GAAAGGAAGGACACCAAATGAAGGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -21.940000(kcal/mol): PK_start=1613 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1650
(fs_start=1628)

C
GAAGGACACCAAATGAAGGATTGTACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAGAT

PK3: -22.580000(kcal/mol): PK_start=1636 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1670
(fs_start=1628)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTTT
GCCAGGGA
ACAAGGGGAG

PK4: -28.395000(kcal/mol): PK_start=1645 sp=9 s1=6 s2=6 l1=6 l2=34 L3=0 PK_end=1708
(fs_start=1628)

TCCCAC
ACAGGCTAATTTTTTAGGGAAGATTGGCCT
ACCGGA GGGGAA
CCCCTTTT
GGGAATTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(857) AY423385
=====

PK1: -13.555000(kcal/mol): PK_start=1591 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1619
(fs_start=1611)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1596 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1632
(fs_start=1611)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA

```

                                TGGCCTTC
                GGAAGATN
PK3:  -24.465000(kcal/mol): PK_start=1619 sp=0 s1=4 s2=6 l1=5 l2=8 L3=0 PK_end=1651
(fs_start=1611)
                                AGATN
TACTGAGAGACAGGCTAATTTTTTAGGGA
                CCCT      TCCGGT
                                AGGCCAGG
                ACAAGGGG
PK4:  -22.625000(kcal/mol): PK_start=1628 sp=9 s1=8 s2=4 l1=4 l2=8 L3=0 PK_end=1663
(fs_start=1611)
                                CCAC
ACAGGCTAATTTTTTAGGGAAGATNTGGCCTTC
                ACCGGAGG      GGAA
                                TCTTCA
                GGAATTT
PK4B:  -28.195000(kcal/mol): PK_start=1628 sp=9 s1=6 s2=6 l1=6 l2=34 L3=0 PK_end=1691
(fs_start=1611)
                                TCCCAC
ACAGGCTAATTTTTTAGGGAAGATNTGGCCT
                ACCGGA      GGGGAA
                                CCCCTTTT
                GGAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(858) AY423386
=====
PK1:  -13.555000(kcal/mol): PK_start=1693 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1721
(fs_start=1713)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                GACA      GAGAGTC
                                TTTTtaggg
                GCTAAT
PK2:  -21.940000(kcal/mol): PK_start=1698 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1735
(fs_start=1713)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT      AATCGGA
                                TTGGCCTTC
                GGAAGAT
PK3:  -22.580000(kcal/mol): PK_start=1721 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1755
(fs_start=1713)
                                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                CCCTTC      CGGTTT

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GCCAGGGA

ACAAGGGGAG

PK4: -28.395000(kcal/mol): PK_start=1730 sp=9 s1=6 s2=6 l1=6 l2=34 L3=0 PK_end=1793
(fs_start=1713)

TCCCAC

ACAGGCTAATTTTTTAGGGAAGATTTGGCCT

ACCGGA GGGGAA

CCCCTTTT

GGGAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(859) AY423387
=====

PK1: -10.640000(kcal/mol): PK_start=1588 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1626
(fs_start=1619)

A

TTGGAAATGTGNAAGNAAGGACACCAA

GTT AGAAAGT

TTTTTTAGG

TACTNAGAGACAGGCTAN

PK2: -15.610000(kcal/mol): PK_start=1607 sp=0 s1=5 s2=6 l1=1 l2=11 L3=1 PK_end=1640
(fs_start=1619)

C

GGACACCAAATGAAAGATTGTACTNAGAGA

TTTTT N ATCGGA

TGGCCTTC

TAGGGAAGATT

PK3: -22.580000(kcal/mol): PK_start=1627 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1661
(fs_start=1619)

A

TACTNAGAGACAGGCTANTTTTTTAGGGAAG

CCCTTC CGGTTT

GCCAGGGA

ACAAGGGGAG

PK4: -28.395000(kcal/mol): PK_start=1636 sp=9 s1=6 s2=6 l1=6 l2=34 L3=0 PK_end=1699
(fs_start=1619)

TCCCAC

ACAGGCTANTTTTTTAGGGAAGATTTGGCCT

ACCGGA GGGGAA

CCCCTtct

GGGAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(860) AY444799
=====

PK1: -10.440000(kcal/mol): PK_start=1264 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1302
(fs_start=1295)

A

TTGGAAATGTGGAAAGGAAGGACATCAA

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          GTT   AGAAAGT
                TTTTTTAGG
    CACTGAAAGACAGGCTAA

PK2:  -21.980000(kcal/mol): PK_start=1280 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1317
(fs_start=1295)
                C
    GAAGGACATCAAATGAAAGATTGCACTGAAAGA
                GATTTTTT   AATCGGA
                TTGGCCTTC
    GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1304 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1337
(fs_start=1295)
                AAA
    ACTGAAAGACAGGCTAATTTTTTAGGGA
                CCT   TCCGGTTT
                AGGCCAGGGA
    AACAAGGGG

PK4:  -25.010000(kcal/mol): PK_start=1310 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1347
(fs_start=1295)
                CAAC
    AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
                GGACCGGAGG   GGAA
                CCTTCA
    GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1310 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1373
(fs_start=1295)
                TCCAACAA
    AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA   GGGG
                CCCAC
    GAATTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(861) AY444800
=====
PK1:  -15.025000(kcal/mol): PK_start=1257 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1285
(fs_start=1277)
                A
    GAAAGGAAGGACACCAAATGAAAGACTGT
                GACG   GAAAGTC
                TTTTTAGGG
    GCTAAT

PK2:  -20.370000(kcal/mol): PK_start=1262 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1299
(fs_start=1277)
                C
    GAAGGACACCAAATGAAAGACTGTACTGAAAGG

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                GATTTTTT   AATCGGA
                TTGGCCTTC
        GGAAAAT
PK3:  -23.745000(kcal/mol): PK_start=1285 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1319
(fs_start=1277)
                AAA
TACTGAAAGGCAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTTT
                AGGCCAGGGA
        ACAAGGGG
PK4:  -22.815000(kcal/mol): PK_start=1292 sp=7 s1=9 s2=4 l1=6 l2=5 L3=0 PK_end=1328
(fs_start=1277)
                CCCACA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTT
                GGACCGGAG   GGGA
                TCCTGC
        GAATT
PK4B:  -26.865000(kcal/mol): PK_start=1292 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1355
(fs_start=1277)
                TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTT
                GGACCGGA   GGGG
                CCCCAC
        GAATTCCTGCAGAACAGGCTAGAGCCAACAG
=====
(862) AY444801
=====
PK1:  -17.185000(kcal/mol): PK_start=1257 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1285
(fs_start=1277)
                A
GAAAGGAAGGGCATCAAATGAAAGACTGC
                GACG   GAGAGTC
                TTTTTAGGG
        GCTAAT
PK2:  -18.720000(kcal/mol): PK_start=1262 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1298
(fs_start=1277)
                C
GAAGGGCATCAAATGAAAGACTGCACTGAGAGG
                GATTTTTT   A   ATCGGA
                TGGCCTTC
        GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1285 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1319
(fs_start=1277)
                AAA
CACTGAGAGGCAGGCTAATTTTTTAGGGA

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          CCCT   TCCGGTCT
                AGGCCAGGGA
ACAAGGGG
PK4:  -28.54000(kcal/mol): PK_start=1292 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1329
(fs_start=1277)
                CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                GGACCGGAGG   GGAA
                                CCTTCA
                GAATTT

PK4B:  -30.395000(kcal/mol): PK_start=1292 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1355
(fs_start=1277)
                TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCT
                GGACCGGA   GGGG
                                CCCCAC
                GAATTTCCCTCAGAACAGACCAGAGCCAACAG

=====
(863) AY444803
=====
PK1:  -15.100000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
(fs_start=1283)
                CA
GAAAGGAGGGACATCAAATGAAAGACTG
                GAC   AGAGAGTC
                                TTTTTTAGGG
                GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)
                C
GAGGGACATCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT   AATCGGA
                                TTGGCCTTC
                GGAAAAT

PK3:  -22.025000(kcal/mol): PK_start=1291 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1325
(fs_start=1283)
                AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTTT
                                AGGCCGGGGA
                ACAAGGGA

PK4:  -18.405000(kcal/mol): PK_start=1299 sp=8 s1=9 s2=4 l1=4 l2=4 L3=0 PK_end=1332
(fs_start=1283)
                CCAC
GACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC

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                GGCCGGAAG    GGAA
                                TTTTCA
                GGAA

=====
(864) AY444804
=====
PK1:  -15.100000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=11 L3=0 PK_end=1297
(fs_start=1289)
                CA
GGAAGGAAGGACATCAAATGAAAGACTG

                GAC    AGAGAGTC
                                TTTTTTAGGG
                GGACAGGCTAA

PK2:  -14.630000(kcal/mol): PK_start=1277 sp=0 s1=5 s2=7 l1=1 l2=10 L3=0 PK_end=1311
(fs_start=1289)
                C
CAAATGAAAGACTGCACTGAGAGACAGGGA

                TTTTT    AATCGGA
                                TTGGCCTTC
                TAGGGAAAAT

PK3:  -22.025000(kcal/mol): PK_start=1297 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1331
(fs_start=1289)
                AAA
GAGACAGGGACAGGCTAATTTTTTAGGGA

                CCCT    TCCGGTTT
                                AGGCCGGGAA
                ACAAGGGA

PK4:  -21.195000(kcal/mol): PK_start=1304 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1341
(fs_start=1289)
                                TCCCACA
GACAGGCTAATTTTTTAGGGAAAATTTGGCCT

                GGGCCGGA    AGGGA
                                TTCCTCA
                AAATT

=====
(865) AY444805
=====
PK1:  -15.100000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
(fs_start=1283)
                CA
GGAAGGAAGGACATCAAATGAAAGACTG

                GAC    AGAGAGTC
                                TTTTTTAGGG
                GCTAA

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PK2: -21.940000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAACT

PK3: -20.285000(kcal/mol): PK_start=1292 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1325
(fs_start=1283)

AAC
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AACAAGGGG

PK4: -22.215000(kcal/mol): PK_start=1298 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1335
(fs_start=1283)

CCAACA
AGACAGGCTAATTTTTTAGGGAACTTTGGCCTT
GGACCGGAG GGGG
TCCTCA
AAATTT

PK4B: -26.865000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1361
(fs_start=1283)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAACTTTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTTCCTCAGAGCAGACTAGAGCCAACAG

=====
(866) AY444806
=====

PK1: -11.420000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=1289
(fs_start=1283)

CACC
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAG
TTTTTTAG
GCTAA

PK2: -18.660000(kcal/mol): PK_start=1270 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1305
(fs_start=1283)

C
AGGACATCAAATGAAAGACTGCACCGAGAGA
TTTTTT AATCGGA
TTGGCCTTC
AGGGAAAAT

PK3: -22.025000(kcal/mol): PK_start=1291 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1325
(fs_start=1283)

AAA
CACCGAGAGACAGGCTAATTTTTTTAGGGA
CCCT TCCGGTTT
AGGCCGGGA
ACAAGGGA

PK4: -21.195000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1335
(fs_start=1283)

TCCCACA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
GGGCCGGA AGGGA
TTCCTCA
GAATT

=====
(867) AY444809
=====

PK1: -13.555000(kcal/mol): PK_start=1248 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1276
(fs_start=1268)

A
GGAGGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -21.940000(kcal/mol): PK_start=1253 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1290
(fs_start=1268)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1277 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1310
(fs_start=1268)

AAA
ACTGAGAGACAGGCTAATTTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AGCAAAGGG

PK4: -21.815000(kcal/mol): PK_start=1283 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1320
(fs_start=1268)

TCCAGCAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGGA
TCCTCA
GAATTT

=====
(868) AY444811
=====

PK1: -15.625000(kcal/mol): PK_start=1260 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1288
(fs_start=1280)

A
GGAGGGAAGGACACCAAATGAAAGACTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -21.980000(kcal/mol): PK_start=1265 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1302
(fs_start=1280)

C
GAAGGACACCAAATGAAAGACTGTACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1289 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1322
(fs_start=1280)

AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AACAAGGGA

PK4: -22.915000(kcal/mol): PK_start=1295 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1332
(fs_start=1280)

TCCAACA
AGACAGGCTAATTTTTTAGGAAAATTTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(869) AY444812
=====

PK1: -13.555000(kcal/mol): PK_start=1272 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1300
(fs_start=1292)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGA
GCTAAT

PK2: -21.800000(kcal/mol): PK_start=1277 sp=0 s1=7 s2=7 l1=1 l2=8 L3=2 PK_end=1313
(fs_start=1292)

A
GAAGGACACCAAATGAAAGATTGTACTGAGAG
GATTTTT TA ATCGGAC

TGGCCTGTC

GAAAAATC

PK3: -26.780000(kcal/mol): PK_start=1300 sp=0 s1=3 s2=9 l1=4 l2=7 L3=0 PK_end=1334
(fs_start=1292)

AAAA

TACTGAGAGACAGGCTAATTTTTTTAGGA

CCT GTCCGGTCT

CAGGCCAGGGA

ACAAGGA

PK4: -25.100000(kcal/mol): PK_start=1307 sp=7 s1=7 s2=4 l1=10 l2=7 L3=0 PK_end=1345
(fs_start=1292)

TGTCCACAAG

AGACAGGCTAATTTTTTTAGGAAAAATCTGGCC

GGACCGG ACAG

TGTCAG

GAATTTT

=====
(870) AY445524
=====

PK1: -15.140000(kcal/mol): PK_start=2070 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2098
(fs_start=2090)

CA

GAAGGGAAGGACACCAAATGAAAGACTG

GAC AGAAAGTC

TTTTTTAGGG

GCTAA

PK2: -21.980000(kcal/mol): PK_start=2075 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2112
(fs_start=2090)

C

GAAGGACACCAAATGAAAGACTGCACTGAAAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAGAAT

PK3: -18.840000(kcal/mol): PK_start=2098 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=2132
(fs_start=2090)

AA

CACTGAAAGACAGGCTAATTTTTTTAGGGAG

CCTTC CGGTTT

GCCAGGGA

CACAAAGGGGAG

PK4: -25.010000(kcal/mol): PK_start=2105 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2142
(fs_start=2090)

CCAC

AGACAGGCTAATTTTTTTAGGGAGAATTTGGCCTTC

GGACCGGAGG GGAA

CCTTCA

GAATTT

PK4B: -26.865000(kcal/mol): PK_start=2105 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2168
(fs_start=2090)

TCCCACAA

AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT

GGACCGGA GGGG

CCCCAC

GAATTTCCCTCAGAGCAGACCAGAGCCAACAG

=====

(871) AY455778

=====

PK1: -15.140000(kcal/mol): PK_start=1321 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1349
(fs_start=1341)

CA

GAAGAGAAGGACACCAAATGAAAGACTG

GAC AGAAAGTC

TTTTTTAGGG

GCTAA

PK2: -21.980000(kcal/mol): PK_start=1326 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1363
(fs_start=1341)

C

GAAGGACACCAAATGAAAGACTGCACTGAAAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1349 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1383
(fs_start=1341)

AAA

CACTGAAAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT

AGGCCAGGGA

ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1356 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1393
(fs_start=1341)

CCAC

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC

GGACCGGAGG GGAA

CCTTCA

GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1356 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1419
(fs_start=1341)

TCCCACAA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG

CCCCGC
GAATTTCCCTTCAGAACAGGCCAGAGCCAACAG

=====
(872) AY455779
=====

PK1: -15.140000(kcal/mol): PK_start=1515 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1543
(fs_start=1535)

CA
GAAGAGAAGGACACCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTTAGGG
GCTAA

PK2: -21.980000(kcal/mol): PK_start=1520 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1557
(fs_start=1535)

C
GAAGGACACCAAATGAAAGACTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -21.780000(kcal/mol): PK_start=1543 sp=0 s1=5 s2=4 l1=5 l2=9 L3=0 PK_end=1574
(fs_start=1535)

AATTT
CACTGAAAGACAGGCTAATTTTTTAGGGAA
CCCTT CCGG
GGCCCG
ACAAGGAAA

PK4: -19.825000(kcal/mol): PK_start=1553 sp=10 s1=5 s2=4 l1=8 l2=7 L3=0 PK_end=1585
(fs_start=1535)

TCCCACAA
CAGGCTAATTTTTTAGGGAAAATTTGGCCT
CCGGA AAGG
TTCCCT
CGGGAAT

=====
(873) AY455780
=====

PK1: -15.140000(kcal/mol): PK_start=1637 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1665
(fs_start=1657)

CA
GAAAAGAAGGACACCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTTAGGG
GCTAA

PK2: -20.500000(kcal/mol): PK_start=1642 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1678
(fs_start=1657)

C
GAAGGACACCAAATGAAAGACTGCACTGAAAGA

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          GATTTTTT A ATCGGA
                    TGGCCTTC
          GGAAAATC

PK3:  -21.780000(kcal/mol): PK_start=1665 sp=0 s1=5 s2=4 l1=5 l2=9 L3=0 PK_end=1696
(fs_start=1657)
                    AATCT
CACTGAAAGACAGGCTAATTTTTTTAGGGAA
                    CCCTT   CCGG
                    GGCCCG
          ACAAGGGGA

PK4:  -22.820000(kcal/mol): PK_start=1675 sp=10 s1=7 s2=4 l1=4 l2=9 L3=0 PK_end=1709
(fs_start=1657)
                    CCAC
CAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
                    CCGGAGG   GGAA
                    CCTTCA
          CGGAAATTT

PK4B:  -24.675000(kcal/mol): PK_start=1675 sp=10 s1=5 s2=4 l1=8 l2=35 L3=0
PK_end=1735 (fs_start=1657)
                    TCCCACAA
CAGGCTAATTTTTTTAGGGAAAATCTGGCCT
                    CCGGA   GGGG
                    CCCCCG
          CGGAAATTTCTTCAGAACAGGCCAGAGCCAACAG

=====
(874) AY455781
=====
PK1:  -18.400000(kcal/mol): PK_start=1504 sp=0 s1=3 s2=9 l1=1 l2=5 L3=0 PK_end=1533
(fs_start=1524)
                    C
GAAGAGAAGGACACCAAATGAAAGACTG
                    GAC   AGAAAGTCC
                    TTTTTTTAGGGA
          GCTAA

PK2:  -28.200000(kcal/mol): PK_start=1507 sp=0 s1=10 s2=7 l1=1 l2=5 L3=0 PK_end=1546
(fs_start=1524)
                    C
GAGAAGGACACCAAATGAAAGACTGCCCTGAAAGA
                    GGGATTTTTT   AATCGGA
                    TTGGCCTTC
          AGAAT

PK3:  -18.840000(kcal/mol): PK_start=1532 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1566
(fs_start=1524)
                    AA
CCCTGAAAGACAGGCTAATTTTTTTAGGGAG

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          CCTTC   CGGTTT
                GCCAGGAA
          AACAAAGGGGAG

PK4:  -25.010000(kcal/mol): PK_start=1539 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1576
(fs_start=1524)
                CAAC
AGACAGGCTAATTTTTTTAGGGAGAATTTGGCCTTC
                GGACCGGAGG   GGAA
                                CCTTCA
          AAATTT

PK4B:  -26.865000(kcal/mol): PK_start=1539 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1602
(fs_start=1524)
                TCCAACAA
AGACAGGCTAATTTTTTTAGGGAGAATTTGGCCT
                GGACCGGA   GGGG
                                CCCCCG
          AAATTTCTTCAGAACAGGACAGAGCCAACAG

=====
(875) AY455782
=====
PK1:  -15.140000(kcal/mol): PK_start=1641 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1669
(fs_start=1661)
                CA
GAAAAGAAGGACACCAAATGAAAGACTG
                GAC   AGAAAGTC
                                TTTTTTAGGG
          GCTAA

PK2:  -21.980000(kcal/mol): PK_start=1646 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1683
(fs_start=1661)
                C
GAAGGACACCAAATGAAAGACTGCACTGAAAGA
                GATTTTTT   AATCGGA
                                TTGGCCTTC
          GGAAAAT

PK3:  -18.320000(kcal/mol): PK_start=1670 sp=0 s1=4 s2=4 l1=5 l2=10 L3=0 PK_end=1700
(fs_start=1661)
                AATTT
ACTGAAAGACAGGCTAATTTTTTTAGGGAA
                CCTT   CCGG
                                GGCCCC
          AACAAAGGGGA

PK4:  -22.820000(kcal/mol): PK_start=1679 sp=10 s1=7 s2=4 l1=4 l2=9 L3=0 PK_end=1713
(fs_start=1661)
                CAAC
CAGGCTAATTTTTTTAGGGAAAATTTGGCCTTC

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CCGGAGG GGAA
 CCTTCA
 CGGAAATTT

PK4B: -24.675000(kcal/mol): PK_start=1679 sp=10 s1=5 s2=4 l1=8 l2=35 L3=0
 PK_end=1739 (fs_start=1661)

TCCAACAA
 CAGGCTAATTTTTTAGGGAAAATTTGGCCT

CCGGA GGGG
 CCCCAC
 CGGAAATTTCTTCAGAGCAGGCCAGAGCCAACAG

=====
 (876) AY455783
 =====

PK1: -15.140000(kcal/mol): PK_start=1651 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1679
 (fs_start=1671)

CA
 GACAAGAAGGACACCAAATGAAAGACTG

GAC AGAAAGTC
 TTTTTTAGGG
 GTTAA

PK2: -18.490000(kcal/mol): PK_start=1656 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1693
 (fs_start=1671)

C
 GAAGGACACCAAATGAAAGACTGCACTGAAAGA

GATTTTTT AATTGGA
 TTGGCCTTC
 GGAAAAT

PK3: -22.180000(kcal/mol): PK_start=1679 sp=0 s1=5 s2=4 l1=5 l2=9 L3=0 PK_end=1710
 (fs_start=1671)

AATTT
 CACTGAAAGACAGGTTAATTTTTTAGGGAA

CCCTT CCGG
 GGCCTG
 ACAAGGGGA

PK4: -22.820000(kcal/mol): PK_start=1689 sp=10 s1=7 s2=4 l1=4 l2=9 L3=0 PK_end=1723
 (fs_start=1671)

CCAC
 CAGGTTAATTTTTTAGGGAAAATTTGGCCTTC

CCGGAGG GGAA
 CCTTCA
 TGGAATTT

PK4B: -24.675000(kcal/mol): PK_start=1689 sp=10 s1=5 s2=4 l1=8 l2=35 L3=0
 PK_end=1749 (fs_start=1671)

TCCCACAA
 CAGGTTAATTTTTTAGGGAAAATTTGGCCT


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          CCGGA   GGGG
                    CCCCCG
          TGGAAATTCCTTCAGAGCAGACCAGAGCCAACAG

=====
(877) AY455784
=====
PK1:  -15.54000(kcal/mol): PK_start=1526 sp=0 s1=3 s2=9 l1=1 l2=5 L3=1 PK_end=1555
(fs_start=1547)
                    C
GGAAGAGAAGGACACCAAATGAAGACTG
                    GAC  A  GGAAAGTCC
                    TTTTTTAGGGA
          GCTAA

PK2:  -26.59000(kcal/mol): PK_start=1529 sp=0 s1=10 s2=7 l1=2 l2=5 L3=0 PK_end=1569
(fs_start=1547)
                    AC
AGAGAAGGACACCAAATGAAGACTGCCCTGAAAGG
                    GGGATTTTTT   AATCGGA
                    TTGGCCTTC
          AAAAT

PK3:  -21.78000(kcal/mol): PK_start=1555 sp=0 s1=5 s2=4 l1=5 l2=9 L3=0 PK_end=1586
(fs_start=1547)
                    AATTT
CCTGAAAGGACAGGCTAATTTTTTAGGGAA
                    CCCTT   CCGG
                    GGCCCG
          CCCAGGGGA

PK4:  -20.20500(kcal/mol): PK_start=1565 sp=10 s1=5 s2=5 l1=7 l2=8 L3=0 PK_end=1599
(fs_start=1547)
                    TCCCCC
CAGGCTAATTTTTTAGGGAAAATTTGGCCT
                    CCGGA   GGGGA
                    TCCTTCA
          CGGCAATT

PK4B:  -24.67500(kcal/mol): PK_start=1565 sp=10 s1=5 s2=4 l1=8 l2=35 L3=0
PK_end=1625 (fs_start=1547)
                    TCCCCCA
CAGGCTAATTTTTTAGGGAAAATTTGGCCT
                    CCGGA   GGGG
                    CCCCCG
          CGGCAATTCCTTCARAGCAGGCCAGAGCCAACAG

=====
(878) AY455785
=====

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PK1: -15.140000(kcal/mol): PK_start=1496 sp=0 s1=3 s2=8 l1=2 l2=5 l3=0 PK_end=1524 (fs_start=1516)

CA
GAAGAGAGGGACATCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -21.980000(kcal/mol): PK_start=1501 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1538 (fs_start=1516)

C
GAGGGACATCAAATGAAAGACTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -18.320000(kcal/mol): PK_start=1525 sp=0 s1=4 s2=4 l1=5 l2=10 l3=0 PK_end=1555 (fs_start=1516)

AATTT
ACTGAAAGACAGGCTAATTTTTTTAGGGAA
CCTT CCGG
GGCCCG
AACAAGGGGA

PK4: -22.820000(kcal/mol): PK_start=1534 sp=10 s1=7 s2=4 l1=4 l2=9 l3=0 PK_end=1568 (fs_start=1516)

CAAC
CAGGCTAATTTTTTTAGGGAAAATTTGGCCTTC
CCGGAGG GGAA
CCTTCA
CGGAAATTT

PK4B: -24.675000(kcal/mol): PK_start=1534 sp=10 s1=5 s2=4 l1=8 l2=35 l3=0 PK_end=1594 (fs_start=1516)

TCCAACAA
CAGGCTAATTTTTTTAGGGAAAATTTGGCCT
CCGGA GGGG
CCCCGC
CGGAAATTTCTTCAGAACAGACCAGAGCCAACAG

=====
(879) AY463217
=====

PK1: -12.955000(kcal/mol): PK_start=1504 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1532 (fs_start=1524)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1509 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1546
(fs_start=1524)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1532 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1566
(fs_start=1524)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1539 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1576
(fs_start=1524)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1539 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1602
(fs_start=1524)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCCCTTCAGGCCAGGCCAGGCAACAG

=====
(880) AY463218
=====

PK1: -15.585000(kcal/mol): PK_start=1477 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1505
(fs_start=1497)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -21.940000(kcal/mol): PK_start=1482 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1519
(fs_start=1497)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1505 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1539
(fs_start=1497)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -22.705000(kcal/mol): PK_start=1512 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1549
(fs_start=1497)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1512 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1575
(fs_start=1497)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCTTCAGAACAGACCAGCCAACAG

=====
(881) AY463219
=====

PK1: -15.025000(kcal/mol): PK_start=1498 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1526
(fs_start=1518)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.370000(kcal/mol): PK_start=1503 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1540
(fs_start=1518)

C
GAAGGACACCAAATGAAAGACTGTACTGAAAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1526 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1560
(fs_start=1518)

AAA
TACTGAAAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -23.985000(kcal/mol): PK_start=1533 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1571
(fs_start=1518)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CTCCAG
GAATTTTC

PK4B: -26.865000(kcal/mol): PK_start=1533 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1596
(fs_start=1518)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCCTCCAGAACAGACCAGAACCATCAG

=====
(882) AY463220
=====

PK1: -12.455000(kcal/mol): PK_start=1506 sp=0 s1=4 s2=6 l1=2 l2=5 L3=0 PK_end=1532
(fs_start=1526)

AC
GGCAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGA
TTTTTTAG
GCTAA

PK2: -18.660000(kcal/mol): PK_start=1513 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1548
(fs_start=1526)

C
AGGACACCAAATGAAAGACTGTACAGAGAGA
TTTTTT AATCGGA
TTGGCCTTC
AGGGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1534 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1568
(fs_start=1526)

AAA
TACAGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -26.865000(kcal/mol): PK_start=1541 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1604
(fs_start=1526)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTGTTCAGAGCAGACCAGAGCCATCAG

=====
(883) AY463221
=====

PK1: -15.025000(kcal/mol): PK_start=1475 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1503
(fs_start=1495)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.370000(kcal/mol): PK_start=1480 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1517
(fs_start=1495)

C
GAAGGACACCAAATGAAAGACTGTACTGAAAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAAT

PK3: -23.745000(kcal/mol): PK_start=1503 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1537
(fs_start=1495)

AAA
TACTGAAAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1510 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1547
(fs_start=1495)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1510 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1573
(fs_start=1495)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCCCTTCAGAACAGACCAGAGCCAACAG

=====
(884) AY463222
=====

PK1: -15.025000(kcal/mol): PK_start=1474 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1502
(fs_start=1494)

A
GAAAGGAAGGCCACCAAATGAAAGACTGT
GACG GAAAGTC

```

                TTTTAGGG
      GCTAAT
PK2:  -20.370000(kcal/mol): PK_start=1479 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1516
(fs_start=1494)
                C
GAAGGCCACCAAATGAAAGACTGTACTGAAAGG
                GATTTTTT   AATCGGA
                TTGGCCTTC
      GGAAAAAT
PK3:  -20.285000(kcal/mol): PK_start=1503 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1536
(fs_start=1494)
                AAA
ACTGAAAGGCAGGCTAATTTTTTAGGGA
                CCT   TCCGGTTT
                AGGCCAGGGA
      AACAAGGGG
PK4:  -25.010000(kcal/mol): PK_start=1509 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1546
(fs_start=1494)
                CAAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
                GGACCGGAGG   GGAA
                CCTTCA
      GAATTT
PK4B:  -26.865000(kcal/mol): PK_start=1509 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1572
(fs_start=1494)
                TCCAACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA   GGGG
                CCCCAC
      GAATTTCTTCAGAACAGGCCAGAGCCAACAG
=====
(885) AY463223
=====
PK1:  -15.585000(kcal/mol): PK_start=1501 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1529
(fs_start=1521)
                A
GAAAGGAAGGACACCAAATGAAAGACTGT
                GACA   GAGAGTC
                TTTTAGGG
      GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1506 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1542
(fs_start=1521)
                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
                GATTTTTT   A   AATCGGA

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                                TGGCCTTC
                GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1529 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1563
(fs_start=1521)
                                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTCT
                                AGGCCAGGGA
                AGAAGGGG
PK4:  -32.490000(kcal/mol): PK_start=1536 sp=7 s1=11 s2=4 l1=2 l2=7 L3=0 PK_end=1574
(fs_start=1521)
                                CA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTCC
                                GGACCGGAGGG   GAAG
                                CTCAG
                GAATTTTC
PK4B:  -30.395000(kcal/mol): PK_start=1536 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1599
(fs_start=1521)
                                TCCCAGAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                                GGACCGGA   GGGG
                                CCCCAC
                GAATTTCTTCAGAGCAGACCAGAGCCAACAG
=====
(886) AY463224
=====
PK1:  -15.025000(kcal/mol): PK_start=1501 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1529
(fs_start=1521)
                                A
GAAAGGAAGGACACCAAATGAAAGACTGT
                                GACG   GAAAGTC
                                TTTTTAGGG
                GCTAAT
PK2:  -20.370000(kcal/mol): PK_start=1506 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1543
(fs_start=1521)
                                C
GAAGGACACCAAATGAAAGACTGTACTGAAAGG
                                GATTTTTT   AATCGGA
                                TTGGCCTTC
                GGAAAAT
PK3:  -23.745000(kcal/mol): PK_start=1529 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1563
(fs_start=1521)
                                AAA
TACTGAAAGGCAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTTT

```


AGGCCAGGGA

ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1536 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1573
(fs_start=1521)

CCAC

AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC

GGACCGGAGG GGAA

CCTTCA

GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1536 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1599
(fs_start=1521)

TCCCACAA

AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG

CCCCAC

GAATTTCTTCAGAACAGACCAGAGCCAACGG

=====
(887) AY463225
=====

PK1: -17.185000(kcal/mol): PK_start=1497 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1525
(fs_start=1517)

A

GAAAAGAAGGACACCAAATGAAAGACTGC

GACG GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1502 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1539
(fs_start=1517)

C

GAAGGACACCAAATGAAAGACTGCACTGAGAGG

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1525 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1559
(fs_start=1517)

AAA

CACTGAGAGGCAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT

AGGCCAGGGA

ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1532 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1569
(fs_start=1517)

CCAC

AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC

GGACCGGAGG GGAA

CCTTCA

GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1532 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1595
(fs_start=1517)

TCCCACAA

AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG

CCCCAC

GAATTTCCCTCAGAACAGACCAGAGCCAACAG

=====
(888) AY463226
=====

PK1: -12.405000(kcal/mol): PK_start=1500 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=1527
(fs_start=1520)

AA

GAAAGGAAGGACACCAAATGAAAGACTGT

GACG GAGAGT

TTTTTAGG

GCTAAT

PK2: -18.050000(kcal/mol): PK_start=1506 sp=0 s1=7 s2=7 l1=1 l2=8 L3=0 PK_end=1542
(fs_start=1520)

C

AAGGACACCAAATGAAAGACTGTAATGAGAGG

ATTTTTT AATCGGA

TTGGCCTTC

GGGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1528 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1562
(fs_start=1520)

AAA

TAATGAGAGGCAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT

AGGCCAGGGA

ACAAGGGG

PK4: -23.985000(kcal/mol): PK_start=1535 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1573
(fs_start=1520)

TCCCACAA

AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG

CTCCAG

GAATTTT

PK4B: -26.865000(kcal/mol): PK_start=1535 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1598
(fs_start=1520)

TCCCACAA

AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG

CCCCAC
GAATTTCCCTCCAGAACAGACCAGAGCCAACAG

=====
(889) AY463227
=====

PK1: -15.585000(kcal/mol): PK_start=1502 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1530
(fs_start=1522)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -21.940000(kcal/mol): PK_start=1507 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1544
(fs_start=1522)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1531 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1564
(fs_start=1522)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1537 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1574
(fs_start=1522)

CAAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1537 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1600
(fs_start=1522)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCCCTCAGAGCAGACCAGAGCCAACAG

=====
(890) AY463228
=====

PK1: -14.985000(kcal/mol): PK_start=1501 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1529
(fs_start=1521)

A
GAAAGGAAGGACACCAAATGAAAGACTGT

```

          GACG      GAGAGTC
                TTTTATAGGG
    GCTAAT
PK2:  -20.330000(kcal/mol): PK_start=1506 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1543
(fs_start=1521)
                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
                GATTTTTT      AATCGGA
                TTGGCCTTC
    GGAAAAT

PK3:  -23.745000(kcal/mol): PK_start=1529 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1563
(fs_start=1521)
                AAA
TACTGAGAGGCAGGCTAATTTTTATAGGGA
                CCCT      TCCGGTTT
                AGGCCAGGGA
    ACAAGGGG

PK4:  -25.010000(kcal/mol): PK_start=1536 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1573
(fs_start=1521)
                CCAC
AGGCAGGCTAATTTTTATAGGAAAATTTGGCCTTC
                GGACCGGAGG      GGAA
                CCTTCA
    GAATTT

=====
(891) AY463229
=====
PK1:  -12.995000(kcal/mol): PK_start=1498 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1526
(fs_start=1518)
                A
GAAAAGAAGGACACCAAATGAAAGATTGT
                GACG      GAAAGTC
                TTTTATAGGG
    GCTAAT

PK2:  -20.370000(kcal/mol): PK_start=1503 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1540
(fs_start=1518)
                C
GAAGGACACCAAATGAAAGATTGTACTGAAAGG
                GATTTTTT      AATCGGA
                TTGGCCTTC
    GGAAAAT

PK3:  -23.745000(kcal/mol): PK_start=1526 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1560
(fs_start=1518)
                AAA
TACTGAAAGGCAGGCTAATTTTTATAGGGA

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          CCCT   TCCGGTTT
                AGGCCAGGGA
ACAAGGGG
PK4:  -25.010000(kcal/mol): PK_start=1533 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1570
(fs_start=1518)
                CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
                GGACCGGAGG   GGAA
                                CCTTCA
                GAATTT

PK4B:  -26.865000(kcal/mol): PK_start=1533 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1596
(fs_start=1518)
                TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA   GGGG
                                CCCCAC
                GAATTTCCCTTCAGAGCAGGCCAGAGCCAACAG

=====
(892) AY463230
=====
PK1:  -15.025000(kcal/mol): PK_start=1508 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1536
(fs_start=1528)
                A
GAAGGGAAGGACATCAAATGAAAGACTGT
                GACG   GAAAGTC
                                TTTTTAGGG
                GCTAAT

PK2:  -20.370000(kcal/mol): PK_start=1513 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1550
(fs_start=1528)
                C
GAAGGACATCAAATGAAAGACTGTACTGAAAGG
                GATTTTTT   AATCGGA
                                TTGGCCTTC
                GGAAAAT

PK3:  -23.745000(kcal/mol): PK_start=1536 sp=0 s1=4 s2=8 l1=3 l2=11 L3=0 PK_end=1573
(fs_start=1528)
                AAA
TACTGAAAGGCAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTTT
                                AGGCCAGGGA
                ACAGCAAGGGG

PK4:  -25.010000(kcal/mol): PK_start=1543 sp=7 s1=10 s2=4 l1=7 l2=6 L3=0 PK_end=1583
(fs_start=1528)
                CCACAGC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC

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GGACCGGAGG    GGAA
                CCTTCA
GAATTT
=====
(893) AY463231
=====
PK1:  -14.985000(kcal/mol): PK_start=1499 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1527
(fs_start=1519)
                A
GAAAGGAAGGACACCAAATGAAAGACTGT
                GACG    GAGAGTC
                TTTTtaggg
GCTAAT

PK2:  -20.330000(kcal/mol): PK_start=1504 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1541
(fs_start=1519)
                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
                GATTTTTT    AATCGGA
                TTGGCCTTC
GGAAAAT

PK3:  -22.025000(kcal/mol): PK_start=1527 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1561
(fs_start=1519)
                AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
                CCCT    TCCGTTT
                AGGCCGGGGA
ACAAGGGG

PK4:  -26.555000(kcal/mol): PK_start=1534 sp=7 s1=8 s2=6 l1=6 l2=34 L3=0 PK_end=1601
(fs_start=1519)
                TCCCAC
AGGCAGGCTAATTTTTTAGGAAAATTTGGCCT
                GGGCCGGA    GGGGAA
                CCCCTTCA
GAATTCATTTCAGAGCAGACCAGAGCCAACAGCC

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(894) AY463232
=====
PK1:  -17.225000(kcal/mol): PK_start=1500 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1528
(fs_start=1520)
                A
GAAAAGAAGGACACCAAATGAGAGACTGC
                GACG    GAAAGTC
                TTTTtaggg
GCTAAT

```

PK2: -18.760000(kcal/mol): PK_start=1505 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1541
(fs_start=1520)

C
GAAGGACACCAAATGAGAGACTGCACTGAAAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1528 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1562
(fs_start=1520)

AAA
CACTGAAAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGAA
ACAAGGGG

PK4: -28.540000(kcal/mol): PK_start=1535 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1572
(fs_start=1520)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
AAATTT

PK4B: -30.395000(kcal/mol): PK_start=1535 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1598
(fs_start=1520)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTTCCTTCAGAACAGACCAGAGCCAACAG

=====
(895) AY463233
=====

PK1: -15.025000(kcal/mol): PK_start=1494 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1522
(fs_start=1514)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.370000(kcal/mol): PK_start=1499 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1536
(fs_start=1514)

C
GAAGGACACCAAATGAAAGACTGTACTGAAAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAGAAT

PK3: -18.84000(kcal/mol): PK_start=1522 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1556 (fs_start=1514)

AA
TACTGAAAGGCAGGCTAATTTTTTAGGGAG
CCTTC CGGTTT
GCCAGGGA
AACAAGGGGAG

PK4: -25.01000(kcal/mol): PK_start=1529 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1566 (fs_start=1514)

CAAC
AGGCAGGCTAATTTTTTAGGGAGAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -23.08500(kcal/mol): PK_start=1529 sp=7 s1=8 s2=4 l1=8 l2=34 L3=0 PK_end=1594 (fs_start=1514)

TCCAACAA
AGGCAGGCTAATTTTTTAGGGAGAATTTGGCCT
GGACCGGA GGGG
CCTCCA
GAATTTTCCTTCAGAGCAGACCAGAGCCAACAGCA

=====
(896) AY463234
=====

PK1: -14.98500(kcal/mol): PK_start=1499 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1527 (fs_start=1519)

A
GAAAGGAAGGACACCGAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.33000(kcal/mol): PK_start=1504 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1541 (fs_start=1519)

C
GAAGGACACCGAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.74500(kcal/mol): PK_start=1527 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1561 (fs_start=1519)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1534 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1571
(fs_start=1519)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1534 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=1597
(fs_start=1519)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCTTCAGAACAGACCAGAGCCAACAG

=====
(897) AY463236
=====

PK1: -13.555000(kcal/mol): PK_start=1505 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1533
(fs_start=1525)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -21.940000(kcal/mol): PK_start=1510 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1547
(fs_start=1525)

C
GAAGGACACCAAATGAAAGATTGTTACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1534 sp=0 s1=3 s2=8 l1=3 l2=6 l3=0 PK_end=1564
(fs_start=1525)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AAGGGA

PK4: -25.490000(kcal/mol): PK_start=1540 sp=7 s1=10 s2=4 l1=1 l2=6 l3=0 PK_end=1574
(fs_start=1525)

C
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(898) AY463237
=====

PK1: -14.985000(kcal/mol): PK_start=1496 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1524
(fs_start=1516)

A
GTAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1501 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1538
(fs_start=1516)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAAT

PK3: -23.745000(kcal/mol): PK_start=1524 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1558
(fs_start=1516)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
AGAAGGGG

PK4: -28.960000(kcal/mol): PK_start=1531 sp=7 s1=11 s2=4 l1=2 l2=7 L3=0 PK_end=1569
(fs_start=1516)

CA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTCC
GGACCGGAGGG GAAG
CTTCAG
GAATTTTC

PK4B: -26.865000(kcal/mol): PK_start=1531 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1594
(fs_start=1516)

TCCCAGAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(899) AY500393
=====

PK1: -15.140000(kcal/mol): PK_start=1541 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1569
(fs_start=1561)

CA
GAAAGGAAGGCCATCAAATGAAAGACTG
GAC AGAAAGTC

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                TTTTTTAGGG
            GCTAA

PK2:  -21.980000(kcal/mol): PK_start=1546 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1583
(fs_start=1561)
                C
GAAGGCCATCAAATGAAAGACTGCACTGAAAGA
                GATTTTTT   AATCGGA
                TTGCCTTC
            GGAGAAT

PK3:  -18.840000(kcal/mol): PK_start=1569 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1603
(fs_start=1561)
                AA
CACTGAAAGACAGGCTAATTTTTTAGGGAG
                CCTTC   CGGTTT
                GCCAGGAA
            AGCAAAGGGAG

PK4:  -21.815000(kcal/mol): PK_start=1576 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1613
(fs_start=1561)
                TCCAGCAA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
                GGACCGGA   GGG
                TCCTCA
            AAATTT

=====
(900) AY521629
=====
PK1:  -15.100000(kcal/mol): PK_start=1265 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1293
(fs_start=1285)
                CA
GGAAGGAGGGACACCAAATGAAAGACTG
                GAC   AGAGAGTC
                TTTTTTAGGG
            GCTAA

PK2:  -20.460000(kcal/mol): PK_start=1270 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1306
(fs_start=1285)
                C
GAGGGACACCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT   A   AATCGGA
                TGGCCTTC
            GGAAAATC

PK3:  -23.815000(kcal/mol): PK_start=1294 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1327
(fs_start=1285)
                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                CCT   TCCGGTCT

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                                AGGCCAGGAA
                        AACAAGGGG

PK4:  -25.745000(kcal/mol): PK_start=1300 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1337
(fs_start=1285)
                                CCAACA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTT
                                GGACCGGAG    GGGA
                                TCCTCA
                        AAATTT

PK4B:  -30.395000(kcal/mol): PK_start=1300 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1363
(fs_start=1285)
                                TCCAACAA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT
                                GGACCGGA    GGGG
                                CCCCAC
                        AAATTTTCCTCAGAGCAGACCAGAGCCAACAG

=====
(901) AY521630
=====
PK1:  -15.100000(kcal/mol): PK_start=1265 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1293
(fs_start=1285)
                                CA
GGAAGGAGGGGACACCAAATGAAAGACTG
                                GAC    AGAGAGTC
                                TTTTTTAGGG
                        GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1270 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1307
(fs_start=1285)
                                C
GAGGGACACCAAATGAAAGACTGCACTGAGAGA
                                GATTTTTT    AATCGGA
                                TTGGCCTTC
                        GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1294 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1327
(fs_start=1285)
                                AAA
ACTGAGAGACAGGCTAATTTTTTTAGGGA
                                CCT    TCCGGTTT
                                AGGCCAGGGA
                        AGCAAAGGG

PK4:  -21.815000(kcal/mol): PK_start=1300 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1337
(fs_start=1285)
                                TCCAGCAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
                                GGACCGGA    GGGA

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                                TCCTCA
                                GAACTT

=====
(902) AY521631
=====
PK1:  -15.140000(kcal/mol): PK_start=1268 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1296
(fs_start=1288)
                                CA
GGAAGGAGGGACACCAAATGAAAGACTG
                                GAC   AGAAAGTC
                                TTTTTTAGGG
                                GCTAA

PK2:  -21.980000(kcal/mol): PK_start=1273 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1310
(fs_start=1288)
                                C
GAGGGACACCAAATGAAAGACTGCACTGAAAGA
                                GATTTTTT   AATCGGA
                                TTGGCCTTC
                                GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1297 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1330
(fs_start=1288)
                                AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
                                CCT   TCCGGTTT
                                AGGCCAGGGA
                                AGCAAGGGG

PK4:  -22.215000(kcal/mol): PK_start=1303 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1340
(fs_start=1288)
                                CCAGCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
                                GGACCGGAG   GGGA
                                TCCTCA
                                GAATTT

PK4B:  -26.865000(kcal/mol): PK_start=1303 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1366
(fs_start=1288)
                                TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
                                GGACCGGA   GGGG
                                CCCCAC
                                GAATTTTCCTCAGAGCAGACCAGAGCCAACAG

=====
(903) AY521632
=====
PK1:  -15.585000(kcal/mol): PK_start=1263 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1291
(fs_start=1283)
                                A
GAAAGGAAGGACACCAAATGAAAGACTGT

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          GACA    GAGAGTC
                TTTTATAGGG
    GCTAAT
PK2:  -21.940000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)
                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
                GATTTTTT    AATCGGA
                TTGGCCTTC
    GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1292 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1325
(fs_start=1283)
                AAA
ACTGAGAGACAGGCTAATTTTTATAGGGA
                CCT    TCCGGTTT
                AGGCCAGGAA
    AACAAGGGG

PK4:  -27.000000(kcal/mol): PK_start=1298 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=1336
(fs_start=1283)
                TTCCAACAA
AGACAGGCTAATTTTTATAGGAAAATTTGGCC
                GGACCGG    AGGGG
                TCCCCAG
    AAATTT

PK4B:  -24.080000(kcal/mol): PK_start=1299 sp=8 s1=6 s2=4 l1=9 l2=33 L3=1 PK_end=1360
(fs_start=1283)
                TTCCAACAA
GACAGGCTAATTTTTATAGGAAAATTTGGCC
                GACCGG  A  GGGG
                CCCCAC
    GAAATTTTCCCCAGAGCAGACCGGAACCAACAG

=====
(904) AY521633
=====
PK1:  -15.100000(kcal/mol): PK_start=1254 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1282
(fs_start=1274)
                CA
GGAAGGAAGGACACCAAATGAAAGACTG
                GAC    AGAGAGTC
                TTTTTTATAGGG
    GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1259 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1296
(fs_start=1274)
                C
GAAGGACACCAAATGAAAGACTGCACTGAGAGA

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          GATTTTTT   AATCGGA
                    TTGGCCTTC
    GGAAAAT
PK3:  -20.285000(kcal/mol): PK_start=1283 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1316
(fs_start=1274)
          AAA
ACTGAGAGACAGGCTAATTTTTTTAGGGA
          CCT   TCCGGTTT
                    AGGCCAGGGA
    AGCAAGGGG
PK4:  -22.215000(kcal/mol): PK_start=1289 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1326
(fs_start=1274)
                    CCAGCA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTT
          GGACCGGAG   GGGA
                    TCCTCA
    GAACTT
PK4B: -26.865000(kcal/mol): PK_start=1289 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1352
(fs_start=1274)
                    TCCAGCAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTT
          GGACCGGA   GGGG
                    CCCCAC
    GAACTTTCCTCAGAGCAGACCAGAGCCAACAG
=====
(905) AY532635
=====
PK1:  -13.065000(kcal/mol): PK_start=1534 sp=0 s1=3 s2=8 l1=5 l2=22 L3=0 PK_end=1582
(fs_start=1575)
          TCAAA
GCTGTTGGAAATGTGGGCAAGAAGGACA
          TGT   TAGAAAGT
                    ATTTTTTAGG
    AAAAATGAAGGAAGACAGGCTA
PK2:  -14.180000(kcal/mol): PK_start=1558 sp=0 s1=7 s2=6 l1=4 l2=9 L3=1 PK_end=1596
(fs_start=1575)
                    AGAC
GACATCAAATGAAAGATTGTAAAAATGAAGGA
          ATTTTTT   A   ATCGGA
                    TGGTCTCC
    GGAAAGGGC
PK3:  -23.845000(kcal/mol): PK_start=1586 sp=0 s1=5 s2=6 l1=1 l2=7 L3=0 PK_end=1615
(fs_start=1575)
          C
AGGAAGACAGGCTAATTTTTTTAGGAAAGGG

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          TTCCC   TCTGGT
                AGACCAGG
          CAAAGGG

PK4:  -25.970000(kcal/mol): PK_start=1586 sp=3 s1=4 s2=8 l1=1 l2=6 L3=0 PK_end=1616
(fs_start=1575)
                G
AGGAAGACAGGCTAATTTTTTTAGGAAAGG

          TTCC   CTCTGGTC
                GAGACCAGGC
          CAAAGG

=====
(906) AY535659
=====
PK1:  -11.460000(kcal/mol): PK_start=1720 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=1746
(fs_start=1740)
                CACA
GAAAGGAAGGACATCAAATGAAAGACTG

          GAC   AGAAAG
                TTTTTTAG
          GCTAA

PK2:  -17.220000(kcal/mol): PK_start=1727 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=1761
(fs_start=1740)
                C
AGGACATCAAATGAAAGACTGCACAGAAAGA

          TTTTTT A ATCGGA
                TGGCCTTC
          AGGGAAAATC

PK3:  -23.815000(kcal/mol): PK_start=1749 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1782
(fs_start=1740)
                AAA
ACAGAAAGACAGGCTAATTTTTTTAGGGA

          CCT   TCCGGTCT
                AGGCCAGGGA
          AACAAGGGG

PK4:  -26.235000(kcal/mol): PK_start=1755 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1792
(fs_start=1740)
                CAAC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC

          GGACCGGAGG   GGAA
                TCTTCA
          GAACTT

PK4B:  -30.395000(kcal/mol): PK_start=1755 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1818
(fs_start=1740)
                TCCAACAA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT

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GGACCGGA GGGG
CCCCAC
GAACTTTCTTCAGAACAGGCCAGAGCCAACAG

=====
(907) AY535660
=====

PK1: -15.100000(kcal/mol): PK_start=1699 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1727
(fs_start=1719)

CA
GACAGGAAGGCCATCAAATGAAAGACTG

GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1704 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1741
(fs_start=1719)

C
GAAGGCCATCAAATGAAAGACTGCACTGAGAGA

GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1728 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1761
(fs_start=1719)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT
AGGCCAGGGA
AGCAAGGGG

PK4: -22.705000(kcal/mol): PK_start=1734 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1771
(fs_start=1719)

CAGC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC

GGACCGGAGG GGAA
TCTTCA
GAACTT

PK4B: -26.865000(kcal/mol): PK_start=1734 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1797
(fs_start=1719)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG
CCCCAC
GAACTTTCTTCAGAACAGGCCAGAGCCAACAG

=====
(908) AY536233
=====

PK1: -15.140000(kcal/mol): PK_start=1503 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1531 (fs_start=1523)

CA
GAAAAGAAGGACACCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTTAGGG
GCTAA

PK2: -21.980000(kcal/mol): PK_start=1508 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1545 (fs_start=1523)

C
GAAGGACACCAAATGAAAGACTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1531 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1565 (fs_start=1523)

AAA
CACTGAAAGACAGGCTAATTTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGAA
ACAAGGGG

PK4: -23.985000(kcal/mol): PK_start=1538 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1576 (fs_start=1523)

TCCCACAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CTCCAG
AAATTTT

PK4B: -26.865000(kcal/mol): PK_start=1538 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1601 (fs_start=1523)

TCCCACAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCGC
AAATTTCTCCAGAACAGGCCAGCCAACAG

=====
(909) AY536234
=====

PK1: -15.140000(kcal/mol): PK_start=1490 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1518 (fs_start=1510)

CA
GAAACGAAGGACACCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTTAGGG
GCTAA

PK2: -21.980000(kcal/mol): PK_start=1495 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1532 (fs_start=1510)

C
GAAGGACACCAAATGAAAGACTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -21.780000(kcal/mol): PK_start=1518 sp=0 s1=5 s2=4 l1=5 l2=9 L3=0 PK_end=1549 (fs_start=1510)

AATTT
CACTGAAAGACAGGCTAATTTTTTAGGGAA
CCCTT CCGG
GGCCCG
ACAAGGGGA

PK4: -22.820000(kcal/mol): PK_start=1528 sp=10 s1=7 s2=4 l1=4 l2=9 L3=0 PK_end=1562 (fs_start=1510)

CCAC
CAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
CCGGAGG GGAA
CCTTCA
CGGAAATTT

PK4B: -24.675000(kcal/mol): PK_start=1528 sp=10 s1=5 s2=4 l1=8 l2=35 L3=0 PK_end=1588 (fs_start=1510)

TCCCACAA
CAGGCTAATTTTTTAGGGAAAATTTGGCCT
CCGGA GGGG
CCCCGC
CGGAAATTTCTTCAGAACAGGCCAGAGCCAACAG

=====
(910) AY536236
=====

PK1: -15.140000(kcal/mol): PK_start=1484 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1512 (fs_start=1504)

CA
GAAAAGAAGGACACCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -21.980000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1526 (fs_start=1504)

C
GAAGGACACCAAATGAAAGACTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -21.780000(kcal/mol): PK_start=1512 sp=0 s1=5 s2=4 l1=5 l2=9 L3=0 PK_end=1543
(fs_start=1504)

AATTT
CACTGAAAGACAGGCTAATTTTTTTAGGGAA
CCCTT CCGG
GGCCCG
ACAAGGGGA

PK4: -22.820000(kcal/mol): PK_start=1522 sp=10 s1=7 s2=4 l1=4 l2=9 L3=0 PK_end=1556
(fs_start=1504)

CCAC
CAGGCTAATTTTTTTAGGGAAAATTTGGCCTC
CCGGAGG GGAA
CCTTCA
CGGAAATTT

PK4B: -24.675000(kcal/mol): PK_start=1522 sp=10 s1=5 s2=4 l1=8 l2=35 L3=0
PK_end=1582 (fs_start=1504)

TCCCACAA
CAGGCTAATTTTTTTAGGGAAAATTTGGCCT
CCGGA GGGG
CCCCAC
CGGAAATTTCTTCAGAACAGGCCAGAGCCAACAG

=====
(911) AY536237

=====
PK1: -15.140000(kcal/mol): PK_start=1309 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1337
(fs_start=1329)

CA
GAAAAGAAGGACACCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -21.980000(kcal/mol): PK_start=1314 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1351
(fs_start=1329)

C
GAAGGACACCAAATGAAAGACTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1338 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1371
(fs_start=1329)

AAA
ACTGAAAGACAGGCTAATTTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1344 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1381
(fs_start=1329)

CAAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1344 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=1407
(fs_start=1329)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCGC
GAATTTCCCTCAGAACAGGCCAGAGCCAACAG

=====
(912) AY536238
=====

PK1: -15.140000(kcal/mol): PK_start=1315 sp=0 s1=3 s2=8 l1=2 l2=5 l3=0 PK_end=1343
(fs_start=1335)

CA
GAAGAGAAGGACACCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -21.980000(kcal/mol): PK_start=1320 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1357
(fs_start=1335)

C
GAAGGACACCAAATGAAAGACTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -21.780000(kcal/mol): PK_start=1343 sp=0 s1=5 s2=4 l1=5 l2=9 l3=0 PK_end=1374
(fs_start=1335)

AATTT
CACTGAAAGACAGGCTAATTTTTTAGGGAA
CCCTT CCGG
GGCCCG
AGAAGGGGA

PK4: -26.770000(kcal/mol): PK_start=1353 sp=10 s1=8 s2=4 l1=2 l2=10 l3=0 PK_end=1388
(fs_start=1335)

CA
CAGGCTAATTTTTTAGGGAAAATTTGGCCTTCC
CCGGAGGG GAAG
CTTCAG
CGGAAATTC

PK4B: -24.675000(kcal/mol): PK_start=1353 sp=10 s1=5 s2=4 l1=8 l2=35 L3=0
PK_end=1413 (fs_start=1335)

TCCCAGAA
CAGGCTAATTTTTTAGGGAAAATTTGGCCT
CCGGA GGGG
CCCCGC
CGGAAATTTCTTCAGAGCAGGCCAGAGCCAACAG

=====
(913) AY560107
=====

PK1: -13.555000(kcal/mol): PK_start=1489 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1517
(fs_start=1509)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1494 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1530
(fs_start=1509)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1517 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1551
(fs_start=1509)

AAA
TACTGAGAGACAGGCTAATTTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=1524 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1561
(fs_start=1509)

CCAC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1524 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1587
(fs_start=1509)

TCCCACAA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCTTCAGAGCAGGCCAGGCCATCAG

=====
(914) AY560108
=====

PK1: -10.975000(kcal/mol): PK_start=1479 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=1506
(fs_start=1499)

AG
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGT
TTTTTAGG
GCTAAT

PK2: -18.080000(kcal/mol): PK_start=1485 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1520
(fs_start=1499)

C
AAGGACACCAAATGAAAGATTGTAGTGAGAGA
ATTTTTT A ATCGGA
TGGCCTTC
GGGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1507 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1541
(fs_start=1499)

A
TAGTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1514 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1551
(fs_start=1499)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAACTT

=====
(915) AY560109
=====

PK1: -13.555000(kcal/mol): PK_start=1493 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1521
(fs_start=1513)

A
GAAGGGAAGGACATCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1498 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1534
(fs_start=1513)

C
GAAGGACATCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA

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                                TGGCCTTC
                GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1521 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1555
(fs_start=1513)
                                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                CCCT      TCCGGTCT
                                AGGCCAGGAA
                ACAAGGGG
PK4:  -22.615000(kcal/mol): PK_start=1528 sp=7 s1=9 s2=4 l1=6 l2=5 L3=0 PK_end=1564
(fs_start=1513)
                                CCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT
                GGACCGGAG      GGGG
                                TTCTGC
                AAACT
PK4B:  -30.395000(kcal/mol): PK_start=1528 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1591
(fs_start=1513)
                                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                GGACCGGA      GGGG
                                CCCAC
                AAACCTTCTGCAGAGCAGACCAGAGCCAACAG
=====
(916) AY560110
=====
PK1:  -10.640000(kcal/mol): PK_start=1484 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1522
(fs_start=1515)
                                A
TTGGAATGTGGACAGGAAGGACACCAA
                GTT      AGAAAGT
                                TTTTTTAGG
                CACTGGGAGACAGGCTAA
PK2:  -17.700000(kcal/mol): PK_start=1500 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1536
(fs_start=1515)
                                C
GAAGGACACCAAATGAAAGATTGCACTGGGAGA
                GATTTTTT      A      ATCGGA
                                TGGCCTTC
                GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1523 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1557
(fs_start=1515)
                                AAA
CACTGGGAGACAGGCTAATTTTTTAGGGA
                CCCT      TCCGGTCT

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                                AGGCCAGGGA
                                ACAAGGGA

PK4:  -26.715000(kcal/mol): PK_start=1530 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1567
(fs_start=1515)
                                CCAC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAAG    GGAA
                                TCTTCA
                                GAATTT

=====
(917) AY561236
=====

PK1:  -13.065000(kcal/mol): PK_start=1254 sp=0 s1=3 s2=8 l1=5 l2=16 L3=0 PK_end=1296
(fs_start=1289)
                                CCAAA
GTTGTTGGAAATGTGGAAAGGAAGGACA
                                TGT    TAGAAAGT
                                ATTTTTTAGG
                                ATCGAGAGACAGGCTA

PK2:  -17.180000(kcal/mol): PK_start=1276 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=1310
(fs_start=1289)
                                C
AGGACACCAAATGAAAGATTGTATCGAGAGA
                                TTTTTT  A  ATCGGA
                                TGGCCTTC
                                AGGGAAAATC

PK3:  -23.815000(kcal/mol): PK_start=1298 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1331
(fs_start=1289)
                                AAA
ATCGAGAGACAGGCTAATTTTTTTAGGGA
                                CCT    TCCGGTCT
                                AGGCCAGGGA
                                AACAAGGGG

PK4:  -25.745000(kcal/mol): PK_start=1304 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1341
(fs_start=1289)
                                CCAACA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTT
                                GGACCGGAG    GGGG
                                TCCTCA
                                GAATTT

PK4B:  -30.395000(kcal/mol): PK_start=1304 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1367
(fs_start=1289)
                                TCCAACAA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT
                                GGACCGGA    GGGG

```

CCCCAC
GAATTTTCCTCAGAACAGACTAGAGCCAACAG

=====
(918) AY561237
=====

PK1: -10.640000(kcal/mol): PK_start=1255 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1293
(fs_start=1286)

A
TTGGAAGTGTGGAAAGGAAGGACACCAA
GTT AGAAAGT
TTTTTTAGG
CACTGAGAGACAGGCTAA

PK2: -20.460000(kcal/mol): PK_start=1271 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1307
(fs_start=1286)

C
GAAGGACACCAAATGAAAGATTGCACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1294 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1328
(fs_start=1286)

A
CACTGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
CCAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1301 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1338
(fs_start=1286)

CTCC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(919) AY561238
=====

PK1: -10.175000(kcal/mol): PK_start=1269 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=1296
(fs_start=1289)

AG
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGT
TTTTTARG
GCTAAT

PK2: -18.080000(kcal/mol): PK_start=1275 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1310
(fs_start=1289)

C
AAGGACACCAAATGAAAGATTGTAGTGAGAGA

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          ATTTTTT A ATCGGA
                    TGGCCTTC
          RGGAAAATC

PK3:  -23.815000(kcal/mol): PK_start=1298 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1331
(fs_start=1289)
          AAA
AGTGAGAGACAGGCTAATTTTTTARGGA
          CCT   TCCGGTCT
                    AGGCCAGGAA
          CACAAGGGG

PK4:  -27.515000(kcal/mol): PK_start=1304 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1342
(fs_start=1289)
                    TCCCACAA
AGACAGGCTAATTTTTTARGGAAAATCTGGCCT
          GGACCGGA   GGGG
                    CTCCAG
          AAATTTTC

PK4B:  -30.395000(kcal/mol): PK_start=1304 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1367
(fs_start=1289)
                    TCCCACAA
AGACAGGCTAATTTTTTARGGAAAATCTGGCCT
          GGACCGGA   GGGG
                    CCCCAC
          AAATTTCTCCAGAGCAGGCCAGAGCCAACAG

=====
(920) AY561239
=====
PK1:  -10.640000(kcal/mol): PK_start=1258 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1296
(fs_start=1289)
          A
TTGGAAATGTGGAAAGGAAGGACACCAA
          GTT   AGAAAGT
                    TTTTTTAGG
          CACTGAGAGACAGGCTAA

PK2:  -20.460000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1310
(fs_start=1289)
          C
GAAGGACACCAAATGAAAGATTGCACTGAGAGA
          GATTTTTT A ATCGGA
                    TGGCCTTC
          GGAAGATC

PK3:  -22.650000(kcal/mol): PK_start=1298 sp=0 s1=5 s2=6 l1=1 l2=11 L3=0 PK_end=1331
(fs_start=1289)
          A
ACTGAGAGACAGGCTAATTTTTTAGGGAAG

```

CCTTC CGGTCT
GCCAGGGA
AACAAAGGGAAG
PK4: -26.715000(kcal/mol): PK_start=1304 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1341
(fs_start=1289)

CAAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(921) AY561240
=====

PK1: -10.640000(kcal/mol): PK_start=1267 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1305
(fs_start=1298)

T
TTGRAAATGTGGAAAGGAAGGACACCAA
GTT AGAAAGT
TTTTTTTAGG
CACTGAAAGACAGGCTAA

PK2: -20.500000(kcal/mol): PK_start=1283 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1319
(fs_start=1298)

C
GAAGGACACCAATTGAAAGATTGCACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -26.605000(kcal/mol): PK_start=1306 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1340
(fs_start=1298)

AAA
CACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCGGGGA
ACAAGGGA

PK4: -28.350000(kcal/mol): PK_start=1313 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1350
(fs_start=1298)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGGCCGGAAG GGAA
CCTTCA
GAATTT

=====
(922) AY563169
=====

PK1: -14.985000(kcal/mol): PK_start=1248 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1276
(fs_start=1268)

A
GAAAGGAGGGGCACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1253 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1290
(fs_start=1268)

C
GAGGGGCACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA
TTGCGCTTC
GGAAGAT

PK3: -22.580000(kcal/mol): PK_start=1276 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1310
(fs_start=1268)

A
TACTGAGAGGCAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTTT
GCCAGGAA
ACAAGGGGAG

PK4: -26.865000(kcal/mol): PK_start=1283 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1321
(fs_start=1268)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAGATTGGCCT
GGACCGGA GGGG
CCCCAG
AAATTTTC

PK4B: -26.865000(kcal/mol): PK_start=1283 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1346
(fs_start=1268)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAGATTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTCCCCCAGAGCAGACTAGAGCCAACAG

=====
(923) AY585265
=====

PK1: -12.955000(kcal/mol): PK_start=1460 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1488
(fs_start=1480)

A
GAAAAGAAGGACACCAAATGAAAGATTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1465 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1502
(fs_start=1480)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1488 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1522
(fs_start=1480)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -26.865000(kcal/mol): PK_start=1495 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1558
(fs_start=1480)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCATTCAGAGCAGGCCAGAGCCGACAG

=====
(924) AY585266
=====

PK1: -12.745000(kcal/mol): PK_start=1445 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1472
(fs_start=1464)

A
AAAGGAAGGACACCAAATGAAAGAATGT
ACG GAAAGTC
TTTTTAGGG
GGCTAAT

PK2: -20.370000(kcal/mol): PK_start=1449 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1486
(fs_start=1464)

C
GAAGGACACCAAATGAAAGAATGTACTGAAAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1472 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1506
(fs_start=1464)

AAA
TACTGAAAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1479 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1516
(fs_start=1464)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1479 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=1542
(fs_start=1464)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCCTTCAGAACAGACCAGAGCCAACAG

=====
(925) AY585267
=====

PK1: -14.985000(kcal/mol): PK_start=1479 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1507
(fs_start=1499)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1484 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1521
(fs_start=1499)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1507 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=1541
(fs_start=1499)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -23.985000(kcal/mol): PK_start=1514 sp=7 s1=8 s2=4 l1=8 l2=7 l3=0 PK_end=1552
(fs_start=1499)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CTCCAG
GAATTTTC

=====
(926) AY585268
=====

PK1: -11.855000(kcal/mol): PK_start=1476 sp=0 s1=4 s2=6 l1=2 l2=5 L3=0 PK_end=1502
(fs_start=1496)

AC
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGA
TTTTTTAG
GCTAA

PK2: -18.070000(kcal/mol): PK_start=1482 sp=0 s1=6 s2=7 l1=2 l2=9 L3=0 PK_end=1518
(fs_start=1496)

GC
AAGGACACCAAATGAAAGACTGTACAGAGAG
TTTTTT AATCGGA
TTGGCCTTC
AGGGAAGAT

PK3: -22.580000(kcal/mol): PK_start=1504 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1538
(fs_start=1496)

A
TACAGAGAGGCAGGCTAATTTTTTTAGGGAAG
CCCTTC CGGTTT
GCCAGGGA
AGAAGGGGAG

PK4: -26.855000(kcal/mol): PK_start=1511 sp=7 s1=11 s2=4 l1=2 l2=7 L3=0 PK_end=1549
(fs_start=1496)

CA
AGGCAGGCTAATTTTTTTAGGGAAGATTTGGCCTTCC
GGACCGGAGGG GAAG
TTTCAG
GAATTTTC

PK4B: -26.865000(kcal/mol): PK_start=1511 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1574
(fs_start=1496)

TCCCAGAA
AGGCAGGCTAATTTTTTTAGGGAAGATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCTTTCAGAACGGATTAGAGCCAACAG

=====
(927) AY586540
=====

PK1: -15.140000(kcal/mol): PK_start=1375 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1403
(fs_start=1395)

CA
GGAAAGAAGGACACCAAATGAAAGACTG
GAC AGAAAGTC


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          TTTTTTAGGG
    GCTAA
PK2:  -21.980000(kcal/mol): PK_start=1380 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1417
(fs_start=1395)
          C
GAAGGACACCAAATGAAAGACTGCACTGAAAGA
          GATTTTTT   AATCGGA
          TTGGCCTTC
    GGAAAAAT
PK3:  -20.285000(kcal/mol): PK_start=1404 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1437
(fs_start=1395)
          AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
          CCT   TCCGGTTT
          AGGCCAGGGA
    AACAAGGGG
PK4:  -18.485000(kcal/mol): PK_start=1410 sp=7 s1=9 s2=4 l1=6 l2=5 L3=0 PK_end=1446
(fs_start=1395)
          CCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
          GGACCGGAG   GGGA
          TTCTCC
    GAATT
PK4B:  -26.865000(kcal/mol): PK_start=1410 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1473
(fs_start=1395)
          TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
          GGACCGGA   GGGG
          CCCCAC
    GAATTTTCTCCAGAAAAGGCCAGAGCCAACAG
=====
(928) AY586541
=====
PK1:  -15.140000(kcal/mol): PK_start=1371 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1399
(fs_start=1391)
          CA
GGAAGGAAGGACATCAAATGAAAGACTG
          GAC   AGAAAGTC
          TTTTTTAGGG
    GCTAA
PK2:  -21.980000(kcal/mol): PK_start=1376 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1413
(fs_start=1391)
          C
GAAGGACATCAAATGAAAGACTGCACTGAAAGA
          GATTTTTT   AATCGGA

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TTGGCCTTC

GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1400 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1433
(fs_start=1391)

AAA

ACTGAAAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT

AGGCCAGGGA

AACAAGGGA

PK4: -21.465000(kcal/mol): PK_start=1406 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1443
(fs_start=1391)

TCCAACAA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA AGGG

TCTCCA

GAATTT

=====
(929) AY586542
=====

PK1: -13.555000(kcal/mol): PK_start=1602 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1630
(fs_start=1622)

A

GAAAGGAAGGACACCAAATGAAAGATTGT

GACA GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1607 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1643
(fs_start=1622)

C

GAAGGACACCAAATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1630 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1664
(fs_start=1622)

AAA

TACTGAGAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT

AGGCCAGGGA

ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1637 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1674
(fs_start=1622)

CCAC

AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAAG GGAA

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                                TCTTCA
                                GAATTT
=====
(930) AY586543
=====
PK1:  -13.555000(kcal/mol): PK_start=1628 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1656
(fs_start=1648)
                                A
GAAAAGAAGGACACCAAATGAAAGATTGT
                                GACA    GAGAGTC
                                TTTTtaggg
                                GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1633 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1669
(fs_start=1648)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                                GATTTTTT A  ATCGGA
                                TGGCCTTC
                                GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1656 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1690
(fs_start=1648)
                                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCCT    TCCGGTCT
                                AGGCCAGGGA
                                ACAAGGGA

PK4:  -26.715000(kcal/mol): PK_start=1663 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1700
(fs_start=1648)
                                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAAG    GGAA
                                TCTTCA
                                GAATTT

=====
(931) AY586544
=====
PK1:  -11.420000(kcal/mol): PK_start=1653 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=1679
(fs_start=1673)
                                CACA
GAAAGGAGGGACATCAAATGAAAGACTG
                                GAC    AGAGAG
                                TTTTTTAG
                                GCTAA

PK2:  -18.660000(kcal/mol): PK_start=1660 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1695
(fs_start=1673)
                                C
GGGACATCAAATGAAAGACTGCACAGAGAGA

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          TTTTTT   AATCGGA
                    TTGGCCTTC
AGGGAAACT

PK3:  -26.955000(kcal/mol): PK_start=1681 sp=0 s1=4 s2=9 l1=2 l2=8 L3=0 PK_end=1716
(fs_start=1673)
                    AA
CACAGAGAGACAGGCTAATTTTTTTAGGGA

          CCCT   TCCGGTTTC
                    AGGCCAGGGAA
ACAAGGGG

PK4:  -29.475000(kcal/mol): PK_start=1687 sp=6 s1=9 s2=4 l1=8 l2=31 L3=0 PK_end=1751
(fs_start=1673)
                    TCCCACAA
GAGACAGGCTAATTTTTTTAGGGAAACTTTGGCCT

          GGGACCGGA   GGGG
                    CCCCAC
AATTTTCTTCAGAGCAGGCCAGAGCCAACAG

=====
(932) AY586545
=====
PK1:  -11.420000(kcal/mol): PK_start=1542 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=1568
(fs_start=1562)
                    CACA
GAAAGGAGGGACATCAAATGAAGGACTG

          GAC   AGAGAG
                    TTTTTTAG
GCTAA

PK2:  -18.660000(kcal/mol): PK_start=1549 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1584
(fs_start=1562)
                    C
GGGACATCAAATGAAGGACTGCACAGAGAGA

          TTTTTT   AATCGGA
                    TTGGCCTTC
AGGGAAACT

PK3:  -26.955000(kcal/mol): PK_start=1570 sp=0 s1=4 s2=9 l1=2 l2=8 L3=0 PK_end=1605
(fs_start=1562)
                    AA
CACAGAGAGACAGGCTAATTTTTTTAGGGA

          CCCT   TCCGGTTTC
                    AGGCCAGGGAA
ACAAGGGA

PK4:  -24.075000(kcal/mol): PK_start=1576 sp=6 s1=9 s2=4 l1=8 l2=5 L3=0 PK_end=1614
(fs_start=1562)
                    TCCCACAA
GAGACAGGCTAATTTTTTTAGGGAAACTTTGGCCT

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GGGACCGGA    AGGG
                TCTCCA
AATTT

=====
(933) AY586546
=====
PK1:  -5.800000(kcal/mol): PK_start=1542 sp=0 s1=3 s2=6 l1=5 l2=5 L3=2 PK_end=1569
(fs_start=1565)
                CACAG
GAAGGGAGGGACATCAAATGAAAGACTG
                GAC  AG  AGGGGA
                TTTTTTAG
GCTAA

PK2:  -16.000000(kcal/mol): PK_start=1552 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1587
(fs_start=1565)
                C
ACATCAAATGAAAGACTGCACAGAGGGGAGA
                TTTTTT  AATCGGA
                TTGGCCTTC
AGGGAAACT

PK3:  -26.955000(kcal/mol): PK_start=1573 sp=0 s1=4 s2=9 l1=2 l2=8 L3=0 PK_end=1608
(fs_start=1565)
                AA
AGAGGGGAGACAGGCTAATTTTTTAGGGA
                CCCT  TCCGGTTTC
                AGGCCAGGGAA
ACAAGGGG

PK4:  -24.825000(kcal/mol): PK_start=1579 sp=6 s1=10 s2=4 l1=6 l2=5 L3=0 PK_end=1617
(fs_start=1565)
                CCCACA
GAGACAGGCTAATTTTTTAGGGAACTTTGGCCTT
                GGGACCGGAG  GGGA
                TCCTCA
AATTT

PK4B:  -29.475000(kcal/mol): PK_start=1579 sp=6 s1=9 s2=4 l1=8 l2=31 L3=0 PK_end=1643
(fs_start=1565)
                TCCCACAA
GAGACAGGCTAATTTTTTAGGGAACTTTGGCCT
                GGGACCGGA  GGGG
                CCCCAC
AATTTTCCTCAGAACAGGCCAGAGCCAACAG

=====
(934) AY586547
=====

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PK1: -11.420000(kcal/mol): PK_start=1680 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=1706
(fs_start=1700)

CACA
GAAAGGAGGGACATCAAATGAAAGACTG
GAC AGAGAG
TTTTTTAG
GCTAA

PK2: -18.660000(kcal/mol): PK_start=1687 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1722
(fs_start=1700)

C
GGGACATCAAATGAAAGACTGCACAGAGAGA
TTTTTT AATCGGA
TTGGCCTTC
AGGGAAACT

PK3: -21.775000(kcal/mol): PK_start=1709 sp=0 s1=3 s2=9 l1=2 l2=9 L3=0 PK_end=1743
(fs_start=1700)

AA
ACAGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTTC
AGGCCGGGAA
AACAAAGGG

PK4: -20.775000(kcal/mol): PK_start=1714 sp=6 s1=10 s2=4 l1=6 l2=5 L3=0 PK_end=1752
(fs_start=1700)

CCAACA
GAGACAGGCTAATTTTTTAGGGAAACTTTGGCCTT
GGGGCCGGAG GGAA
TCTTCA
AATTT

=====
(935) AY586548
=====

PK1: -11.420000(kcal/mol): PK_start=1665 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=1691
(fs_start=1685)

CACA
GAAGAGAGGAACATCAAATGAAAGACTG
GAC AGAGAG
TTTTTTAG
GCTAA

PK2: -17.180000(kcal/mol): PK_start=1672 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=1706
(fs_start=1685)

C
GGAACATCAAATGAAAGACTGCACAGAGAGA
TTTTTT A ATCGGA
TGGCCTTC
AGGGAAAATC

PK3: -23.815000(kcal/mol): PK_start=1694 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1727
(fs_start=1685)

AAA
ACAGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTCT
AGGCCAGGGA
AACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=1700 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1737
(fs_start=1685)

CAAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1700 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1763
(fs_start=1685)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCTTCAGAACAGACCAGAGCCAACAG

=====
(936) AY586549
=====

PK1: -11.420000(kcal/mol): PK_start=1664 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=1690
(fs_start=1684)

CACA
GAAAGGAGGGACATCAAATGAAAGACTG
GAC AGAGAG
TTTTTTAG
GCTAA

PK2: -18.660000(kcal/mol): PK_start=1671 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1706
(fs_start=1684)

C
GGGACATCAAATGAAAGACTGCACAGAGAGA
TTTTTT AATCGGA
TTGGCCTTC
AGGGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1693 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1726
(fs_start=1684)

AAA
ACAGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AACAAGGGG

PK4: -22.705000(kcal/mol): PK_start=1699 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1736
(fs_start=1684)

CAAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1699 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1762
(fs_start=1684)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCTTCAGAACAGGACAGAGCCAACAG

=====
(937) AY588970
=====

PK1: -13.845000(kcal/mol): PK_start=1300 sp=0 s1=3 s2=8 l1=5 l2=16 L3=0 PK_end=1342
(fs_start=1335)

CCAAA
GCTGTTGGAAATGTGGAAAGGAAGGGCA
CGT TAGAAAGT
ATTTTTTAGG
ACTGAAAGACAGGCTA

PK2: -21.980000(kcal/mol): PK_start=1320 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1357
(fs_start=1335)

C
GAAGGGCACCAAATGAAAGATTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1343 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1377
(fs_start=1335)

AAA
CACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGAA
ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1350 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1387
(fs_start=1335)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
AAACTT

PK4B: -26.865000(kcal/mol): PK_start=1350 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1413
(fs_start=1335)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
AAACTTCCTTCAGAGCAGACCAGAGCCAACAG

=====
(938) AY588971
=====

PK1: -14.945000(kcal/mol): PK_start=1683 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1710
(fs_start=1702)

A
AAAGGAAGGGCACCAAATGAAAGAATGC
ACG GAAAGTC
TTTTTAGGG
GGCTAAT

PK2: -20.370000(kcal/mol): PK_start=1687 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1724
(fs_start=1702)

C
GAAGGGCACCAAATGAAAGAATGCACTGAAAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1710 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1744
(fs_start=1702)

AAA
CACTGAAAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGAA
ACAAGGGG

PK4: -22.705000(kcal/mol): PK_start=1717 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1754
(fs_start=1702)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
AAACTT

PK4B: -26.865000(kcal/mol): PK_start=1717 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1780
(fs_start=1702)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
AAACTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(939) AY612637
=====

PK1: -11.420000(kcal/mol): PK_start=2009 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=2035
(fs_start=2029)

CACA
GAAAGGAGGGACACCAAATGAAAGACTG
GAC AGAGAG
TTTTTTAG
GCTAA

PK2: -18.660000(kcal/mol): PK_start=2016 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=2051
(fs_start=2029)

C
GGGACACCAAATGAAAGACTGCACAGAGAGA
TTTTTT AATCGGA
TTGGCCTC
AGGGAAAAT

PK3: -20.285000(kcal/mol): PK_start=2038 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2071
(fs_start=2029)

AAA
ACAGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AACAAGGGG

PK4: -18.485000(kcal/mol): PK_start=2044 sp=7 s1=9 s2=4 l1=6 l2=5 L3=0 PK_end=2080
(fs_start=2029)

CCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGAG GGGA
TTCTCC
GAATT

PK4B: -26.865000(kcal/mol): PK_start=2044 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2107
(fs_start=2029)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCTCCAGAACAGGCCCGAGCCAACAG

=====
(940) AY682547
=====

PK1: -10.165000(kcal/mol): PK_start=1555 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=1582
(fs_start=1575)

AC
GAAAGGAAGGACATCAAATGAAAGATTGT
GACA GAGAAT

```

                TTTTARR
      GCTAAT
PK2:  -17.970000(kcal/mol): PK_start=1561 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1596
(fs_start=1575)
                C
AAGGACATCAAATGAAAGATTGTACTAAGAGA
                A   ATCGGA
                TGGCCTTC
      RRGAAATC
PK3:  -19.390000(kcal/mol): PK_start=1585 sp=0 s1=4 s2=6 l1=1 l2=12 L3=0 PK_end=1617
(fs_start=1575)
                A
CTAAGAGACAGGCTAATTTTTTARRGAAG
                CTTC   CGGTCT
                GCCAGGGA
      CCACAAGGGAAG
PK4:  -29.020000(kcal/mol): PK_start=1590 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1627
(fs_start=1575)
                CCAC
AGACAGGCTAATTTTTTARRGAAGATCTGGCCTTC
                GGACCGGAAG   GGAA
                CCTTCA
      GAATTT
=====
(941) AY703908
=====
PK1:  -15.025000(kcal/mol): PK_start=1479 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1507
(fs_start=1499)
                A
GACAGGAAGGACACCAAATGAAAGACTGT
                GACG   GAAAGTC
                TTTTtaggg
      GCTAAT
PK2:  -20.370000(kcal/mol): PK_start=1484 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1521
(fs_start=1499)
                C
GAAGGACACCAAATGAAAGACTGTACTGAAAGG
                GATTTTTT   AATCGGA
                TTGGCCTTC
      GGAAAGT
PK3:  -22.025000(kcal/mol): PK_start=1507 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1541
(fs_start=1499)
                AAG
TACTGAAAGGCAGGCTAATTTTTTtaggga
                CCCT   TCCGGTTT

```

AGGCCGGGAA

AGAAGGGG

PK4: -27.240000(kcal/mol): PK_start=1514 sp=7 s1=11 s2=4 l1=2 l2=7 L3=0 PK_end=1552
(fs_start=1499)

CA

AGGCAGGCTAATTTTTTAGGGAAAGTTTGGCCTTCC

GGGCCGGAGGG GAAG

CTTCAG

AAATTTTC

PK4B: -25.145000(kcal/mol): PK_start=1514 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1577
(fs_start=1499)

TCCCAGAA

AGGCAGGCTAATTTTTTAGGGAAAGTTTGGCCT

GGGCCGGA GGGG

CCCCAC

AAATTTCTTCAGAGCAGACCAGAACCAACAG

=====
(942) AY703909
=====

PK1: -15.625000(kcal/mol): PK_start=1492 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1520
(fs_start=1512)

A

GAAAGGAAGGACACCAGATGAAAGACTGT

GACA GAAAGTC

TTTTTAGGG

GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1497 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1533
(fs_start=1512)

C

GAAGGACACCAGATGAAAGACTGTACTGAAAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1520 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1554
(fs_start=1512)

AAA

TACTGAAAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT

AGGCCAGGGA

ACAAGGGG

PK4: -28.540000(kcal/mol): PK_start=1527 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1564
(fs_start=1512)

CCAC

AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAGG GGAA

CCTTCG

GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1527 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1590
(fs_start=1512)

TCCCACAA

AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT

GGACCGGA GGGG

CCCCAC

GAATTTTCCTTCGGGGCAGGCCAGAGCCAACAG

=====

(943) AY703910

=====

PK1: -15.025000(kcal/mol): PK_start=1489 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1517
(fs_start=1509)

A

GAAAAGAAGGACACCAAATGAAAGACTGT

GACG GAAAGTC

TTTTTAGGG

GCTAAT

PK2: -18.760000(kcal/mol): PK_start=1494 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1530
(fs_start=1509)

C

GAAGGACACCAAATGAAAGACTGTACTGAAAGG

GATTTTTT A ATCGGA

TGGCCTTC

GGAAAATA

PK3: -24.465000(kcal/mol): PK_start=1517 sp=0 s1=4 s2=6 l1=5 l2=8 L3=0 PK_end=1549
(fs_start=1509)

AAATA

TACTGAAAGGCAGGCTAATTTTTTAGGGA

CCCT TCCGGT

AGGCCAGG

ACAAGGGG

PK4: -25.230000(kcal/mol): PK_start=1526 sp=9 s1=8 s2=4 l1=4 l2=8 L3=0 PK_end=1561
(fs_start=1509)

CCAC

GCAGGCTAATTTTTTAGGGAAAATATGGCCTTC

ACCGGAGG GGAA

CCTTCA

GGGAATTT

PK4B: -27.085000(kcal/mol): PK_start=1526 sp=9 s1=6 s2=4 l1=8 l2=34 L3=0 PK_end=1587
(fs_start=1509)

TCCCACAA

GCAGGCTAATTTTTTAGGGAAAATATGGCCT

ACCGGA GGGG

CCCCAC
GGGAATTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(944) AY713406
=====

PK1: -12.250000(kcal/mol): PK_start=1268 sp=0 s1=3 s2=7 l1=1 l2=3 L3=2 PK_end=1291
(fs_start=1286)

C
AAGGAGGGACACCAAATGAAAGACTGCT

CGA AC AGAAAGT

TTTTTTAGG

TAA

PK2: -20.680000(kcal/mol): PK_start=1269 sp=0 s1=10 s2=5 l1=3 l2=5 L3=0 PK_end=1306
(fs_start=1286)

CAA
AGGAGGGACACCAAATGAAAGACTGCTCTGAAAGA

GGGATTTTTT AATCG

TTGGCCT

AGAAT

PK3: -18.840000(kcal/mol): PK_start=1294 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1328
(fs_start=1286)

AA
CTCTGAAAGACAAGCTAATTTTTTTAGGGAG

CCTTC CGGTTT

GCCAGGAA

AGCAAGGGGAG

PK4: -22.215000(kcal/mol): PK_start=1301 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1338
(fs_start=1286)

CCAGCA
AGACAAGCTAATTTTTTTAGGGAGAATTTGGCCTT

GGACCGGAG GGGA

TCCTCA

AAATTT

PK4B: -26.865000(kcal/mol): PK_start=1301 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1364
(fs_start=1286)

TCCAGCAA
AGACAAGCTAATTTTTTTAGGGAGAATTTGGCCT

GGACCGGA GGGG

CCCCAC

AAATTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(945) AY713407
=====

PK1: -15.140000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
(fs_start=1283)

CA
GGAAGGAGGGACACCAAATGAAAGACTG

```

          GAC   AGAAAGTC
                TTTTTTAGGG
    GCTAA
PK2:  -21.980000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)
                C
GAGGGACACCAAATGAAAGACTGCACTGAAAGA
                GATTTTTT   AATCGGA
                        TTGGCCTTC
    GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1292 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1325
(fs_start=1283)
                AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
                CCT   TCCGGTTT
                        AGGCCAGGAA
    AGCAAGGGG

PK4:  -26.865000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1361
(fs_start=1283)
                TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA   GGGG
                        CCCCAC
    AAATTTTCCACAGAGCAGACCGGAGCCAACAG

=====
(946) AY713408
=====
PK1:  -9.405000(kcal/mol): PK_start=1269 sp=0 s1=4 s2=6 l1=2 l2=5 L3=0 PK_end=1295
(fs_start=1289)
                AC
GAAAGGAAGGACACCAACTGAAAGATTGT
                GACA   GAGAGG
                        TTTTTTAG
    GCTAA

PK2:  -17.280000(kcal/mol): PK_start=1276 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=1310
(fs_start=1289)
                C
AGGACACCAACTGAAAGATTGTACGGAGAGA
                TTTTTT   A   ATCGGA
                        TGGCCTTC
    AGGGAAGATC

PK3:  -26.110000(kcal/mol): PK_start=1297 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1331
(fs_start=1289)
                A
TACGGAGAGACAGGCTAATTTTTTAGGGAAG

```

CCCTTC CCGTCT
GCCAGGGA
ACAAGGGAAG
PK4: -26.715000(kcal/mol): PK_start=1304 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1341
(fs_start=1289)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(947) AY713409
=====

PK1: -13.555000(kcal/mol): PK_start=1269 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1297
(fs_start=1289)

A
GAAAGGAAGGACACCAGATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1310
(fs_start=1289)

C
GAAGGACACCAGATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1297 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1331
(fs_start=1289)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAAGGA

PK4: -24.115000(kcal/mol): PK_start=1304 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1341
(fs_start=1289)

TCCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA AGGAA
TTCTTCA
GAATT

=====
(948) AY713410
=====

PK1: -10.665000(kcal/mol): PK_start=1270 sp=0 s1=3 s2=6 l1=2 l2=7 L3=0 PK_end=1296
(fs_start=1289)

GA
AAAGGAAGGACACCAAATGAAAGAGTGT
ACA GAAAGT
TTTTTAGG
GGCTAAT

PK2: -18.220000(kcal/mol): PK_start=1275 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1310
(fs_start=1289)

C
AAGGACACCAAATGAAAGAGTGTGATGAAAGA
ATTTTTT A ATCGGA
TGGCCTTC
GGGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1297 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1331
(fs_start=1289)

AAA
TGATGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1304 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1341
(fs_start=1289)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(949) AY713411
=====

PK1: -10.640000(kcal/mol): PK_start=1264 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1302
(fs_start=1295)

A
TTGGAAATGCGGGAAGGAAGGACACCAA
GTT AGAAAGT
TTTTTTAGG
CAATGAGAGACAGGCTAA

PK2: -18.180000(kcal/mol): PK_start=1281 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1316
(fs_start=1295)

C
AAGGACACCAAATGAAAGATTGCAATGAGAGA
ATTTTTT A ATCGGA
TGGCCTTC
GGGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1303 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=1337
(fs_start=1295)

AAA
CAATGAGAGACAGGCTAATTTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1310 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1347
(fs_start=1295)

CCAC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(950) AY713412
=====

PK1: -13.205000(kcal/mol): PK_start=1270 sp=0 s1=3 s2=7 l1=1 l2=7 l3=0 PK_end=1297
(fs_start=1289)

A
AAAGGAAGGACACCAAATGAAAGAGTGT
ACA GAGAGTC
TTTTTAGGG
GGCTAAT

PK2: -20.460000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1310
(fs_start=1289)

C
GAAGGACACCAAATGAAAGAGTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1297 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1331
(fs_start=1289)

A
TACTGAGAGACAGGCTAATTTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -29.020000(kcal/mol): PK_start=1304 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1341
(fs_start=1289)

CCAC
AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(951) AY713413
=====

PK1: -15.025000(kcal/mol): PK_start=1260 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1288
(fs_start=1280)

A
GAAAAGAAGGACACCAAATGAAAGACTGT
GACG GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.370000(kcal/mol): PK_start=1265 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1302
(fs_start=1280)

C
GAAGGACACCAAATGAAAGACTGTACTGAAAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAAT

PK3: -20.285000(kcal/mol): PK_start=1289 sp=0 s1=3 s2=8 l1=3 l2=6 L3=0 PK_end=1319
(fs_start=1280)

AAA
ACTGAAAGGCAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AAGGGG

PK4: -25.010000(kcal/mol): PK_start=1295 sp=7 s1=10 s2=4 l1=1 l2=6 L3=0 PK_end=1329
(fs_start=1280)

C
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1295 sp=7 s1=8 s2=4 l1=5 l2=32 L3=0 PK_end=1355
(fs_start=1280)

TCCAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(952) AY713414
=====

PK1: -15.025000(kcal/mol): PK_start=1254 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1282
(fs_start=1274)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAAAGTC

TTTTTAGGA
GCTAAT
PK2: -20.370000(kcal/mol): PK_start=1259 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1296
(fs_start=1274)

C
GAAGGACACCAAATGAAAGACTGTACTGAAAGG
GATTTTTT AATCGGA
TTGGCCTTC
GAAAAAT

PK3: -20.485000(kcal/mol): PK_start=1282 sp=0 s1=3 s2=8 l1=4 l2=9 L3=0 PK_end=1316
(fs_start=1274)

AAAA
TACTGAAAGGCAGGCTAATTTTTTAGGA
CCT TCCGGTTT
AGGCCAGGGA
CACAAGGGG

PK4: -23.985000(kcal/mol): PK_start=1289 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1327
(fs_start=1274)

TCCCACAA
AGGCAGGCTAATTTTTTAGGAAAAATTTGGCCT
GGACCGGA GGGG
CTCCAG
GAATTTTC

PK4B: -26.865000(kcal/mol): PK_start=1289 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1352
(fs_start=1274)

TCCCACAA
AGGCAGGCTAATTTTTTAGGAAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCTCCAGAGCAGACCAGAGCCAACAG

=====
(953) AY713415
=====

PK1: -14.985000(kcal/mol): PK_start=1263 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1291
(fs_start=1283)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA

```

                                TTGGCCTTC
      GGAAAAAT
PK3:  -23.745000(kcal/mol): PK_start=1291 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1325
(fs_start=1283)
                                AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTTT
                                AGGCCAGGGA
      ACAAGGGG
PK4:  -25.010000(kcal/mol): PK_start=1298 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1335
(fs_start=1283)
                                CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
                                GGACCGGAGG   GGAA
                                CCTTCA
      GAATTT
PK4B:  -26.865000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1361
(fs_start=1283)
                                TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
                                GGACCGGA   GGGG
                                CCCCAC
      GAATTTCTTCAGAACAGGCCAGAGCCAACAG

=====
(954) AY713416
=====
PK1:  -14.985000(kcal/mol): PK_start=1257 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1285
(fs_start=1277)
                                A
GAAAGGAAGGACATCAAATGAAAGACTGT
                                GACG   GAGAGTC
                                TTTTTAGGG
      GCTAAT
PK2:  -25.800000(kcal/mol): PK_start=1262 sp=0 s1=6 s2=9 l1=1 l2=7 L3=2 PK_end=1299
(fs_start=1277)
                                G
GAAGGACATCAAATGAAAGACTGTACTGAGA
                                GATTTT   TT   AATCGGACG
                                TTGGCCTGCCC
      GGAAAAAT
PK3:  -24.750000(kcal/mol): PK_start=1285 sp=0 s1=3 s2=9 l1=4 l2=7 L3=0 PK_end=1319
(fs_start=1277)
                                AAAA
TACTGAGAGGCAGGCTAATTTTTTAGGG
                                CCC   GTCCGGTTT

```

CAGGCCAGGGA

ACAAGGG

PK4: -27.740000(kcal/mol): PK_start=1292 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1329
(fs_start=1277)

CCAC

AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTGC

GGACCGGACG GGAA

CCTTCA

GAATTT

PK4B: -26.005000(kcal/mol): PK_start=1292 sp=7 s1=8 s2=4 l1=8 l2=31 L3=0 PK_end=1354
(fs_start=1277)

GCCCACAA

AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA CGGG

GCCCCA

GAATTTCTTCAGAGCAGACCAGAGCCAACA

=====
(955) AY713417
=====

PK1: -15.585000(kcal/mol): PK_start=1260 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1288
(fs_start=1280)

A

GAAAGGAAGGACACCAAATGAAAGACTGT

GACA GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -21.940000(kcal/mol): PK_start=1265 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1302
(fs_start=1280)

C

GAAGGACACCAAATGAAAGACTGTACTGAGAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAACT

PK3: -26.955000(kcal/mol): PK_start=1288 sp=0 s1=4 s2=9 l1=2 l2=8 L3=0 PK_end=1323
(fs_start=1280)

AA

TACTGAGAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTTTC

AGGCCAGGGAA

ACAAGGGG

PK4: -22.865000(kcal/mol): PK_start=1294 sp=6 s1=9 s2=4 l1=8 l2=6 L3=0 PK_end=1333
(fs_start=1280)

TCCCACAA

GAGACAGGCTAATTTTTTAGGGAAACTTTGGCCT

GGGACCGGA GGGG

CTTCAG

AATTTTC

PK4B: -29.475000(kcal/mol): PK_start=1294 sp=6 s1=9 s2=4 l1=8 l2=31 L3=0 PK_end=1358
(fs_start=1280)

TCCCACAA

GAGACAGGCTAATTTTTTTAGGGAAACTTTGGCCT

GGGACCGGA GGGG

CCCCAC

AATTTTCCTTCAGAACAGACCAGCGCCAACAG

=====
(956) AY713418
=====

PK1: -10.640000(kcal/mol): PK_start=1261 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1299
(fs_start=1292)

T

TTGGAAATGTGGAAAGGAAGGACACCAA

GTT AGAAAGT

TTTTTTTAGG

CACTGAAAGACAGGCTAA

PK2: -21.980000(kcal/mol): PK_start=1277 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1314
(fs_start=1292)

C

GAAGGACACCAATTGAAAGATTGCACTGAAAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1300 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1334
(fs_start=1292)

AAA

CACTGAAAGACAGGCTAATTTTTTTAGGGA

CCCT TCCGGTTT

AGGCCAGGGA

ACAAGGGA

PK4: -25.490000(kcal/mol): PK_start=1307 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1344
(fs_start=1292)

CCAC

AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTTC

GGACCGGAAG GGAA

CCTTCA

GAATTT

=====
(957) AY713419
=====

PK1: -15.100000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
(fs_start=1283)

CA

GAAAGGAAGGACATCAAATGAAAGACTG

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                GAC   AGAGAGTC
                TTTTTTAGGG
            GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)
                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT   AATCGGA
                TTGGCCTTC
            GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1292 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1325
(fs_start=1283)
                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                CCT   TCCGGTTT
                AGGCCAGGGA
            AGCAAGGGA

PK4:  -22.915000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1335
(fs_start=1283)
                TCCAGCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA   AGGGA
                TTCCTCA
            GAATT

PK4B:  -20.650000(kcal/mol): PK_start=1298 sp=7 s1=7 s2=4 l1=1 l2=41 L3=9 PK_end=1361
(fs_start=1283)
                T
AGACAGGCTAATTTTTTAGGGAAAATTTGGCC
                GGACCGG   AAGGGAACG   ACCT
                TGGAAA
            GAATTTTCCTCAGAGCAGACCAGAGCCAACAGCCCCACCAA

=====
(958) AY713420
=====

PK1:  -15.100000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
(fs_start=1283)
                CA
GGAAGGAAGGACATCAAATGAAAGACTG
                GAC   AGAGAGTC
                TTTTTTAGGG
            GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)
                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA

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          GATTTTTT   AATCGGA
                    TTGGCCTTC
      GGAAAAT
PK3:  -20.285000(kcal/mol): PK_start=1292 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1325
(fs_start=1283)
          AAA
ACTGAGAGACAGGCTAATTTTTTTAGGGA
          CCT   TCCGGTTT
                    AGGCCAGGGA
      AACAAGGGA
PK4:  -22.915000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1335
(fs_start=1283)
                    TCCAACA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
          GGACCGGA   AGGGA
                    TTCCTCA
      GAATT
=====
(959) AY713421
=====
PK1:  -10.440000(kcal/mol): PK_start=1252 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1290
(fs_start=1283)
          A
TTGGAAATGTGGGAAGGAAGGACATCAA
          GTT   AGAAAGT
                    TTTTTTAGG
      CACTGAGAGACAGGCTAA
PK2:  -21.940000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)
          C
GAAGGACATCAAATGAAAGATTGCACTGAGAGA
          GATTTTTT   AATCGGA
                    TTGGCCTTC
      GGAGATT
PK3:  -19.815000(kcal/mol): PK_start=1292 sp=0 s1=3 s2=9 l1=2 l2=9 L3=0 PK_end=1326
(fs_start=1283)
          GA
ACTGAGAGACAGGCTAATTTTTTTAGGGA
          CCT   TCCGGTTTT
                    AGGCCAGGGAA
      AGCAAGGGA
PK4:  -22.445000(kcal/mol): PK_start=1297 sp=6 s1=9 s2=5 l1=7 l2=4 L3=0 PK_end=1335
(fs_start=1283)
                    TCCAGCA
GAGACAGGCTAATTTTTTTAGGGAGATTTTGGCCT

```

```

GGGACCGGA    AGGGA
              TTCCTCA
AATT
=====
(960) AY713422
=====
PK1:  -15.100000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
(fs_start=1283)
              CA
GAAAGGAAGGACATCAAATGAAAGACTG
              GAC    AGAGAGTC
              TTTTTTAGGG
GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)
              C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
              GATTTTTT    AATCGGA
              TTGGCCTTC
GGAAAAT

PK3:  -18.565000(kcal/mol): PK_start=1292 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1325
(fs_start=1283)
              AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
              CCT    TCCGGTTT
              AGGCCGGGGA
AACAAGGGA

PK4:  -21.195000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1335
(fs_start=1283)
              TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
              GGGCCGGA    AGGGA
              TTCCTCA
GAATT

=====
(961) AY713423
=====
PK1:  -15.100000(kcal/mol): PK_start=1262 sp=0 s1=3 s2=8 l1=5 l2=5 L3=0 PK_end=1293
(fs_start=1285)
              CACTA
GGAAGGAAGGACATCAAATGAAAGACTG
              GAC    AGAGAGTC
              TTTTTTAGGG
GCTAA

```

PK2: -20.46000(kcal/mol): PK_start=1270 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1306
(fs_start=1285)

C
GGACATCAAATGAAAGACTGCACTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -23.815000(kcal/mol): PK_start=1294 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1327
(fs_start=1285)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTCT
AGGCCAGGGA
AACAAGGGA

PK4: -26.445000(kcal/mol): PK_start=1300 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1337
(fs_start=1285)

TCCAACA
AGACAGGCTAATTTTTTAGGAAAATCTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(962) AY713424
=====

PK1: -15.100000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
(fs_start=1283)

CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -22.025000(kcal/mol): PK_start=1291 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1325
(fs_start=1283)

AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCGGGGA
ACAAGGGA

PK4: -21.195000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1335
(fs_start=1283)

```

                                TCCCACA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
                                GGGCCGGA   AGGGA
                                TTCCTCA
                                GAATT
```

=====
(963) AY713425
=====

PK1: -15.100000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
(fs_start=1283)

```

                                CA
GGAAGGAAGGACATCAAATGAAAGACTG
                                GAC   AGAGAGTC
                                TTTTTTAGGG
                                GCTAA
```

PK2: -21.940000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)

```

                                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                                GATTTTTT   AATCGGA
                                TTGGCCTTC
                                GGAAAAT
```

PK3: -18.565000(kcal/mol): PK_start=1292 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1325
(fs_start=1283)

```

                                AAA
ACTGAGAGACAGGCTAATTTTTTTAGGGA
                                CCT   TCCGGTTT
                                AGGCCGGGAA
                                AACAAGGGA
```

PK4: -21.195000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1335
(fs_start=1283)

```

                                TCCAACA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
                                GGGCCGGA   AGGGA
                                TTCCTCA
                                AAATT
```

=====
(964) AY727522
=====

PK1: -15.625000(kcal/mol): PK_start=1516 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1544
(fs_start=1536)

```

                                A
GAAAGGAAGGACACCAAATGAAAGACTGT
                                GACA   GAAAGTC
```

```

          TTTTAGGG
      GTTAAT
PK2:  -17.01000(kcal/mol): PK_start=1521 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1557
(fs_start=1536)
          C
GAAGGACACCAAATGAAAGACTGTACTGAAAGA
          GATTTTTT  A  ATTGGA
          TGGCCTTC
      GGAAAATC
PK3:  -27.27500(kcal/mol): PK_start=1544 sp=0 s1=4 s2=8 l1=3 l2=11 L3=0 PK_end=1581
(fs_start=1536)
          AAA
TACTGAAAGACAGGTTAATTTTTTAGGGA
          CCCT  TCCGGTCT
          AGGCCAGGGA
      ACAAGGGGGG
PK4:  -36.91000(kcal/mol): PK_start=1551 sp=7 s1=11 s2=4 l1=5 l2=32 L3=0 PK_end=1617
(fs_start=1536)
          CACAA
AGACAGGTTAATTTTTTAGGGAAAATCTGGCCTTCC
          GGACCGGAGGG  GGGG
          CCCCAC
      GAATTCCTACAGAGCAGACCAGAGCCAACAG

=====
(965) AY727523
=====
PK1:  -14.98500(kcal/mol): PK_start=1505 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1533
(fs_start=1525)
          A
GAAAGGAAGGACACCAAATGAAAGACTGT
          GACG  GAGAGTC
          TTTTAGGG
      GCTAAT
PK2:  -20.33000(kcal/mol): PK_start=1510 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1547
(fs_start=1525)
          C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
          GATTTTTT  AATCGGA
          TTGGCCTTC
      GGAGAAT
PK3:  -18.84000(kcal/mol): PK_start=1533 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1567
(fs_start=1525)
          AA
TACTGAGAGGCAGGCTAATTTTTTAGGGAG
          CCTTC  CGGTTT

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                                GCCAGGAA
                CACAAGGGGAG
PK4:  -26.865000(kcal/mol): PK_start=1540 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1578
(fs_start=1525)
                                TCCCACAA
AGGCAGGCTAATTTTTTTAGGGAGAATTTGGCCT
                GGACCGGA    GGGG
                                CCCCAG
                AAATTTTC

PK4B:  -26.865000(kcal/mol): PK_start=1540 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1603
(fs_start=1525)
                                TCCCACAA
AGGCAGGCTAATTTTTTTAGGGAGAATTTGGCCT
                GGACCGGA    GGGG
                                CCCCAC
                AAATTTCCCCCAGAGCAGACTAGAGCCAACAG

=====
(966) AY727524
=====
PK1:  -15.585000(kcal/mol): PK_start=1513 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1541
(fs_start=1533)
                                A
GAAAGGAAGGACACCAAATGAAAGACTGT
                GACA    GAGAGTC
                                TTTTTAGGG
                GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1518 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1554
(fs_start=1533)
                                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
                GATTTTTT  A  ATCGGA
                                TGGCCTTC
                GGAAAATC

PK3:  -23.815000(kcal/mol): PK_start=1542 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1575
(fs_start=1533)
                                AAA
ACTGAGAGACAGGCTAATTTTTTTAGGGA
                CCT    TCCGGTCT
                                AGGCCAGGAA
                AACAAGGGG

PK4:  -28.540000(kcal/mol): PK_start=1548 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1585
(fs_start=1533)
                                CAAC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
                GGACCGGAGG    GGAA

```

CCTTCA

AAATTT

PK4B: -27.515000(kcal/mol): PK_start=1548 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1611
(fs_start=1533)

TCCAACAA

AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT

GGACCGGA GGGG

CTCCAc

AAATTTCC TTCAGAGCAGACCAGAGCCAACAG

=====

(967) AY727525

=====

PK1: -14.985000(kcal/mol): PK_start=1499 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1527
(fs_start=1519)

A

GAAAGGAAGGACACCAAATGAAAGACTGT

GACG GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1504 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1541
(fs_start=1519)

C

GAAGGACACCAAATGAAAGACTGTACTGAGAGG

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1527 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1561
(fs_start=1519)

AAA

TACTGAGAGGCAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT

AGGCCAGGAA

ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1534 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1571
(fs_start=1519)

CCAC

AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC

GGACCGGAGG GGAA

CCTTCA

AAATTT

PK4B: -24.595000(kcal/mol): PK_start=1534 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1597
(fs_start=1519)

TCCCACAA

AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG

TCCCAA
AAATTTTCCTTCAGAGCAGACCAGAGCCAACAG

=====
(968) AY727526
=====

PK1: -14.985000(kcal/mol): PK_start=1304 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1332
(fs_start=1324)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1309 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1346
(fs_start=1324)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1332 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1366
(fs_start=1324)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGAA
ACAAGGGG

PK4: -23.985000(kcal/mol): PK_start=1339 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1377
(fs_start=1324)

TCCCACAA
AGGCAGGCTAATTTTTTAGGAAAATTTGGCCT
GGACCGGA GGGG
CTCCAG
AAACTTC

=====
(969) AY727527
=====

PK1: -12.405000(kcal/mol): PK_start=1515 sp=0 s1=4 s2=6 l1=5 l2=6 L3=0 PK_end=1545
(fs_start=1538)

AATAA
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGT
TTTTTAGG
GCTAAT

PK2: -18.050000(kcal/mol): PK_start=1524 sp=0 s1=7 s2=7 l1=1 l2=8 L3=0 PK_end=1560
(fs_start=1538)

C
GACACCAAATGAAAGACTGTAATAATGAGAGG


```

          ATTTTTT   AATCGGA
                    TTGGCCTTC
GGGAGAAT
PK3:  -18.840000(kcal/mol): PK_start=1546 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1580
(fs_start=1538)
                    AA
TAATGAGAGGCAGGCTAATTTTTTTAGGGAG
                    CCTTC   CGGTTT
                    GCCAGGGA
          CACAAGGGGAG
PK4:  -23.985000(kcal/mol): PK_start=1553 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1591
(fs_start=1538)
                    TCCCACAA
AGGCAGGCTAATTTTTTTAGGGAGAATTTGGCCT
                    GGACCGGA   GGGG
                    CTCCAG
          GAATTTTC
PK4B:  -26.865000(kcal/mol): PK_start=1553 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1616
(fs_start=1538)
                    TCCCACAA
AGGCAGGCTAATTTTTTTAGGGAGAATTTGGCCT
                    GGACCGGA   GGGG
                    CCCCCG
          GAATTTCTCCAGAGCAGACCAGAGCCAACAG
=====
(970) AY734550
=====
PK1:  -15.025000(kcal/mol): PK_start=1263 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1291
(fs_start=1283)
                    A
GAAAGGAAGGACACCAAATGAAAGACTGT
                    GACG   GAAAGTC
                    TTTTTAGGG
          GCTAAT
PK2:  -20.370000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)
                    C
GAAGGACACCAAATGAAAGACTGTACTGAAAGG
                    GATTTTTT   AATCGGA
                    TTGGCCTTC
          GGAAAAT
PK3:  -23.745000(kcal/mol): PK_start=1291 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1325
(fs_start=1283)
                    AAA
TACTGAAAGGCAGGCTAATTTTTTTAGGGA

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          CCCT   TCCGGTTT
                AGGCCAGGGA
ACAAGGGG

PK4:  -25.01000(kcal/mol): PK_start=1298 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1335
(fs_start=1283)
                CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
                GGACCGGAGG   GGAA
                                CCTTCA
                GAATTT

PK4B:  -26.865000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1361
(fs_start=1283)
                TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA   GGGG
                                CCCCAC
                GAATTTTCCTTCAGAGCAGACCAGAGCCAACAG

=====
(971) AY734551
=====
PK1:  -15.625000(kcal/mol): PK_start=1260 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1288
(fs_start=1280)
                A
GAAAGGAAGGACACCAAATGAAAGACTGT
                GACA   GAAAGTC
                                TTTTTAGGG
                GCTAAT

PK2:  -21.980000(kcal/mol): PK_start=1265 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1302
(fs_start=1280)
                C
GAAGGACACCAAATGAAAGACTGTACTGAAAGA
                GATTTTTT   AATCGGA
                                TTGGCCTTC
                GGAAAAT

PK3:  -23.745000(kcal/mol): PK_start=1288 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1322
(fs_start=1280)
                AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTTT
                                AGGCCAGGGA
                ACAAGGGG

PK4:  -25.010000(kcal/mol): PK_start=1295 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1332
(fs_start=1280)
                CCAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC

```

GGACCGGAGG GGAA
 CCTTCA
 GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1295 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1358
 (fs_start=1280)

TCCCACAA
 AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG
 CCCCAC
 GAATTTCC TTCAGAGCAGGCCAGAGCCAACAG

=====
 (972) AY734552
 =====

PK1: -15.025000(kcal/mol): PK_start=1257 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1285
 (fs_start=1277)

A
 GAAGGGAAGGACACCAAATGAAAGACTGT

GACG GAAAGTC
 TTTTTAGGG
 GCTAAT

PK2: -20.370000(kcal/mol): PK_start=1262 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1299
 (fs_start=1277)

C
 GAAGGACACCAAATGAAAGACTGTACTGAAAGG

GATTTTTT AATCGGA
 TTGGCCTTC
 GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1285 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1319
 (fs_start=1277)

AAA
 TACTGAAAGGCAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT
 AGGCCAGGGA
 AGAAGGGG

PK4: -28.960000(kcal/mol): PK_start=1292 sp=7 s1=11 s2=4 l1=2 l2=7 L3=0 PK_end=1330
 (fs_start=1277)

CA
 AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTCC

GGACCGGAGGG GAAG
 CTTCAG
 GAATTTT

PK4B: -26.865000(kcal/mol): PK_start=1292 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1355
 (fs_start=1277)

TCCCAGAA
 AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG
CCCCAC
GAATTCCTTCAGAACAGGCCAGAGCCAACAG

=====
(973) AY734553
=====

PK1: -15.585000(kcal/mol): PK_start=1260 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1288
(fs_start=1280)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -21.940000(kcal/mol): PK_start=1265 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1302
(fs_start=1280)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAATT

PK3: -23.275000(kcal/mol): PK_start=1288 sp=0 s1=4 s2=9 l1=2 l2=8 L3=0 PK_end=1323
(fs_start=1280)

AA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTTT
AGGCCAGGGAA
ACAAGGGG

PK4: -19.785000(kcal/mol): PK_start=1294 sp=6 s1=9 s2=4 l1=8 l2=6 L3=0 PK_end=1333
(fs_start=1280)

TCCCACAA
GAGACAGGCTAATTTTTTAGGGAAATTTTGGCCT
GGGACCGGA GGGG
CTTCAG
AATTTC

PK4B: -26.395000(kcal/mol): PK_start=1294 sp=6 s1=9 s2=4 l1=8 l2=31 L3=0 PK_end=1358
(fs_start=1280)

TCCCACAA
GAGACAGGCTAATTTTTTAGGGAAATTTTGGCCT
GGGACCGGA GGGG
CCCCAC
AATTCCTTCAGAGCAGACCAGAGCCAACAG

=====
(974) AY734554
=====

PK1: -15.585000(kcal/mol): PK_start=1255 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1283
(fs_start=1275)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -21.940000(kcal/mol): PK_start=1260 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1297
(fs_start=1275)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1283 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1317
(fs_start=1275)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1290 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1327
(fs_start=1275)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1290 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1353
(fs_start=1275)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCCCTTCAGAGCAGACCAGAGCCAACAG

=====
(975) AY734555
=====

PK1: -13.065000(kcal/mol): PK_start=1239 sp=0 s1=3 s2=8 l1=5 l2=19 L3=0 PK_end=1284
(fs_start=1277)

CCAAA
GCTGTTGGAAATGTGGAAAGGAAGGACA
TGT TAGAAAGT
ATTTTTTAGG
AATGAGGAAAGGCAGGCTA

PK2: -18.30000(kcal/mol): PK_start=1260 sp=0 s1=7 s2=7 l1=4 l2=8 L3=0 PK_end=1299 (fs_start=1277)

AGGC
AAGGACACCAAATGAAAGATTGTAATGAGGAA
ATTTTTT AATCGGA
TTGCCTTC
GGGAAAAT

PK3: -22.025000(kcal/mol): PK_start=1285 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1319 (fs_start=1277)

AAA
TGAGGAAAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCGGGAA
ACAAGGGG

PK4: -22.265000(kcal/mol): PK_start=1292 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1330 (fs_start=1277)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA GGGG
CTCCAG
AAATTTTC

=====
(976) AY734556
=====

PK1: -11.855000(kcal/mol): PK_start=1257 sp=0 s1=4 s2=6 l1=2 l2=5 L3=0 PK_end=1283 (fs_start=1277)

AC
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGA
TTTTTTAG
GCTAA

PK2: -16.460000(kcal/mol): PK_start=1263 sp=0 s1=6 s2=6 l1=2 l2=10 L3=1 PK_end=1298 (fs_start=1277)

GC
AAGGACACCAAATGAAAGACTGTACAGAGAG
TTTTTT A ATCGGA
TGGCCTTC
AGGGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1285 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1319 (fs_start=1277)

AAA
TACAGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -28.540000(kcal/mol): PK_start=1292 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1329
(fs_start=1277)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1292 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1355
(fs_start=1277)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCCTTCAGAGCAGGCCAGAGCCAACAG

=====
(977) AY734558
=====

PK1: -12.155000(kcal/mol): PK_start=1272 sp=0 s1=4 s2=7 l1=4 l2=6 L3=0 PK_end=1303
(fs_start=1295)

ACAG
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTT
TTTTTAGGG
GCTAAT

PK2: -18.300000(kcal/mol): PK_start=1280 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1317
(fs_start=1295)

C
GGACACCAAATGAAAGACTGTACAGTTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1303 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1337
(fs_start=1295)

AAA
AGTTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -27.465000(kcal/mol): PK_start=1312 sp=9 s1=6 s2=5 l1=7 l2=34 L3=0 PK_end=1374
(fs_start=1295)

TCCCACA
GCAGGCTAATTTTTTAGGGAAAATTTGGCCT
ACCGGA GGGGA
CCCCTCT
GGGAATTTTCCTTCAGAACAGACCAGAGCCAACAG

=====
(978) AY734559
=====

PK1: -15.585000(kcal/mol): PK_start=1263 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1291
(fs_start=1283)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -21.940000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1291 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1325
(fs_start=1283)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGA

PK4: -25.490000(kcal/mol): PK_start=1298 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1335
(fs_start=1283)

CCAC
AGACAGGCTAATTTTTTAGGAAAATTTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(979) AY734560
=====

PK1: -15.140000(kcal/mol): PK_start=1259 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1287
(fs_start=1279)

CA
GAAAGGAAGGACACCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -21.980000(kcal/mol): PK_start=1264 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1301
(fs_start=1279)

C
GAAGGACACCAAATGAAAGACTGCACTGAAAGA
GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAAT

PK3: -18.565000(kcal/mol): PK_start=1288 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1321
(fs_start=1279)

AAA

ACTGAAAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT

AGGCCGGGGA

AACAAGGGA

PK4: -23.770000(kcal/mol): PK_start=1294 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1331
(fs_start=1279)

CAAC

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC

GGGCCGGAAG GGAA

CCTTCA

GAATTT

=====
(980) AY734562
=====

PK1: -10.640000(kcal/mol): PK_start=1242 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1280
(fs_start=1273)

A

TTGGAAATGTGGAAAGGAGGGACACCAA

GTT AGAAAGT

TTTTTTTAGG

CACTGAAAGACAGGCTAA

PK2: -21.980000(kcal/mol): PK_start=1258 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1295
(fs_start=1273)

C

GAGGGACACCAAATGAAAGATTGCACTGAAAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAGAAT

PK3: -18.840000(kcal/mol): PK_start=1281 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1315
(fs_start=1273)

AA

CACTGAAAGACAGGCTAATTTTTTAGGGAG

CCTTC CGGTTT

GCCAGGAA

AGCAAGGGGAG

PK4: -27.000000(kcal/mol): PK_start=1288 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=1326
(fs_start=1273)

TTCCAGCAA

AGACAGGCTAATTTTTTAGGGAGAATTTGGCC

GGACCGG AGGGG

```

                                TCCCCAG
          AAATTT
PK4B:  -24.080000(kcal/mol): PK_start=1289 sp=8 s1=6 s2=4 l1=9 l2=33 L3=1 PK_end=1350
(fs_start=1273)
                                TTCCAGCAA
GACAGGCTAATTTTTTTAGGGAGAATTTGGCC
          GACCGG  A  GGGG
                                CCCCAC
          GAAATTTTCCCCAGAACAGACTGGAGCCAACAG

=====
(981) AY751406
=====
PK1:  -10.975000(kcal/mol): PK_start=1550 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=1577
(fs_start=1570)
                                AA
GAAAGGAAGGACACCAAATGAAAGATTGT
          GACA  GAGAGT
                                TTTT TAGG
          GCTAAT

PK2:  -18.180000(kcal/mol): PK_start=1556 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1591
(fs_start=1570)
                                C
AAGGACACCAAATGAAAGATTGTAATGAGAGA
          ATTTTTT  A  ATCGGA
                                TGGCCTTC
          GGGAGGATC

PK3:  -25.760000(kcal/mol): PK_start=1578 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1612
(fs_start=1570)
                                A
TAATGAGAGACAGGCTAATTTTTTTAGGGAGG
          CCCTTC  CGGTCT
                                GCCAGGGA
          ACAAGGGGAG

PK4:  -26.235000(kcal/mol): PK_start=1585 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1622
(fs_start=1570)
                                CCAC
AGACAGGCTAATTTTTTTAGGGAGGATCTGGCCTTC
          GGACCGGAGG  GGAA
                                TCTTCA
          GAATTT

PK4B:  -30.395000(kcal/mol): PK_start=1585 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1648
(fs_start=1570)
                                TCCCACAA
AGACAGGCTAATTTTTTTAGGGAGGATCTGGCCT
          GGACCGGA  GGGG

```

CCCCAC
GAATTTTCTTCAGAACAGACCAGAACCATCAG

=====
(982) AY751407
=====

PK1: -11.405000(kcal/mol): PK_start=1440 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1468
(fs_start=1460)

A
GAAAAGAAGGACACCAAATGAAAGATTGT

AACA GAGAGTT
TTTTTAGGG
GCTAAT

PK2: -13.790000(kcal/mol): PK_start=1445 sp=0 s1=8 s2=4 l1=3 l2=8 L3=1 PK_end=1479
(fs_start=1460)

CAA
GAAGGACACCAAATGAAAGATTGTATTGAGAGA

GATTTTTT A ATCG
TGGCCT
GGAAGCTC

PK3: -26.110000(kcal/mol): PK_start=1468 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1502
(fs_start=1460)

C
TATTGAGAGACAAGCTAATTTTTTAGGGAAG

CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -28.755000(kcal/mol): PK_start=1474 sp=6 s1=9 s2=5 l1=7 l2=4 L3=0 PK_end=1512
(fs_start=1460)

TCCCACA
GAGACAAGCTAATTTTTTAGGGAAGCTCTGGCCT

GGGACCGGA AGGGA
TTCCTCA
AATT

=====
(983) AY771588
=====

PK1: -12.640000(kcal/mol): PK_start=1370 sp=0 s1=3 s2=7 l1=4 l2=18 L3=0 PK_end=1411
(fs_start=1404)

CAAA
CTGTTGAAATGTGGAAAGGAGGGACAC

GTG AGAAAGT
TTTTTTAGG
CACTGAGAGACAGGCTAA

PK2: -21.940000(kcal/mol): PK_start=1389 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1426
(fs_start=1404)

C
GAGGGACACCAAATGAAAGAGTGCCTGAGAGA

```

          GATTTTTT   AATCGGA
                    TTGGCCTTC
GGAAAGT
PK3:  -21.780000(kcal/mol): PK_start=1412 sp=0 s1=5 s2=4 l1=5 l2=9 L3=0 PK_end=1443
(fs_start=1404)
                    AGTTT
CACTGAGAGACAGGCTAATTTTTTTAGGGAA
                    CCCTT   CCGG
                                GGCCCG
ACAAGGGGA
PK4:  -22.885000(kcal/mol): PK_start=1422 sp=10 s1=5 s2=5 l1=7 l2=8 L3=0 PK_end=1456
(fs_start=1404)
                    TCCCACA
CAGGCTAATTTTTTTAGGGAAAGTTTGGCCT
                    CCGGA   GGGGA
                                TCCCTCA
CGGAAATT
PK4B: -24.675000(kcal/mol): PK_start=1422 sp=10 s1=5 s2=4 l1=8 l2=35 L3=0
PK_end=1482 (fs_start=1404)
                    TCCCACAA
CAGGCTAATTTTTTTAGGGAAAGTTTGGCCT
                    CCGGA   GGGG
                                CCCC GC
CGGAAATTTCCCTCAAACCAGGCTAGAGCCAACGG
=====
(984) AY771589
=====
PK1:  -13.595000(kcal/mol): PK_start=1590 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1618
(fs_start=1610)
                    A
GAAAGGAAGGACACCAAATGAAAGATTGT
                    GACA   GAAAGTC
                                TTTTTAGGG
GCTAAT
PK2:  -20.500000(kcal/mol): PK_start=1595 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1631
(fs_start=1610)
                    C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
                    GATTTTTT A  ATCGGA
                                TGGCCTTC
GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1618 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1652
(fs_start=1610)
                    AAA
TACTGAAAGACAGGCTAATTTTTTTAGGGA

```

CCCT TCCGGTCT
 AGGCCAGGAA
 ACAAGGGA

PK4: -26.445000(kcal/mol): PK_start=1625 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1662
 (fs_start=1610)

TCCCACA
 AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT

GGACCGGA AGGGA
 TTCCTCA
 AAATT

=====
 (985) AY771591
 =====

PK1: -13.555000(kcal/mol): PK_start=1447 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1475
 (fs_start=1467)

A
 GAAGGGAAGGACACCAAATGAAAGATTGT

GACA GAGAGTC
 TTTTTAGGG
 GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1452 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1488
 (fs_start=1467)

C
 GAAGGACACCAAATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA
 TGGCCTTC
 GGAAAATC

PK3: -23.815000(kcal/mol): PK_start=1476 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1509
 (fs_start=1467)

AAA
 ACTGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTCT
 AGGCCAGGGA
 AGCAAAGGG

PK4: -26.275000(kcal/mol): PK_start=1482 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1519
 (fs_start=1467)

TCCAGCA
 AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT

GGACCGGA GGGAA
 TCCTTCA
 GAATT

PK4B: -24.180000(kcal/mol): PK_start=1482 sp=7 s1=7 s2=4 l1=1 l2=41 L3=9 PK_end=1545
 (fs_start=1467)

T
 AGACAGGCTAATTTTTTAGGGAAAATCTGGCC

GGACCGG AGGGAAACG ACCT
TGGAGA
GAATTTCC TTCAGAGCAGACCAGAGCCAACAGCCCCACCAA

=====
(986) AY771592
=====

PK1: -15.140000(kcal/mol): PK_start=1276 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1304
(fs_start=1296)

CA
GAAGAGAGGGACACCAAATGAAGGACTG

GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -21.980000(kcal/mol): PK_start=1281 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1318
(fs_start=1296)

C
GAGGGACACCAAATGAAGGACTGCACTGAAAGA

GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1304 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1338
(fs_start=1296)

AAA
CACTGAAAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT
AGGCCAGGAA
ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1311 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1348
(fs_start=1296)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC

GGACCGGAGG GGAA
CCTTCA
AAATTT

PK4B: -26.865000(kcal/mol): PK_start=1311 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1374
(fs_start=1296)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG
CCCCAC
AAATTTCC TTCAGAGCAGACCAGAGCCAACAG

=====
(987) AY771593
=====

PK1: -15.140000(kcal/mol): PK_start=1474 sp=0 s1=3 s2=8 l1=2 l2=5 l3=0 PK_end=1502 (fs_start=1494)

CA
GAAAAGAAGGACACCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTTAGGG
GCTAA

PK2: -21.980000(kcal/mol): PK_start=1479 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1516 (fs_start=1494)

C
GAAGGACACCAAATGAAAGACTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -21.780000(kcal/mol): PK_start=1502 sp=0 s1=5 s2=4 l1=5 l2=9 l3=0 PK_end=1533 (fs_start=1494)

AATTT
CACTGAAAGACAGGCTAATTTTTTTAGGGAA
CCCTT CCGG
GGCCCG
ACAAGGGGA

PK4: -22.820000(kcal/mol): PK_start=1512 sp=10 s1=7 s2=4 l1=4 l2=9 l3=0 PK_end=1546 (fs_start=1494)

CCAC
CAGGCTAATTTTTTTAGGGAAAATTTGGCCTC
CCGGAGG GGAA
CCTTCA
CGGAAATTT

PK4B: -24.675000(kcal/mol): PK_start=1512 sp=10 s1=5 s2=4 l1=8 l2=35 l3=0 PK_end=1572 (fs_start=1494)

TCCCACAA
CAGGCTAATTTTTTTAGGGAAAATTTGGCCT
CCGGA GGGG
CCCCGC
CGGAAATTTCTTCAAACAGGCCAGAGCCAACAG

=====
(988) AY772535
=====

PK1: -12.455000(kcal/mol): PK_start=1602 sp=0 s1=4 s2=6 l1=2 l2=5 l3=0 PK_end=1628 (fs_start=1622)

AC
GAAAGGAGGGACATCAAATGAAAGACTGT
GACA GAGAGA
TTTTTTAG
GCTAA

PK2: -18.66000(kcal/mol): PK_start=1609 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1644 (fs_start=1622)

C
GGGACATCAAATGAAAGACTGTACAGAGAGA
TTTTTT AATCGGA
TTGGCCTTC
AGGGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1631 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1664 (fs_start=1622)

AAA
ACAGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AACAAAGGA

PK4: -20.585000(kcal/mol): PK_start=1637 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1674 (fs_start=1622)

TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA AGGAA
TTCTTCA
AAACT

=====
(989) AY772690
=====

PK1: -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512 (fs_start=1504)

A
GAAAGGAAGGACACCAAATGAAGGATTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1526 (fs_start=1504)

C
GAAGGACACCAAATGAAGGATTGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=11 L3=0 PK_end=1549 (fs_start=1504)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAAGGGGGG

PK4: -31.53000(kcal/mol): PK_start=1519 sp=7 s1=12 s2=4 l1=3 l2=6 l3=0 PK_end=1559
(fs_start=1504)

ACA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTCCC
GGACCGGAGGGG GGAA
CCTTCA
GAATTT

PK4B: -30.12000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=7 l2=32 l3=0
PK_end=1585 (fs_start=1504)

CCACAAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGGG
CCCCAC
GAATTTTCCTCAGAACAGACCAGAGCCAACAG

=====
(990) AY772691
=====

PK1: -12.95500(kcal/mol): PK_start=1486 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1514
(fs_start=1506)

A
GAAAGGAAGGGCACCAAATGAAAGATTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -18.72000(kcal/mol): PK_start=1491 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1527
(fs_start=1506)

C
GAAGGGCACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.27500(kcal/mol): PK_start=1514 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=1548
(fs_start=1506)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.44500(kcal/mol): PK_start=1521 sp=7 s1=8 s2=5 l1=7 l2=4 l3=0 PK_end=1557
(fs_start=1506)

TCCCACA
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA AGGGA
TTCCTCC
GAAC

=====
(991) AY772692
=====

PK1: -13.305000(kcal/mol): PK_start=1487 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1514
(fs_start=1506)

A
AAAGGAAGGACACCAAATGAAAGAATGT
ACA GAGAGTC
TTTTTAGGG
GGCTAAT

PK2: -21.940000(kcal/mol): PK_start=1491 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1528
(fs_start=1506)

C
GAAGGACACCAAATGAAAGAATGTACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAAT

PK3: -23.745000(kcal/mol): PK_start=1514 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1548
(fs_start=1506)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -26.865000(kcal/mol): PK_start=1521 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1584
(fs_start=1506)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCATTCAGAACAGATTAGAGCCAACAG

=====
(992) AY772693
=====

PK1: -13.555000(kcal/mol): PK_start=1435 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1463
(fs_start=1455)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCAAAT

PK2: -14.310000(kcal/mol): PK_start=1440 sp=0 s1=8 s2=4 l1=4 l2=6 L3=0 PK_end=1473
(fs_start=1455)

CAGG
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT AAAC

TTTGGC

GGAAAA

PK3: -23.745000(kcal/mol): PK_start=1463 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1497
(fs_start=1455)

AAA

TACTGAGAGACAGGCAAATTTTTAGGGA

CCCT TCCGGTTT

AGGCCAGGGA

ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1470 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1507
(fs_start=1455)

CCAC

AGACAGGCAAATTTTTAGGGAAAATTTGGCCTTC

GGACCGGAGG GGAA

CCTTCA

GAATTT

PK4B: -23.985000(kcal/mol): PK_start=1470 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1533
(fs_start=1455)

TCCCACAA

AGACAGGCAAATTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG

CTCCAC

GAATTTCTTCAGAACAGACCAGAACCAACGG

=====

(993) AY772694

=====

PK1: -15.625000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A

GAAAAGAAGGACACCAACTGAAAGACTGT

GACA GAAAGTC

TTTTTAGGG

GCTAAT

PK2: -21.980000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1526
(fs_start=1504)

C

GAAGGACACCAACTGAAAGACTGTACTGAAAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -22.025000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA

TACTGAAAGACAGGCTAATTTTTAGGGA

CCCT TCCGGTTT

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                                AGGCCGGGGA
                                AGAAGGGA

PK4:  -27.720000(kcal/mol): PK_start=1519 sp=7 s1=11 s2=4 l1=2 l2=7 L3=0 PK_end=1557
(fs_start=1504)
                                CA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTTCC
                                GGGCCGGAAGG    GAAG
                                CTCAG
                                GAATTTTC

=====
(994) AY772695
=====

PK1:  -13.305000(kcal/mol): PK_start=1485 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1512
(fs_start=1504)
                                A
AAAGGAAGGACACCAGATGAAAGAATGT
                                ACA    GAGAGTC
                                TTTTTAGGG
                                GGCTAAT

PK2:  -21.940000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1526
(fs_start=1504)
                                C
GAAGGACACCAGATGAAAGAATGTACTGAGAGA
                                GATTTTTT    AATCGGA
                                TTGGCCTTC
                                GGAAAAT

PK3:  -23.745000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)
                                AAA
TACTGAGAGACAGGCTAATTTTTTTAGGGA
                                CCCT    TCCGGTTT
                                AGGCCAGGGA
                                ACAAGGGG

PK4:  -25.010000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)
                                CCAC
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTTCC
                                GGACCGGAGG    GGAA
                                CCTTCA
                                GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1519 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1582
(fs_start=1504)
                                TCCCACAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
                                GGACCGGA    GGGG

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CCCCAC
GAATTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(995) AY772696
=====

PK1: -15.025000(kcal/mol): PK_start=1487 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1515
(fs_start=1507)

A
GAAAGGAAGGACACCAAATGAAAGACTGT

GACG GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.370000(kcal/mol): PK_start=1492 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1529
(fs_start=1507)

C
GAAGGACACCAAATGAAAGACTGTACTGAAAGG

GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1515 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1549
(fs_start=1507)

AAA
TACTGAAAGGCAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1522 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1559
(fs_start=1507)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC

GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1522 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1585
(fs_start=1507)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG
CCCCAC
GAATTTCTTCAGAACAGACCAGAGCCAACAG

=====
(996) AY772699
=====

PK1: -15.025000(kcal/mol): PK_start=1487 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1515
(fs_start=1507)

A
GAAAGGAAGGACACCAAATGAAAGACTGT

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          GACG      GAAAGTC
                TTTTATAGGG
    GCTAAT
PK2:  -20.370000(kcal/mol): PK_start=1492 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1529
(fs_start=1507)
                C
GAAGGACACCAAATGAAAGACTGTACTGAAAGG
                GATTTTTT      AATCGGA
                TTGGCCTTC
    GGAAAAT

PK3:  -23.745000(kcal/mol): PK_start=1515 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1549
(fs_start=1507)
                AAA
TACTGAAAGGCAGGCTAATTTTTATAGGGA
                CCCT      TCCGGTTT
                AGGCCAGGGA
    AGAAGGGG

PK4:  -26.865000(kcal/mol): PK_start=1522 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1585
(fs_start=1507)
                TCCCAGAA
AGGCAGGCTAATTTTTATAGGAAAATTTGGCCT
                GGACCGGA      GGGG
                CCCCAC
    GAATTTTCTCCAGAACAGACTAGAGCCAACAG

=====
(997) AY772700
=====
PK1:  -13.595000(kcal/mol): PK_start=1490 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1518
(fs_start=1510)
                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                GACA      GAAAGTC
                TTTTATAGGG
    GCCAAT

PK2:  -24.240000(kcal/mol): PK_start=1495 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1532
(fs_start=1510)
                C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
                GATTTTTT      AACCGGA
                TTGGCCTTC
    GGAAAAT

PK3:  -23.745000(kcal/mol): PK_start=1518 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1552
(fs_start=1510)
                AAA
TACTGAAAGACAGGCCAATTTTTATAGGGA

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          CCCT   TCCGGTTT
                AGGCCAGGGA
ACAAGGGG

PK4:  -25.01000(kcal/mol): PK_start=1525 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1562
(fs_start=1510)
                CCAC
AGACAGGCCAATTTTTTAGGGAAAATTTGGCCTTC
                GGACCGGAGG   GGAA
                                CCTTCA
                GAATTT

PK4B:  -26.865000(kcal/mol): PK_start=1525 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1588
(fs_start=1510)
                TCCCACAA
AGACAGGCCAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA   GGGG
                                CCCCCA
                GAATTCCTTCAGAACAGACCAGAACCAACAG

=====
(998) AY773338
=====
PK1:  -12.640000(kcal/mol): PK_start=1318 sp=0 s1=3 s2=7 l1=4 l2=18 L3=0 PK_end=1359
(fs_start=1352)
                CAAA
CTGTTGAAATGTGGAAGGGAAGGACAC
                GTG   AGAAAGT
                                TTTTTTAGG
                CACTGAAAGACAGGCTAA

PK2:  -21.980000(kcal/mol): PK_start=1337 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1374
(fs_start=1352)
                C
GAAGGACACCAAATGAAAGAGTGCACTGAAAGA
                GATTTTTT   AATCGGA
                                TTGGCCTTC
                GGAAAAT

PK3:  -22.025000(kcal/mol): PK_start=1360 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1394
(fs_start=1352)
                AAA
CACTGAAAGACAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTTT
                                AGGCCGGGGA
                ACAAGGGA

PK4:  -21.465000(kcal/mol): PK_start=1367 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1404
(fs_start=1352)
                CCAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC

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GGGCCGGAAG    GGAA
                TCTTCA
    GAACTT
=====
(999) AY773341
=====
PK1:  -10.340000(kcal/mol): PK_start=1320 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1358
(fs_start=1351)
                A
TTGGAAATGTGGAAGGAAGGACACCAA
                GTT    AGAAAGT
                TTTTTTACG
    CACTGAAAGACAGGCTAA

PK2:  -19.500000(kcal/mol): PK_start=1337 sp=0 s1=7 s2=7 l1=1 l2=8 L3=0 PK_end=1373
(fs_start=1351)
                C
AAGGACACCAAATGAAAGATTGCACTGAAAGA
                ATTTTTT    AATCGGA
                TTGGCCTTC
    CGGAAGAT

PK3:  -17.700000(kcal/mol): PK_start=1360 sp=0 s1=5 s2=6 l1=1 l2=11 L3=0 PK_end=1393
(fs_start=1351)
                A
ACTGAAAGACAGGCTAATTTTTTACGGAAG
                CCTTC    CGGTTT
                GCCGGGGA
    CACAAGGGAAG

PK4:  -21.465000(kcal/mol): PK_start=1366 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1403
(fs_start=1351)
                CCAC
AGACAGGCTAATTTTTTACGGAAGATTGGCCTTC
                GGGCCGGAAG    GGAA
                TCTTCA
    GAATTT

=====
(1000) AY779550
=====
PK1:  -13.595000(kcal/mol): PK_start=1344 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1372
(fs_start=1364)
                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                GACA    GAAAGTC
                TTTTTAGGG
    GCTAAT

```


PK2: -20.50000(kcal/mol): PK_start=1349 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1385
(fs_start=1364)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.06000(kcal/mol): PK_start=1372 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1406
(fs_start=1364)

A
TACTGAAAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
ACAAGGGGAG

PK4: -26.23500(kcal/mol): PK_start=1379 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1416
(fs_start=1364)

CTAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.39500(kcal/mol): PK_start=1379 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1442
(fs_start=1364)

TCCTACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(1001) AY779551
=====

PK1: -13.55500(kcal/mol): PK_start=1344 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1372
(fs_start=1364)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.46000(kcal/mol): PK_start=1349 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1385
(fs_start=1364)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1372 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1406 (fs_start=1364)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1379 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1416 (fs_start=1364)

CTAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1379 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=1442 (fs_start=1364)

TCCTACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(1002) AY779552
=====

PK1: -13.555000(kcal/mol): PK_start=1344 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1372 (fs_start=1364)

A
GAAAGGAAGGACATCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1349 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1385 (fs_start=1364)

C
GAAGGACATCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1372 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1406 (fs_start=1364)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1379 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1416
(fs_start=1364)

CTAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1379 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=1442
(fs_start=1364)

TCCTACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(1003) AY779553
=====

PK1: -13.555000(kcal/mol): PK_start=1344 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1372
(fs_start=1364)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1349 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1385
(fs_start=1364)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAGAATC

PK3: -22.370000(kcal/mol): PK_start=1372 sp=0 s1=5 s2=6 l1=2 l2=11 l3=0 PK_end=1406
(fs_start=1364)

AA
TACTGAGAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTCT
GCCAGGGA
CACAAAGGAAG

PK4: -26.715000(kcal/mol): PK_start=1379 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1416
(fs_start=1364)

CCAC
AGACAGGCTAATTTTTTAGGGAGAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(1004) AY779554
=====

PK1: -13.555000(kcal/mol): PK_start=1344 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1372
(fs_start=1364)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1349 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1385
(fs_start=1364)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAGACTC

PK3: -30.485000(kcal/mol): PK_start=1372 sp=0 s1=4 s2=9 l1=2 l2=8 L3=0 PK_end=1407
(fs_start=1364)

GA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCTC
AGGCCAGGGAA
ACAAGGGA

PK4: -29.325000(kcal/mol): PK_start=1378 sp=6 s1=11 s2=4 l1=4 l2=5 L3=0 PK_end=1416
(fs_start=1364)

CCAC
GAGACAGGCTAATTTTTTAGGGAGACTCTGGCCTTC
GGGACCGGAAG GGAA
TCTTCA
AATTT

=====
(1005) AY779557
=====

PK1: -13.555000(kcal/mol): PK_start=1350 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1378
(fs_start=1370)

A
GAAGAGAAGGACACCAAATGAAGGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1355 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1391
(fs_start=1370)

C
GAAGGACACCAAATGAAGGATTGTACTGAGAGA
GATTTTTT A ATCGGA

```

                                TGGCCTTC
                                GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1378 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1412
(fs_start=1370)
                                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTCT
                                AGGCCAGGGA
                                ACAAGGGG

PK4:  -30.395000(kcal/mol): PK_start=1385 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1448
(fs_start=1370)
                                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                                GGACCGGA   GGGG
                                CCCCCG
                                GAATTTTGTTCAGAGCAGACCAGAGCCAACAG

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(1006) AY779558
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PK1:  -13.555000(kcal/mol): PK_start=1350 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1378
(fs_start=1370)
                                A
GAAGAGAAGGACACCAAATGAAGGATTGT
                                GACA   GAGAGTC
                                TTTTTAGGG
                                GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1355 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1391
(fs_start=1370)
                                C
GAAGGACACCAAATGAAGGATTGTACTGAGAGA
                                GATTTTTT   A   ATCGGA
                                TGGCCTTC
                                GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1378 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1412
(fs_start=1370)
                                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTCT
                                AGGCCAGGGA
                                ACAAGGGG

PK4:  -30.395000(kcal/mol): PK_start=1385 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1448
(fs_start=1370)
                                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                                GGACCGGA   GGGG

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CCCCGC
GAATTTTGTTCAGAGCAGACCAGAGCCAACAG

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(1007) AY779559
=====

PK1: -13.555000(kcal/mol): PK_start=1344 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1372
(fs_start=1364)

A
GAAGGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGA
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1349 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1385
(fs_start=1364)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GAAAGATC

PK3: -17.340000(kcal/mol): PK_start=1375 sp=0 s1=3 s2=6 l1=1 l2=13 L3=0 PK_end=1406
(fs_start=1364)

A
TGAGAGACAGGCTAATTTTTTAGGAAAG
TTC CGGTCT
GCCAGGGA
CCCACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1379 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1416
(fs_start=1364)

CCAC
AGACAGGCTAATTTTTTAGGAAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(1008) AY779560
=====

PK1: -13.555000(kcal/mol): PK_start=1350 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1378
(fs_start=1370)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1355 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1391
(fs_start=1370)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA
 TGGCCTTC
 GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1378 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1412
 (fs_start=1370)

A
 TACTGAGAGACAGGCTAATTTTTTAGGGAAG
 CCCTTC CGGTCT
 GCCAGGGA
 ACAAGGGAAG

PK4: -27.535000(kcal/mol): PK_start=1385 sp=7 s1=10 s2=6 l1=2 l2=3 L3=0 PK_end=1421
 (fs_start=1370)

CC
 AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
 GGACCGGAAG GGAACA
 TTTTGTTT
 GAA

=====
 (1009) AY779561
 =====

PK1: -13.545000(kcal/mol): PK_start=1344 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1372
 (fs_start=1364)

A
 GAAGGGAAGGACACCAAATGAAAGATTGT
 GACA GAGAATC
 TTTTTAGGG
 GCTAAT

PK2: -20.450000(kcal/mol): PK_start=1349 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1385
 (fs_start=1364)

C
 GAAGGACACCAAATGAAAGATTGTACTAAGAGA
 GATTTTTT A ATCGGA
 TGGCCTTC
 GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1372 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1406
 (fs_start=1364)

A
 TACTAAGAGACAGGCTAATTTTTTAGGGAAG
 CCCTTC CGGTCT
 GCCAGGGA
 ACAAAGGAAG

PK4: -26.925000(kcal/mol): PK_start=1379 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1416
 (fs_start=1364)

TCCCACA
 AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT

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                GGACCGGA    AGGAA
                    TCCTTCA
    GAATT
=====
(1010) AY779562
=====
PK1:  -13.555000(kcal/mol): PK_start=1350 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1378
(fs_start=1370)
                    A
GAAGAGAAGGACACCAAATGAAGGATTGT
                GACA    GAGAGTC
                    TTTTATAGGG
    GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1355 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1391
(fs_start=1370)
                    C
GAAGGACACCAAATGAAGGATTGTACTGAGAGA
                GATTTTTT    A    ATCGGA
                    TGGCCTTC
    GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1378 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1412
(fs_start=1370)
                    AAA
TACTGAGAGACAGGCTAATTTTTATAGGGA
                CCCT    TCCGGTCT
                    AGGCCAGGGA
    ACAAGGGG

PK4:  -30.395000(kcal/mol): PK_start=1385 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1448
(fs_start=1370)
                TCCCACAA
AGACAGGCTAATTTTTATAGGAAAATCTGGCCT
                GGACCGGA    GGG
                    CCCCCG
    GAATTTTGTTCAGAGCAGACCAGAGCCAACAG

=====
(1011) AY779563
=====
PK1:  -13.555000(kcal/mol): PK_start=1350 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1378
(fs_start=1370)
                    A
GAAGAGAAGGACACCAAATGAAAGATTGT
                GACA    GAGAGTC
                    TTTTATAGGG
    GCTAAT

```


PK2: -20.46000(kcal/mol): PK_start=1355 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1391
(fs_start=1370)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1378 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1412
(fs_start=1370)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -30.395000(kcal/mol): PK_start=1385 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1448
(fs_start=1370)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCGC
GAATTTTGTTCAGAGCAGACCAGAGCCAACAG

=====
(1012) AY779564
=====

PK1: -13.595000(kcal/mol): PK_start=1344 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1372
(fs_start=1364)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1349 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1385
(fs_start=1364)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1372 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1406
(fs_start=1364)

A
TACTGAAAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1379 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1416
(fs_start=1364)

```
CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT
```

PK4B: -30.395000(kcal/mol): PK_start=1379 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1442
(fs_start=1364)

```
TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG
```

=====
(1013) AY781126
=====

PK1: -13.555000(kcal/mol): PK_start=1272 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1300
(fs_start=1292)

```
A
GAAAGGAAGGACATCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT
```

PK2: -20.460000(kcal/mol): PK_start=1277 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1313
(fs_start=1292)

```
C
GAAGGACATCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC
```

PK3: -26.110000(kcal/mol): PK_start=1300 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1334
(fs_start=1292)

```
A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGGAG
```

PK4: -26.235000(kcal/mol): PK_start=1307 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1344
(fs_start=1292)

```
CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAACTT
```

PK4B: -30.395000(kcal/mol): PK_start=1307 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1370
(fs_start=1292)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAACTTTCCTCAGAGCAGACCAGAGCCAACAG

=====
(1014) AY781127
=====

PK1: -13.555000(kcal/mol): PK_start=1269 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1297
(fs_start=1289)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1310
(fs_start=1289)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1297 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1331
(fs_start=1289)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -28.540000(kcal/mol): PK_start=1304 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1341
(fs_start=1289)

CCAC
AGACAGGCTAATTTTTTAGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1304 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1367
(fs_start=1289)

TCCCACAA
AGACAGGCTAATTTTTTAGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCCTCAGAGCAGACCAGAGCCAACAG

=====
(1015) AY781128
=====

PK1: -15.140000(kcal/mol): PK_start=1260 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1288
(fs_start=1280)

CA
GAAGAGAAGGACACCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -21.980000(kcal/mol): PK_start=1265 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1302
(fs_start=1280)

C
GAAGGACACCAAATGAAAGACTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAAT

PK3: -20.285000(kcal/mol): PK_start=1289 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1322
(fs_start=1280)

AAA
ACTGAAAGACAGGCTAATTTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1295 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1332
(fs_start=1280)

CAAC
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
AAATTT

PK4B: -26.865000(kcal/mol): PK_start=1295 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1358
(fs_start=1280)

TCCAACAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCGC
AAATTTCTTCAGAACAGGCCAGAGCCAACAG

=====
(1016) AY795903
=====

PK1: -10.640000(kcal/mol): PK_start=1255 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1293
(fs_start=1286)

A
TTGGAAATGTGGAAAGGAAGGACACCAA
GTT AGAAAGT

TTTTTTAGG
CACTGAAAGACAGGCTAA
PK2: -21.980000(kcal/mol): PK_start=1271 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1308
(fs_start=1286)

C
GAAGGACACCAAATGAAAGATTGCACTGAAAGA
GATTTTTT AATCGGA
TTGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1294 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1328
(fs_start=1286)

AAA
CACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGA

PK4: -25.490000(kcal/mol): PK_start=1301 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1338
(fs_start=1286)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAACTT

=====
(1017) AY795904
=====

PK1: -13.555000(kcal/mol): PK_start=1278 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1306
(fs_start=1298)

A
GAAAAGAAGGCCACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1283 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1319
(fs_start=1298)

C
GAAGGCCACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1306 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1340
(fs_start=1298)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT

```

                                AGGCCAGGGA
ACAAGGGG
PK4:  -26.235000(kcal/mol): PK_start=1313 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1350
(fs_start=1298)
                                CCAC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAGG    GGAA
                                TCTTCA
GAATTT
PK4B:  -30.395000(kcal/mol): PK_start=1313 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1376
(fs_start=1298)
                                TCCCACAA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT
                                GGACCGGA    GGGG
                                CCCCAC
GAATTTTCTTCAGAGCAGACCAGAGCCGACAG
=====
(1018) AY795905
=====
PK1:  -13.555000(kcal/mol): PK_start=1284 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1312
(fs_start=1304)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                                GACA    GAGAGTC
                                TTTTTAGGG
GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1289 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1325
(fs_start=1304)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                                GATTTTTT    A    ATCGGA
                                TGGCCTTC
GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1312 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1346
(fs_start=1304)
                                AAA
TACTGAGAGACAGGCTAATTTTTTTAGGGA
                                CCCT    TCCGGTCT
                                AGGCCAGGGA
ACAAGGGA
PK4:  -26.715000(kcal/mol): PK_start=1319 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1356
(fs_start=1304)
                                CCAC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAAG    GGAA

```

TCTTCA

GAACTT

=====
(1019) AY795906
=====

PK1: -9.925000(kcal/mol): PK_start=1258 sp=0 s1=3 s2=6 l1=2 l2=7 L3=0 PK_end=1284
(fs_start=1277)

AA

AAAGGAAGGACACCAAATGAAAGACTGT

ACG GAGAGT

TTTTTAGG

AGCTAAT

PK2: -13.410000(kcal/mol): PK_start=1263 sp=0 s1=7 s2=5 l1=3 l2=8 L3=0 PK_end=1297
(fs_start=1277)

CAA

AAGGACACCAAATGAAAGACTGTAATGAGAGG

ATTTTTT AATCG

TTGGCCT

GGGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1285 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1319
(fs_start=1277)

AAA

TAATGAGAGGCAAGCTAATTTTTTAGGGA

CCCT TCCGGTTT

AGGCCAGGGA

ACAAGGGA

PK4: -25.490000(kcal/mol): PK_start=1292 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1329
(fs_start=1277)

CCAC

AGGCAAGCTAATTTTTTAGGAAAATTTGGCCTTC

GGACCGGAAG GGAA

CCTTCA

GAATTT

=====
(1020) AY795907
=====

PK1: -10.640000(kcal/mol): PK_start=1261 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1299
(fs_start=1292)

A

TTGGAAATGTGGAAAGGAAGGACACCAA

GTT AGAAAGT

TTTTTTTAGG

CACTGAGAGACAGGCTAA

PK2: -20.460000(kcal/mol): PK_start=1277 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1313
(fs_start=1292)

C

GAAGGACACCAAATGAAAGATTGCACTGAGAGA

```

          GATTTTTT A ATCGGA
                                TGGCCTTC
GGAGAATC
PK3:  -21.700000(kcal/mol): PK_start=1300 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1334
(fs_start=1292)
          AA
CACTGAGAGACAGGCTAATTTTTTAGGGAG
          CCTTC   CGGTCT
                                GCCGGGAA
AGCAAGGGGAG
PK4:  -25.565000(kcal/mol): PK_start=1307 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1344
(fs_start=1292)
                                CAGC
AGACAGGCTAATTTTTTAGGGAGAATCTGGCCTTC
          GGGCCGGAGG   GGAA
                                TCTTCA
AAACTT
PK4B: -29.725000(kcal/mol): PK_start=1307 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1370
(fs_start=1292)
                                TCCAGCAA
AGACAGGCTAATTTTTTAGGGAGAATCTGGCCT
          GGGCCGGA   GGGG
                                CCCCAC
AAACTTTCTTCAGAGCAGACCAGAGCCAACTG
=====
(1021) AY805330
=====
PK1:  -12.955000(kcal/mol): PK_start=2057 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2085
(fs_start=2077)
          A
GAAAGGAAGGACACCAAATAAAAGATTGT
          GACG   GAGAGTC
                                TTTTTTAGGG
GCTAAT
PK2:  -20.330000(kcal/mol): PK_start=2062 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2099
(fs_start=2077)
          C
GAAGGACACCAAATAAAAGATTGTACTGAGAGG
          GATTTTTT   AATCGGA
                                TTGGCCTTC
GGAAAAT
PK3:  -23.745000(kcal/mol): PK_start=2085 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2119
(fs_start=2077)
          AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA

```


CCCT TCCGGTTT
 AGGCCAGGGA
 ACAAGGGA
 PK4: -25.490000(kcal/mol): PK_start=2092 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2129
 (fs_start=2077)

CCAC
 AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
 GGACCGGAAG GGAA
 CCTTCA
 GAATTT

=====
 (1022) AY818644
 =====

PK1: -13.595000(kcal/mol): PK_start=1509 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1537
 (fs_start=1529)

A
 GAAAGGAAGGACACCACATGAAAGATTGT
 GACA GAAAGTC
 TTTTTAGGG
 GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1514 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1550
 (fs_start=1529)

C
 GAAGGACACCACATGAAAGATTGTACTGAAAGA
 GATTTTTT A ATCGGA
 TGGCCTTC
 GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1537 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1571
 (fs_start=1529)

A
 TACTGAAAGACAGGCTAATTTTTTAGGGAAG
 CCCTTC CGGTCT
 GCCAGGAA
 ACAAAGGAAG

PK4: -26.925000(kcal/mol): PK_start=1544 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1581
 (fs_start=1529)

TCCCACA
 AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
 GGACCGGA AGGAA
 TCCTTCA
 AAACT

=====
 (1023) AY819715
 =====

PK1: -13.555000(kcal/mol): PK_start=1431 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1459
(fs_start=1451)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1436 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1472
(fs_start=1451)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAARGYC

PK3: -26.375000(kcal/mol): PK_start=1459 sp=0 s1=4 s2=7 l1=4 l2=8 L3=0 PK_end=1492
(fs_start=1451)

ARGY
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTC
AGGCCGGGG
ACAAAGGA

PK4: -21.915000(kcal/mol): PK_start=1467 sp=8 s1=7 s2=5 l1=7 l2=6 L3=0 PK_end=1503
(fs_start=1451)

TCCCACA
GACAGGCTAATTTTTTAGGGAARGYCTGGCCT
GGCCGGA AGGAA
TTCTTCA
GGAATT

=====
(1024) AY829203
=====

PK1: -15.100000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
(fs_start=1283)

CA
GAAAGGAAGGCCATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)

C
GAAGGCCATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAGAAT

PK3: -18.840000(kcal/mol): PK_start=1291 sp=0 s1=5 s2=6 l1=2 l2=11 l3=0 PK_end=1325
(fs_start=1283)

AA
CACTGAGAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTTT
GCCAGGAA
AGCAAAGGGAG

PK4: -21.815000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=4 l1=8 l2=6 l3=0 PK_end=1335
(fs_start=1283)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
GGACCGGA GGG
TCCTCA
AAATTT

=====
(1025) AY829204
=====

PK1: -15.585000(kcal/mol): PK_start=1251 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1279
(fs_start=1271)

A
GAAAGGAGGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -21.940000(kcal/mol): PK_start=1256 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1293
(fs_start=1271)

C
GAGGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAAT

PK3: -20.285000(kcal/mol): PK_start=1280 sp=0 s1=3 s2=8 l1=3 l2=9 l3=0 PK_end=1313
(fs_start=1271)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AGCAAGGGG

PK4: -22.215000(kcal/mol): PK_start=1286 sp=7 s1=9 s2=4 l1=6 l2=6 l3=0 PK_end=1323
(fs_start=1271)

CCAGCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGAG GGG
TCCTCA
AAATTT

PK4B: -26.865000(kcal/mol): PK_start=1286 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1349
(fs_start=1271)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTTCCTCAGAGCAGACCAGAACCAACAG

=====
(1026) AY829205
=====

PK1: -15.100000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
(fs_start=1283)

CA
GAAAGGAAGGCCATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)

C
GAAGGCCATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAGAAT

PK3: -18.840000(kcal/mol): PK_start=1291 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1325
(fs_start=1283)

AA
CACTGAGAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTTT
GCCAGGAA
AGCAAAGGGAG

PK4: -21.815000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1335
(fs_start=1283)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
GGACCGGA GGGG
TCCTCA
AAATTT

=====
(1027) AY829206
=====

PK1: -15.100000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
(fs_start=1283)

CA
GAAAGGAAGGCCATCAAATGAAAGACTG
GAC AGAGAGTC

TTTTTTAGGG

GCTAA

PK2: -21.940000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)

C

GAAGGCCATCAAATGAAAGACTGCACTGAGAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAGAAT

PK3: -17.955000(kcal/mol): PK_start=1292 sp=0 s1=4 s2=4 l1=5 l2=10 L3=0 PK_end=1322
(fs_start=1283)

AATTT

ACTGAGAGACAGGCTAATTTTTTTAGGGAG

CCTT CCGG

GGCCCG

AGCAAAGGGA

PK4: -19.625000(kcal/mol): PK_start=1301 sp=10 s1=5 s2=4 l1=8 l2=9 L3=0 PK_end=1335
(fs_start=1283)

TCCAGCAA

CAGGCTAATTTTTTTAGGGAGAATTTGGCCT

CCGGA GGGA

TCCTCA

CGGAAATTT

=====

(1028) AY829207

=====

PK1: -15.585000(kcal/mol): PK_start=1254 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1282
(fs_start=1274)

A

GAAAGGAGGGACACCAAATGAAAGACTGT

GACA GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -21.940000(kcal/mol): PK_start=1259 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1296
(fs_start=1274)

C

GAGGGACACCAAATGAAAGACTGTACTGAGAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1283 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1316
(fs_start=1274)

AAA

ACTGAGAGACAGGCTAATTTTTTTAGGGA

CCT TCCGGTTT

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                                AGGCCAGGAA
          AGCAAGGGG
PK4:  -22.215000(kcal/mol): PK_start=1289 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1326
(fs_start=1274)
                                CCAGCA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTT
                                GGACCGGAG    GGGA
                                TCCTCA
          AAATTT

PK4B:  -26.865000(kcal/mol): PK_start=1289 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1352
(fs_start=1274)
                                TCCAGCAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTT
                                GGACCGGA    GGGG
                                CCCCAC
          AAATTTTCCTCAGAGCAGACCAGAACCAACAG

=====
(1029) AY829208
=====
PK1:  -15.100000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
(fs_start=1283)
                                CA
GAAAGGAAGGCCATCAAATGAAAGACTG
                                GAC    AGAGAGTC
                                TTTTTTAGGG
          GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)
                                C
GAAGGCCATCAAATGAAAGACTGCACTGAGAGA
                                GATTTTTT    AATCGGA
                                TTGGCCTTC
          GGAGAAT

PK3:  -18.840000(kcal/mol): PK_start=1291 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1325
(fs_start=1283)
                                AA
CACTGAGAGACAGGCTAATTTTTTTAGGGAG
                                CCTTC    CGGTTT
                                GCCAGGGA
          AGCAAAGGGAG

PK4:  -21.815000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1335
(fs_start=1283)
                                TCCAGCAA
AGACAGGCTAATTTTTTTAGGGAGAATTTGGCCTT
                                GGACCGGA    GGGA

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                                TCCTCA
                                GAATTT
=====
(1030) AY829209
=====
PK1:  -15.100000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
(fs_start=1283)
                                CA
GAAAGGAAGGCCATCAAATGAAAGACTG
                                GAC   AGAGAGTC
                                TTTTTTAGGG
                                GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)
                                C
GAAGGCCATCAAATGAAAGACTGCACTGAGAGA
                                GATTTTTT   AATCGGA
                                TTGGCCTTC
                                GGAGAAT

PK3:  -18.840000(kcal/mol): PK_start=1291 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1325
(fs_start=1283)
                                AA
CACTGAGAGACAGGCTAATTTTTTAGGGAG
                                CCTTC   CGGTTT
                                GCCAGGAA
                                AGCAAAGGGAG

PK4:  -21.815000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1335
(fs_start=1283)
                                TCCAGCAA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
                                GGACCGGA   GGG
                                TCCTCA
                                AAATTT

=====
(1031) AY829210
=====
PK1:  -15.100000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
(fs_start=1283)
                                CA
GAAAGGAAGGCCATCAAATGAAAGACTG
                                GAC   AGAGAGTC
                                TTTTTTAGGG
                                GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)
                                C
GAAGGCCATCAAATGAAAGACTGCACTGAGAGA

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                GATTTTTT   AATCGGA
                    TTGGCCTTC
GGAGAAT
PK3:  -18.840000(kcal/mol): PK_start=1291 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1325
(fs_start=1283)
                AA
CACTGAGAGACAGGCTAATTTTTTAGGGAG
                CCTTC   CGGTTT
                    GCCAGGAA
AGCAAAGGGAG
PK4:  -21.815000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1335
(fs_start=1283)
                    TCCAGCAA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
                GGACCGGA   GGA
                    TCCTCA
AAATTT

=====
(1032) AY829212
=====
PK1:  -15.100000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
(fs_start=1283)
                CA
GAAAGGAAGGCCATCAAATGAAAGACTG
                GAC   AGAGAGTC
                    TTTTTTAGGG
GCTAA
PK2:  -21.940000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)
                C
GAAGGCCATCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT   AATCGGA
                    TTGGCCTTC
GGAGAAT
PK3:  -18.840000(kcal/mol): PK_start=1291 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1325
(fs_start=1283)
                AA
CACTGAGAGACAGGCTAATTTTTTAGGGAG
                CCTTC   CGGTTT
                    GCCAGGAA
AGCAAAGGGAG
PK4:  -21.815000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1335
(fs_start=1283)
                    TCCAGCAA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT

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                GGACCGGA    GGGA
                    TCCTCA
AAATTT

=====
(1033) AY829214
=====
PK1:  -15.585000(kcal/mol): PK_start=1254 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1282
(fs_start=1274)
                A
GAAAGGAGGGACACCAAATGAAAGACTGT
                GACA    GAGAGTC
                    TTTTATAGGG
                GCTAAT

PK2:  -21.940000(kcal/mol): PK_start=1259 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1296
(fs_start=1274)
                C
GAGGGACACCAAATGAAAGACTGTACTGAGAGA
                GATTTTTT    AATCGGA
                    TTGGCCTTC
                GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1283 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1316
(fs_start=1274)
                AAA
ACTGAGAGACAGGCTAATTTTTATAGGGA
                CCT    TCCGGTTT
                    AGGCCAGGAA
                AGCAAGGGG

PK4:  -22.215000(kcal/mol): PK_start=1289 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1326
(fs_start=1274)
                CCAGCA
AGACAGGCTAATTTTTATAGGAAAATTTGGCCTT
                GGACCGGAG    GGGA
                    TCCTCA
                AAATTT

PK4B:  -26.865000(kcal/mol): PK_start=1289 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1352
(fs_start=1274)
                TCCAGCAA
AGACAGGCTAATTTTTATAGGAAAATTTGGCCT
                GGACCGGA    GGGG
                    CCCCAC
                AAATTTTCCTCAGAGCAGACCAGAACCAACAG

=====
(1034) AY835748
=====

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PK1: -13.555000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2092
(fs_start=2084)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2105
(fs_start=2084)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=2092 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=2126
(fs_start=2084)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=2099 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2136
(fs_start=2084)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=2099 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2162
(fs_start=2084)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCTTCAGAGCAGACCAGAGCCATCAG

=====
(1035) AY835749
=====

PK1: -13.555000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2092
(fs_start=2084)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.46000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2105
(fs_start=2084)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.11000(kcal/mol): PK_start=2092 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=2126
(fs_start=2084)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.71500(kcal/mol): PK_start=2099 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2136
(fs_start=2084)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(1036) AY835750
=====

PK1: -13.55500(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2092
(fs_start=2084)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.46000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2105
(fs_start=2084)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.11000(kcal/mol): PK_start=2092 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=2126
(fs_start=2084)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=2099 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=2136
(fs_start=2084)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(1037) AY835751
=====

PK1: -13.555000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=2092
(fs_start=2084)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=2105
(fs_start=2084)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=2092 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=2126
(fs_start=2084)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=2099 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=2136
(fs_start=2084)

CCAC
AGACAGGCTAATTTTTTAGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=2099 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=2162
(fs_start=2084)

TCCCACAA
AGACAGGCTAATTTTTTAGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCTTCAGAACAGACCAGAGCCATCAG

=====
(1038) AY835752
=====

PK1: -13.555000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2092
(fs_start=2084)

A
GAAAGGAAGGACACCCAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2105
(fs_start=2084)

C
GAAGGACACCCAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=2092 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=2126
(fs_start=2084)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=2099 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2136
(fs_start=2084)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=2099 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2162
(fs_start=2084)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCTTCAGAGCAGACCAGAGCCATCAG

=====
(1039) AY835753
=====

PK1: -13.595000(kcal/mol): PK_start=2079 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2107
(fs_start=2099)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC

```

                TTTT TAGGG
      GCTAAT
PK2:  -20.50000(kcal/mol): PK_start=2084 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2120
(fs_start=2099)
                C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
                GATTTTTT A  ATCGGA
                TGGCCTTC
      GGAAGATC
PK3:  -26.11000(kcal/mol): PK_start=2107 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=2141
(fs_start=2099)
                A
TACTGAAAGACAGGCTAATTTTTTAGGGAAG
                CCCTTC  CGGTCT
                GCCAGGGA
      ACAAGGGAAG
PK4:  -29.02000(kcal/mol): PK_start=2114 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2151
(fs_start=2099)
                CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
                GGACCGGAAG  GGAA
                CCTTCA
      GAATTT

=====
(1040) AY835754
=====
PK1:  -13.55500(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2092
(fs_start=2084)
                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                GACA  GAGAGTC
                TTTT TAGGG
      GCTAAT
PK2:  -20.46000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2105
(fs_start=2084)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT A  ATCGGA
                TGGCCTTC
      GGAAGATC
PK3:  -25.06000(kcal/mol): PK_start=2092 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=2126
(fs_start=2084)
                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                TCCTTC  CGGTCT

```

GCCAGGGA

ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=2099 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2136
(fs_start=2084)

CTAC

AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCTTC

GGACCGGAAG GGAA

TCTTCA

GAATTT

=====
(1041) AY835755
=====

PK1: -13.555000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2092
(fs_start=2084)

A

GAAAGGAAGGACACCAAATGAAAGATTGT

GACA GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2105
(fs_start=2084)

C

GAAGGACACCAAATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAGATC

PK3: -21.780000(kcal/mol): PK_start=2092 sp=0 s1=5 s2=4 l1=5 l2=9 L3=0 PK_end=2123
(fs_start=2084)

GATCT

TACTGAGAGACAGGCTAATTTTTTTAGGGAA

CCCTT CCGG

GGCCCG

ACAAGGGA

PK4: -20.995000(kcal/mol): PK_start=2102 sp=10 s1=7 s2=4 l1=4 l2=9 L3=0 PK_end=2136
(fs_start=2084)

CCAC

CAGGCTAATTTTTTTAGGGAAGATCTGGCCTTC

CCGGAAG GGAA

TCTTCA

CGGGAATTT

=====
(1042) AY835756
=====

PK1: -13.555000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2092
(fs_start=2084)

A

GAAAGGAAGGACACCAAATGAAAGATTGT

```

          GACA      GAGAGTC
                TTTTATAGG
    GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2105
(fs_start=2084)
                C
GAAGGACACCAAATGAAAGATTGTTACTGAGAGA
                GATTTTTT A  ATCGGA
                        TGGCCTTC
    GGAAGATC

PK3:  -26.110000(kcal/mol): PK_start=2092 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=2126
(fs_start=2084)
                A
TACTGAGAGACAGGCTAATTTTTATAGGGAAG
                CCCTTC      CGGTCT
                        GCCAGGGA
    ACAAGGGAAG

PK4:  -26.715000(kcal/mol): PK_start=2099 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2136
(fs_start=2084)
                CCAC
AGACAGGCTAATTTTTATAGGGAAGATCTGGCCTTC
                GGACCGGAAG      GGAA
                        TCTTCA
    GAATTT

=====
(1043) AY835757
=====
PK1:  -10.640000(kcal/mol): PK_start=2053 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=2091
(fs_start=2084)
                A
TTGGAAATGTGGAAAGGAAGGACACCAA
                GTT      AGAAAGT
                        TTTTTTAGG
    CACTGAGAGACAGGCTAA

PK2:  -20.460000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2105
(fs_start=2084)
                C
GAAGGACACCAAATGAAAGATTGTTACTGAGAGA
                GATTTTTT A  ATCGGA
                        TGGCCTTC
    GGAAGATC

PK3:  -25.060000(kcal/mol): PK_start=2092 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=2126
(fs_start=2084)
                A
CACTGAGAGACAGGCTAATTTTTATAGGGAAG

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          TCCTTC   CGGTCT
                GCCAGGGA
          ACAAGGGGAG

PK4:  -26.235000(kcal/mol): PK_start=2099 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2136
(fs_start=2084)
                CTAC
AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCTTC
                GGACCGGAGG   GGAA
                TCTTCA
          GAATTT

PK4B:  -30.395000(kcal/mol): PK_start=2099 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2162
(fs_start=2084)
                TCCTACAA
AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCT
                GGACCGGA   GGGG
                CCCCAC
          GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(1044) AY835758
=====
PK1:  -10.640000(kcal/mol): PK_start=2047 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=2085
(fs_start=2078)
                A
TTGGAAATGTGGAAAGGAAGGACACCAA
                GTT   AGAAAGT
                TTTTTTAGG
          CACTGAGAGACAGGCTAA

PK2:  -20.460000(kcal/mol): PK_start=2063 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2099
(fs_start=2078)
                C
GAAGGACACCAAATGAAAGATTGCACTGAGAGA
                GATTTTTT   A   ATCGGA
                TGGCCTTC
          GGAAGATC

PK3:  -25.060000(kcal/mol): PK_start=2086 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=2120
(fs_start=2078)
                A
CACTGAGAGACAGGCTAATTTTTTTAGGGAAG
                TCCTTC   CGGTCT
                GCCAGGGA
          ACAAGGGGAG

PK4:  -26.235000(kcal/mol): PK_start=2093 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2130
(fs_start=2078)
                CTAC
AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCTTC

```

GGACCGGAGG GGAA
TCTTCA
GAATTT
PK4B: -30.395000(kcal/mol): PK_start=2093 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2156
(fs_start=2078)
TCCTACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCTTCAGAGCAGACCAGAGCCATCAG

=====
(1045) AY835759
=====

PK1: -15.645000(kcal/mol): PK_start=2049 sp=0 s1=3 s2=9 l1=4 l2=16 L3=0 PK_end=2092
(fs_start=2084)
CCAA
GCTGTTGGAAATGTGGAAAGGAAGGACA
TGT TAGAAAGTC
ATTTTTTAGGG
ACTGAGAGACAGGCTA

PK2: -20.460000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2105
(fs_start=2084)
C
GAAGGACACCAACTGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=2092 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2126
(fs_start=2084)
AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGAA

PK4: -25.045000(kcal/mol): PK_start=2099 sp=7 s1=9 s2=5 l1=5 l2=5 L3=0 PK_end=2136
(fs_start=2084)
CCCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT
GGACCGGAA AGGAA
TTCTTCA
GAATT

=====
(1046) AY835760
=====

PK1: -15.645000(kcal/mol): PK_start=2052 sp=0 s1=3 s2=9 l1=4 l2=16 L3=0 PK_end=2095
(fs_start=2087)

CCAA
GCTGTTGGAAATGTGGAAAGGAAGGACA
TGT TAGAAAGTC
ATTTTTTAGGG
ACTGAGAGACAGGCTA

PK2: -20.460000(kcal/mol): PK_start=2072 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2108
(fs_start=2087)

C
GAAGGACACCAACTGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=2095 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2129
(fs_start=2087)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAGGGAA

PK4: -24.695000(kcal/mol): PK_start=2102 sp=7 s1=9 s2=5 l1=5 l2=5 L3=0 PK_end=2139
(fs_start=2087)

CCCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT
GGACCGGAA AGGGA
TTCTTCA
GAATT

=====
(1047) AY835761
=====

PK1: -13.555000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2092
(fs_start=2084)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2105
(fs_start=2084)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=2092 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=2126
(fs_start=2084)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAGGGAA

PK4: -24.695000(kcal/mol): PK_start=2099 sp=7 s1=9 s2=5 l1=5 l2=5 l3=0 PK_end=2136
(fs_start=2084)

CCCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT
GGACCGGAA AGGGA
TTCTTCA
GAATT

=====
(1048) AY835762
=====

PK1: -13.205000(kcal/mol): PK_start=2071 sp=0 s1=3 s2=7 l1=1 l2=7 l3=0 PK_end=2098
(fs_start=2090)

A
AAAGGAAGGACACCAAATGAAAGAGTGT
ACA GAGAGTC
TTTTTAGGG
GGCTAAT

PK2: -20.460000(kcal/mol): PK_start=2075 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=2111
(fs_start=2090)

C
GAAGGACACCAAATGAAAGAGTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=2098 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=2132
(fs_start=2090)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGAA
ACAAGGGAAG

PK4: -29.020000(kcal/mol): PK_start=2105 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=2142
(fs_start=2090)

CTAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
AAACTT

=====
(1049) AY835763
=====

PK1: -13.555000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2092
(fs_start=2084)

A
GAAGGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2105
(fs_start=2084)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=2092 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2126
(fs_start=2084)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGAA
ACAAGGGA

PK4: -29.020000(kcal/mol): PK_start=2099 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2136
(fs_start=2084)

CCAC
AGACAGGCTAATTTTTTAGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
AAATTT

=====
(1050) AY835764
=====

PK1: -13.555000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2092
(fs_start=2084)

A
GAAGGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2105
(fs_start=2084)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA

```

                                TGGCCTTC
                                GGAAGATC
PK3:  -25.060000(kcal/mol): PK_start=2092 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=2126
(fs_start=2084)
                                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                                TCCTTC   CGGTCT
                                GCCAGGAA
                                CCAAGGGAAG

PK4:  -29.020000(kcal/mol): PK_start=2099 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=2136
(fs_start=2084)
                                CTCC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
                                GGACCGGAAG   GGAA
                                CCTTCA
                                AAATTT

=====
(1051) AY835765
=====
PK1:  -10.725000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=2092
(fs_start=2084)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                                GACA   GAGAGTT
                                TTTTTAGGG
                                GCTAAT

PK2:  -18.430000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=2105
(fs_start=2084)
                                C
GAAGGACACCAAATGAAAGATTGTATTGAGAGA
                                GATTTTTT   A   ATCGGA
                                TGGCCTTC
                                GGAAGATC

PK3:  -25.060000(kcal/mol): PK_start=2092 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=2126
(fs_start=2084)
                                A
TATTGAGAGACAGGCTAATTTTTTAGGGAAG
                                TCCTTC   CGGTCT
                                GCCAGGGA
                                ACAAGGGAAG

PK4:  -26.715000(kcal/mol): PK_start=2099 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=2136
(fs_start=2084)
                                CTAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
                                GGACCGGAAG   GGAA

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                                TCTTCA
                                GAATTT
=====
(1052) AY835766
=====
PK1:  -13.555000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2092
(fs_start=2084)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                                GACA   GAGAGTC
                                TTTTtaggg
                                GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2105
(fs_start=2084)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                                GATTTTTT A  ATCGGA
                                TGGCCTTC
                                GGAAGATC
PK3:  -26.110000(kcal/mol): PK_start=2092 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=2126
(fs_start=2084)
                                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                                CCCTTC   CGGTCT
                                GCCAGGGA
                                ACAAGGGAAG
PK4:  -26.715000(kcal/mol): PK_start=2099 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2136
(fs_start=2084)
                                CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
                                GGACCGGAAG   GGAA
                                TCTTCA
                                GAATTT
=====
(1053) AY835767
=====
PK1:  -13.555000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2092
(fs_start=2084)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                                GACA   GAGAGTC
                                TTTTtaggg
                                GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2105
(fs_start=2084)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA

```

GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=2092 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2126
(fs_start=2084)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -29.020000(kcal/mol): PK_start=2099 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2136
(fs_start=2084)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAAG GGAA
CCTTCA
GAACTT

=====
(1054) AY835768
=====

PK1: -13.555000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2092
(fs_start=2084)

A
GAAAGGAAGGACATCAAATGAAAGATTGT

GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2105
(fs_start=2084)

C
GAAGGACATCAAATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=2092 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=2126
(fs_start=2084)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG

CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -29.020000(kcal/mol): PK_start=2099 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2136
(fs_start=2084)

CCAC
AGACAGGCTAATTTTTTAGGGAAAGATCTGGCCTTC


```

                GGACCGGAAG    GGAA
                                CCTTCA
        GAACTT
=====
(1055) AY835769
=====
PK1:  -13.555000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2092
(fs_start=2084)
                                A
        GAAAGGAAGGACACCAAATGAAAGATTGT
                GACA    GAGAGTC
                                TTTTtaggg
        GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2105
(fs_start=2084)
                                C
        GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT  A  ATCGGA
                                TGGCCTTC
        GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=2092 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2126
(fs_start=2084)
                                AAA
        TACTGAGAGACAGGCTAATTTTTTAGGGA
                CCCT    TCCGGTCT
                                AGGCCAGGGA
        ACAAGGGA

PK4:  -26.715000(kcal/mol): PK_start=2099 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2136
(fs_start=2084)
                                CCAC
        AGACAGGCTAATTTTTTAGGAAAATCTGGCCTTC
                GGACCGGAAG    GGAA
                                TCTTCA
        GAATTT

=====
(1056) AY835770
=====
PK1:  -13.555000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2092
(fs_start=2084)
                                A
        GAAAGGAAGGACACCAAATGAAAGATTGT
                GACA    GAGAGTC
                                TTTTtaggg
        GCTAAT

```

PK2: -19.08000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=5 l1=2 l2=8 L3=1 PK_end=2104
(fs_start=2084)

CA
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGG
TGCCCT
GGAAAATC

PK3: -24.73000(kcal/mol): PK_start=2092 sp=0 s1=4 s2=7 l1=3 l2=9 L3=1 PK_end=2125
(fs_start=2084)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT C CCGTCT
GGCCAGGGA
ACAAGGGAA

PK4: -23.19000(kcal/mol): PK_start=2099 sp=7 s1=7 s2=6 l1=8 l2=4 L3=0 PK_end=2136
(fs_start=2084)

CTCCACA
AGACAGGCTAATTTTTTAGGAAAATCTGGCC
GGACCGG AAGGGA
TTTCTTCA
GAAT

=====
(1057) AY835771
=====

PK1: -13.55500(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2092
(fs_start=2084)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -19.08000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=5 l1=2 l2=8 L3=1 PK_end=2104
(fs_start=2084)

CA
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGG
TGCCCT
GGAAAATC

PK3: -24.73000(kcal/mol): PK_start=2092 sp=0 s1=4 s2=7 l1=3 l2=9 L3=1 PK_end=2125
(fs_start=2084)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT C CCGTCT
GGCCAGGGA
ACAAGGGAA

PK4: -23.190000(kcal/mol): PK_start=2099 sp=7 s1=7 s2=6 l1=8 l2=4 L3=0 PK_end=2136
(fs_start=2084)

CTCCCACA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCC
GGACCGG AAGGGA
TTTCTTCA
GAAT

=====
(1058) AY835772
=====

PK1: -13.555000(kcal/mol): PK_start=2070 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2098
(fs_start=2090)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -19.080000(kcal/mol): PK_start=2075 sp=0 s1=8 s2=5 l1=2 l2=8 L3=1 PK_end=2110
(fs_start=2090)

CA
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGG
TGGCCCT
GGAAAATC

PK3: -24.730000(kcal/mol): PK_start=2098 sp=0 s1=4 s2=7 l1=3 l2=9 L3=1 PK_end=2131
(fs_start=2090)

AAA
TACTGAGAGACAGGCTAATTTTTTTAGGGA
CCCT C CCGGTCT
GGCCAGGGA
ACAAGGGAA

PK4: -23.190000(kcal/mol): PK_start=2105 sp=7 s1=7 s2=6 l1=8 l2=4 L3=0 PK_end=2142
(fs_start=2090)

CTCCCACA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCC
GGACCGG AAGGGA
TTTCTTCA
GAAT

=====
(1059) AY835773
=====

PK1: -13.555000(kcal/mol): PK_start=2085 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2113
(fs_start=2105)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC

```

                TTTTtaggg
      GCTAAT
PK2:  -19.080000(kcal/mol): PK_start=2090 sp=0 s1=8 s2=5 l1=2 l2=8 L3=1 PK_end=2125
(fs_start=2105)
                CA
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT A ATCGG
                TGGCCCT
      GGAAAATC
PK3:  -24.730000(kcal/mol): PK_start=2113 sp=0 s1=4 s2=7 l1=3 l2=9 L3=1 PK_end=2146
(fs_start=2105)
                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                CCCT C CCGGTCT
                GGCCAGGGA
      ACAAGGGAA
PK4:  -23.190000(kcal/mol): PK_start=2120 sp=7 s1=7 s2=6 l1=8 l2=4 L3=0 PK_end=2157
(fs_start=2105)
                CTCCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCC
                GGACCGG AAGGGA
                TTTCTTCA
      GAAT

=====
(1060) AY835774
=====
PK1:  -13.555000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2092
(fs_start=2084)
                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                GACA GAGAGTC
                TTTTtaggg
      GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2105
(fs_start=2084)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT A ATCGGA
                TGGCCTTC
      GGAAGATC
PK3:  -26.110000(kcal/mol): PK_start=2092 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=2126
(fs_start=2084)
                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                CCCTTC CCGTCT

```

GCCAGGGA

ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=2099 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2136
(fs_start=2084)

CCAC

AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCTTC

GGACCGGAAG GGAA

TCTTCA

GAATTT

=====
(1061) AY835775
=====

PK1: -10.725000(kcal/mol): PK_start=2058 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2086
(fs_start=2078)

A

GAAAGGAAGGACACCAGATGAAAGATTGT

GACA GAGAGTT

TTTTTAGGG

GCTAAT

PK2: -18.430000(kcal/mol): PK_start=2063 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2099
(fs_start=2078)

C

GAAGGACACCAGATGAAAGATTGTATTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=2086 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=2120
(fs_start=2078)

A

TATTGAGAGACAGGCTAATTTTTTTAGGGAAG

TCCTTC CGGTCT

GCCAGGGA

ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=2093 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2130
(fs_start=2078)

CTAC

AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCTTC

GGACCGGAAG GGAA

TCTTCA

GAATTT

=====
(1062) AY835776
=====

PK1: -10.640000(kcal/mol): PK_start=2053 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=2091
(fs_start=2084)

A

TTGGAAATGTGGAAAAGAAGGACACCAA

```

          GTT   AGAAAGT
                TTTTTTAGG
          CACTGAGAGACAGGCTAA

PK2:  -20.460000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2105
(fs_start=2084)
                C
GAAGGACACCAAATGAAAGATTGCACTGAGAGA
                GATTTTTT A  ATCGGA
                                TGGCCTTC
          GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=2092 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2126
(fs_start=2084)
                AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTCT
                                AGGCCAGGGA
          ACAAGGGA

PK4:  -26.715000(kcal/mol): PK_start=2099 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2136
(fs_start=2084)
                CCAC
AGACAGGCTAATTTTTTAGGAAAATCTGGCCTTC
                GGACCGGAAG   GGAA
                                TCTTCA
          GAATTT

=====
(1063) AY835777
=====
PK1:  -13.555000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2092
(fs_start=2084)
                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                GACA   GAGAGTC
                                TTTTTTAGGG
          GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2105
(fs_start=2084)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT A  ATCGGA
                                TGGCCTTC
          GGAAGATC

PK3:  -26.110000(kcal/mol): PK_start=2092 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=2126
(fs_start=2084)
                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG

```

```

                CCCTTC   CGGTCT
                                GCCAGGGA
        ACAAAGGAAG
PK4:  -24.115000(kcal/mol): PK_start=2099 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2136
(fs_start=2084)
                                TCCCACA
AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCT
                GGACCGGA   AGGAA
                                TTCTTCA
        GAATT

```

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=====
(1064) AY835778
=====

```

```

PK1:  -13.555000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2092
(fs_start=2084)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                GACA   GAGAGTC
                                TTTTTAGGG
        GCTAAT

```

```

PK2:  -20.460000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2105
(fs_start=2084)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT   A   ATCGGA
                                TGGCCTTC
        GGAAGATC

```

```

PK3:  -26.110000(kcal/mol): PK_start=2092 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=2126
(fs_start=2084)
                                A
TACTGAGAGACAGGCTAATTTTTTTAGGGAAG
                CCCTTC   CGGTCT
                                GCCAGGGA
        ACAAGGGAAG

```

```

PK4:  -24.995000(kcal/mol): PK_start=2099 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=2136
(fs_start=2084)
                                TCCCACAA
AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCT
                GGACCGGA   AGGG
                                TCTCCA
        GAACTT

```

```

=====
(1065) AY835779
=====

```

PK1: -11.015000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=2091
(fs_start=2084)

AA
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAAAGT
TTTTTAGG
GCTAAT

PK2: -18.220000(kcal/mol): PK_start=2070 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=2105
(fs_start=2084)

C
AAGGACACCAAATGAAAGATTGTAATGAAAGA
ATTTTTT A ATCGGA
TGGCCTTC
GGGAAAATC

PK3: -27.275000(kcal/mol): PK_start=2092 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2126
(fs_start=2084)

AAA
TAATGAAAGACAGGCTAATTTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGAA

PK4: -25.045000(kcal/mol): PK_start=2099 sp=7 s1=9 s2=5 l1=5 l2=5 L3=0 PK_end=2136
(fs_start=2084)

CCCAC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTT
GGACCGGAA AGGAA
TTCTTCA
GAATT

=====
(1066) AY835780
=====

PK1: -13.555000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2092
(fs_start=2084)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2105
(fs_start=2084)

C
GAAGGACACCAAATGAAAGATTGTAAGGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=2092 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2126
(fs_start=2084)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGAA

PK4: -24.130000(kcal/mol): PK_start=2099 sp=7 s1=9 s2=6 l1=3 l2=3 L3=1 PK_end=2134
(fs_start=2084)

CCC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT
GGACCGGAA A GGAACA
TTTTGTTC
GAA

=====
(1067) AY835781
=====

PK1: -13.555000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2092
(fs_start=2084)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2105
(fs_start=2084)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -21.780000(kcal/mol): PK_start=2092 sp=0 s1=5 s2=4 l1=5 l2=9 L3=0 PK_end=2123
(fs_start=2084)

GATCT
TACTGAGAGACAGGCTAATTTTTTAGGGAA
CCCTT CCGG
GGCCCG
ACAAGGGAA

PK4: -20.995000(kcal/mol): PK_start=2102 sp=10 s1=7 s2=4 l1=4 l2=9 L3=0 PK_end=2136
(fs_start=2084)

CCAC
CAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
CCGGAAG GGAA
TCTTCA
CGGGAATTT

=====
(1068) AY838566
=====

PK1: -14.985000(kcal/mol): PK_start=1493 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1521
(fs_start=1513)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1498 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1535
(fs_start=1513)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAAT

PK3: -23.745000(kcal/mol): PK_start=1521 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1555
(fs_start=1513)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -23.985000(kcal/mol): PK_start=1528 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1566
(fs_start=1513)

TCCCACAA
AGGCAGGCTAATTTTTTAGGAAAATTTGGCCT
GGACCGGA GGGG
CTCCAG
GAATTTT

=====
(1069) AY838567
=====

PK1: -11.855000(kcal/mol): PK_start=1490 sp=0 s1=4 s2=6 l1=2 l2=5 L3=0 PK_end=1516
(fs_start=1510)

AC
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGA
TTTTTTAG
GCTAA

PK2: -18.070000(kcal/mol): PK_start=1496 sp=0 s1=6 s2=7 l1=2 l2=9 L3=0 PK_end=1532
(fs_start=1510)

GC
AAGGACACCAAATGAAAGACTGTACAGAGAG
TTTTTT AATCGGA

```

                TTGGCCTTC
      AGGGAAGAT

PK3:  -22.580000(kcal/mol): PK_start=1518 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1552
(fs_start=1510)
                A
TACAGAGAGGCAGGCTAATTTTTTAGGGAAG
                CCCTTC      CGGTTT
                        GCCAGGGA
      AGAAGGGGAG

PK4:  -26.855000(kcal/mol): PK_start=1525 sp=7 s1=11 s2=4 l1=2 l2=7 l3=0 PK_end=1563
(fs_start=1510)
                CA
AGGCAGGCTAATTTTTTAGGGAAGATTGGCCTTCC
                GGACCGGAGGG      GAAG
                        TTCAG
      GAATTTTC

PK4B:  -26.865000(kcal/mol): PK_start=1525 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=1588
(fs_start=1510)
                TCCCAGAA
AGGCAGGCTAATTTTTTAGGGAAGATTGGCCT
                GGACCGGA      GGGG
                        CCCCAC
      GAATTTCTTTCAGAACGGATTAGAGCCAACAG

=====
(1070) AY838568
=====
PK1:  -12.955000(kcal/mol): PK_start=1474 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1502
(fs_start=1494)
                A
GAAAAGAAGGACACCAAATGAAAGATTGT
                GACG      GAGAGTC
                        TTTTtaggg
      GCTAAT

PK2:  -20.330000(kcal/mol): PK_start=1479 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1516
(fs_start=1494)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
                GATTTTTT      AATCGGA
                        TTGGCCTTC
      GGAAAAT

PK3:  -23.745000(kcal/mol): PK_start=1502 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=1536
(fs_start=1494)
                AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
                CCCT      TCCGGTTT

```

AGGCCAGGGA

ACAAGGGG

PK4: -26.865000(kcal/mol): PK_start=1509 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1572
(fs_start=1494)

TCCCACAA

AGGCAGGCTAATTTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG

CCCCAC

GAATTTTCATTCAGAGCAGGCCAGAGCCGACAG

=====
(1071) AY839827
=====

PK1: -11.015000(kcal/mol): PK_start=1782 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=1809
(fs_start=1802)

AA

GACAGGAGGGACACCAAATGAAAGATTGT

GACA GAAAGT

TTTTTAGG

GCTAAT

PK2: -18.220000(kcal/mol): PK_start=1788 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1823
(fs_start=1802)

C

AGGGACACCAAATGAAAGATTGTAATGAAAGA

ATTTTTT A ATCGGA

TGGCCTTC

GGGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1810 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1844
(fs_start=1802)

AAA

TAATGAAAGACAGGCTAATTTTTTTAGGGA

CCCT TCCGGTCT

AGGCCAGGGA

ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1817 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1854
(fs_start=1802)

CCAC

AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAAG GGAA

TCTTCA

GAACTT

=====
(1072) AY857022
=====

PK1: -10.975000(kcal/mol): PK_start=1402 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=1429
(fs_start=1422)

GA

GAAAGGAAGGACACCAAATGAAAGATTGT

```

          GACA   GAGAGT
                TTTTTAGG
      GCTAAT
PK2:  -18.180000(kcal/mol): PK_start=1408 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1443
(fs_start=1422)
                C
AAGGACACCAAATGAAAGATTGTGATGAGAGA
                A   ATCGGA
                TGGCCTTC
      GGAAGATC
PK3:  -26.110000(kcal/mol): PK_start=1430 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1464
(fs_start=1422)
                A
TGATGAGAGACAGGCTAATTTTTTAGGGAAG
                CCCTTC   CGGTCT
                GCCAGGAA
      ACAAGGGGAG
PK4:  -28.605000(kcal/mol): PK_start=1437 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1474
(fs_start=1422)
                TCCCACA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
                GGACCGGA   GGGGA
                TCCCTCA
      AAATT
PK4B:  -28.695000(kcal/mol): PK_start=1437 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1500
(fs_start=1422)
                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
                GGACCGGA   GGGG
                CCCRC
      AAATTTCCCTCAGAGCAGACCAGAGCCAACAG

=====
(1073) AY857144
=====
PK1:  -12.640000(kcal/mol): PK_start=1306 sp=0 s1=3 s2=7 l1=4 l2=18 L3=0 PK_end=1347
(fs_start=1340)
                CAAA
CTGTTGAAATGTGGRAAAGAAGGACAC
                GTG   AGAAAGT
                TTTTTTAGG
      CACTGAGAGACAGGCTAA
PK2:  -20.460000(kcal/mol): PK_start=1325 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1361
(fs_start=1340)
                C
GAAGGACACCAAATGAAAGAGTGCCTGAGAGA

```

GATTTTTT A ATCGGA
 TGGCCTTC
 GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1348 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1382
 (fs_start=1340)

A
 CACTGAGAGACAGGCTAATTTTTTAGGGAAG
 CCCTTC CGGTCT
 GCCAGGGA
 ACAGGGGAAG

PK4: -26.365000(kcal/mol): PK_start=1355 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1392
 (fs_start=1340)

CCAC
 AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
 GGACCGGAAG GGGA
 TCTTCA
 GAACTT

PK4B: -31.325000(kcal/mol): PK_start=1355 sp=7 s1=9 s2=4 l1=6 l2=32 L3=0 PK_end=1418
 (fs_start=1340)

CCCACA
 AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTT
 GGACCGGAA GGGG
 CCCCAC
 GAACTTCTTCAGAGCAGACCAGAGCCATCAG

=====
 (1074) AY857165
 =====

PK1: -10.440000(kcal/mol): PK_start=1349 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1387
 (fs_start=1380)

A
 TTGGAAATGTGGAGAGGAAGGACATCAA
 GTT AGAAAGT
 TTTTTTAGG
 CACTAAGAGACAGGCTAW

PK2: -20.450000(kcal/mol): PK_start=1365 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1401
 (fs_start=1380)

C
 GAAGGACATCAAATGAAAGATTGCACTAAGAGA
 GATTTTTT W ATCGGA
 TGGCCTTC
 GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1388 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1422
 (fs_start=1380)

A
 CACTAAGAGACAGGCTAWTTTTTAGGGAAG

CCCTTC CGGTCT
GCCAGGGA
ACAAGGAAAG
PK4: -24.715000(kcal/mol): PK_start=1395 sp=7 s1=9 s2=4 l1=6 l2=5 L3=0 PK_end=1431
(fs_start=1380)

CCCACA
AGACAGGCTAWTTTTTTAGGGAAGATCTGGCCTT
GGACCGGAA AGGA
TTCTGC
GAATT

=====
(1075) AY878054
=====

PK1: -15.585000(kcal/mol): PK_start=1487 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1515
(fs_start=1507)

A
GAAAAGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1492 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1528
(fs_start=1507)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1515 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1549
(fs_start=1507)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -28.540000(kcal/mol): PK_start=1522 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1559
(fs_start=1507)

CCAC
AGACAGGCTAATTTTTTAGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1522 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1585
(fs_start=1507)

TCCCACAA
AGACAGGCTAATTTTTTAGGAAAATCTGGCCT

GGACCGGA GGGG
CCCCAC
GAATTCCTTCAGAACAGACCAGAGCCAACAG

=====
(1076) AY878055
=====

PK1: -14.985000(kcal/mol): PK_start=1486 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1514
(fs_start=1506)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1491 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1528
(fs_start=1506)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1515 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1548
(fs_start=1506)

AAA
ACTGAGAGGCAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AGCAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1521 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1558
(fs_start=1506)

CAGC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1521 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1584
(fs_start=1506)

TCCAGCAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTCCTTCAGAACCGACCAGAGCCAACAG

=====
(1077) AY878056
=====

PK1: -15.585000(kcal/mol): PK_start=1487 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1515 (fs_start=1507)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -21.940000(kcal/mol): PK_start=1492 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1529 (fs_start=1507)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1515 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1549 (fs_start=1507)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGAA
ACAAGGGG

PK4: -25.315000(kcal/mol): PK_start=1522 sp=7 s1=11 s2=4 l1=2 l2=6 L3=0 PK_end=1559 (fs_start=1507)

CA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTCC
GGACCGGAGGG GAAC
TTTGCA
AAATTT

PK4B: -26.865000(kcal/mol): PK_start=1522 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1585 (fs_start=1507)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTTTTGCAGAACAGACCAGAGCCAACAG

=====
(1078) AY878057
=====

PK1: -12.955000(kcal/mol): PK_start=1486 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1514 (fs_start=1506)

A
GGAAGGAAGGACACCAGATGAAAGATTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1491 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1528
(fs_start=1506)

C
GAAGGACACCAGATGAAAGATTGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAAT

PK3: -23.745000(kcal/mol): PK_start=1514 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1548
(fs_start=1506)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1521 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1558
(fs_start=1506)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1521 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1584
(fs_start=1506)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCCTTCAGAACAGACCAGAGCCAACAG

=====
(1079) AY878058
=====

PK1: -15.025000(kcal/mol): PK_start=1498 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1526
(fs_start=1518)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.370000(kcal/mol): PK_start=1503 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1540
(fs_start=1518)

C
GAAGGACACCAAATGAAAGACTGTACTGAAAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAAT

PK3: -20.285000(kcal/mol): PK_start=1527 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1560
(fs_start=1518)

AAA
ACTGAAAGGCAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AGCAAGGGG

PK4: -22.705000(kcal/mol): PK_start=1533 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1570
(fs_start=1518)

CAGC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1533 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1596
(fs_start=1518)

TCCAGCAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAT
GAATTTTCTTCAGAACAGAACAGAGCCAACAG

=====
(1080) AY878059
=====

PK1: -14.985000(kcal/mol): PK_start=1487 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1515
(fs_start=1507)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1492 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1529
(fs_start=1507)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1515 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1549
(fs_start=1507)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
GCAAGGGG

PK4: -25.075000(kcal/mol): PK_start=1522 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1559
(fs_start=1507)

```
TCCCGCA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
      GGACCGGA   GGGGA
                    TCCCTCA
      GAATT
```

PK4B: -26.865000(kcal/mol): PK_start=1522 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1585
(fs_start=1507)

```
TCCCGCAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
      GGACCGGA   GGGG
                    CCCCAC
      GAATTTCCCTCAGAACAGACCAGAGCCAACAG
```

=====
(1081) AY878060
=====

PK1: -13.555000(kcal/mol): PK_start=1487 sp=0 s1=4 s2=7 l1=4 l2=6 L3=0 PK_end=1518
(fs_start=1510)

```
      ACTA
GAAAGGAAGGACACCAAATGAAAGATTGT
      GACA   GAGAGTC
                    TTTTtaggg
      GCTAAT
```

PK2: -21.940000(kcal/mol): PK_start=1495 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1532
(fs_start=1510)

```
      C
GGACACCAAATGAAAGATTGTACTACTGAGAGA
      GATTTTTT   AATCGGA
                    TTGGCCTTC
      GGAAAAT
```

PK3: -23.585000(kcal/mol): PK_start=1518 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1552
(fs_start=1510)

```
      AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
      CCCT   TCCGGTTT
                    GGGCCAGGGA
      ACAAGGGG
```

PK4: -20.995000(kcal/mol): PK_start=1525 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1562
(fs_start=1510)

```
      CCAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
      GGACCGGGG   GGAA
                    TCTTCA
      GAATTT
```

PK4B: -26.485000(kcal/mol): PK_start=1525 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1588
(fs_start=1510)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGG GGGG
CCCCAC
GAATTTTCTTCAGAGCAGGCCAGAGCCAACAG

=====
(1082) AY878061
=====

PK1: -14.985000(kcal/mol): PK_start=1486 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1514
(fs_start=1506)

A
GCAAGGAGGGACATCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCGAAT

PK2: -13.865000(kcal/mol): PK_start=1491 sp=0 s1=7 s2=5 l1=5 l2=5 L3=0 PK_end=1524
(fs_start=1506)

GCAGG
GAGGGACATCAAATGAAAGACTGTACTGAGAG
GATTTTT TAAGC
ATTTGGC
GGAAA

PK3: -22.025000(kcal/mol): PK_start=1514 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1548
(fs_start=1506)

AAA
TACTGAGAGGCAGGCGAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCGGGAA
ACAAGGGG

PK4: -25.625000(kcal/mol): PK_start=1521 sp=7 s1=8 s2=5 l1=7 l2=32 L3=0 PK_end=1585
(fs_start=1506)

TCCCACA
AGGCAGGCGAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA GGGGA
CCCCTCT
AAATTTTCATCCAGAGCAGACCAGAACCGACAG

=====
(1083) AY878062
=====

PK1: -15.625000(kcal/mol): PK_start=1487 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1515
(fs_start=1507)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAAAGTC

```

                TTTT TAGGG
      GCTAAT
PK2:  -20.50000(kcal/mol): PK_start=1492 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1528
(fs_start=1507)
                C
GAAGGACACCAAATGAAAGACTGTACTGAAAGA
                GATTTTTT A ATCGGA
                TGGCCTTC
      GGAAAATC
PK3:  -27.27500(kcal/mol): PK_start=1515 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1549
(fs_start=1507)
                AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTCT
                AGGCCAGGGA
      AGAAGGGG
PK4:  -32.49000(kcal/mol): PK_start=1522 sp=7 s1=11 s2=4 l1=2 l2=7 L3=0 PK_end=1560
(fs_start=1507)
                CA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTCC
                GGACCGGAGGG   GAAG
                CTTCGG
      GAATTTTC
PK4B: -30.39500(kcal/mol): PK_start=1522 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1585
(fs_start=1507)
                TCCCAGAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                GGACCGGA   GGGG
                CCCCAC
      GAATTTCTTCGGAACAGACCAGAGCCAACAG

=====
(1084) AY878063
=====
PK1:  -12.95500(kcal/mol): PK_start=1482 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1510
(fs_start=1502)
                A
GGGGCGAAGGACATCAAATGAAAGATTGT
                GACG   GAGAGTC
                TTTT TAGGG
      GCTAAT
PK2:  -18.72000(kcal/mol): PK_start=1487 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1523
(fs_start=1502)
                C
GAAGGACATCAAATGAAAGATTGTACTGAGAGG
                GATTTTTT A ATCGGA

```

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                                TGGCCTTC
          GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1510 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1544
(fs_start=1502)
                                AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTCT
                                AGGCCAGGGA
          ACAAGGGA
PK4:  -29.020000(kcal/mol): PK_start=1517 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1554
(fs_start=1502)
                                CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAAG   GGAA
                                CCTTCA
          GAATTT
=====
(1085) AY878064
=====
PK1:  -12.445000(kcal/mol): PK_start=1485 sp=0 s1=4 s2=6 l1=5 l2=6 L3=0 PK_end=1515
(fs_start=1508)
                                ACTAA
GAAAGGAAGGACACCAAATGAAAGACTGT
                                GACG   GAAAGT
                                TTTTTAGG
          GCTAAT
PK2:  -18.090000(kcal/mol): PK_start=1494 sp=0 s1=7 s2=7 l1=1 l2=8 L3=0 PK_end=1530
(fs_start=1508)
                                C
GACACCAAATGAAAGACTGTACTAATGAAAGG
                                ATTTTTT   AATCGGA
                                TTGGCCTTC
          GGGAAAAT
PK3:  -23.745000(kcal/mol): PK_start=1516 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1550
(fs_start=1508)
                                AAA
TAATGAAAGGCAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTTT
                                AGGCCAGGGA
          ACAAGGGG
PK4:  -25.010000(kcal/mol): PK_start=1523 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1560
(fs_start=1508)
                                CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
                                GGACCGGAGG   GGAA

```

CCTTCA

GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1523 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1586
(fs_start=1508)

TCCCACAA

AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG

CCCCAC

GAATTTCC TTCAGAGCAGACCAGAGCCAACAG

=====
(1086) AY878065
=====

PK1: -12.455000(kcal/mol): PK_start=1436 sp=0 s1=4 s2=6 l1=2 l2=5 L3=0 PK_end=1462
(fs_start=1456)

AC

GAAAAGAAGGACACCAAATGAAAGACTGT

GACA GAGAGA

TTTTTTAG

GCTAA

PK2: -18.660000(kcal/mol): PK_start=1443 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1478
(fs_start=1456)

C

AGGACACCAAATGAAAGACTGTACAGAGAGA

TTTTTT AATCGGA

TTGGCCTTC

AGGGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1465 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1498
(fs_start=1456)

AAA

ACAGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT

AGGCCAGGGA

AACAAGGGA

PK4: -23.185000(kcal/mol): PK_start=1471 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1508
(fs_start=1456)

CAAC

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC

GGACCGGAAG GGAA

TCTTCA

GAACTT

=====
(1087) AY878068
=====

PK1: -15.025000(kcal/mol): PK_start=1495 sp=0 s1=4 s2=7 l1=4 l2=6 L3=0 PK_end=1526
(fs_start=1518)

ACTA

GGAAGGAAGGACACCAAATGAAAGACTGT

GACG GAAAGTC
TTTTTAGGG
GCTAAT
PK2: -20.370000(kcal/mol): PK_start=1503 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1540
(fs_start=1518)

C
GGACACCAAATGAAAGACTGTACTACTGAAAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1526 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1560
(fs_start=1518)

AAA
TACTGAAAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGAA
ACAAGGGG

PK4: -23.985000(kcal/mol): PK_start=1533 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1571
(fs_start=1518)

TCCCACAA
AGGCAGGCTAATTTTTTAGGAAAATTTGGCCT
GGACCGGA GGGG
CTCCAG
AAATTTTC

PK4B: -26.865000(kcal/mol): PK_start=1533 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1596
(fs_start=1518)

TCCCACAA
AGGCAGGCTAATTTTTTAGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTCTCCAGAGCAGACCAGAGCCAACAG

=====
(1088) AY878070
=====

PK1: -13.005000(kcal/mol): PK_start=1487 sp=0 s1=4 s2=6 l1=5 l2=6 L3=0 PK_end=1517
(fs_start=1510)

ACTAA
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGT
TTTTTAGG
GCTAAT

PK2: -18.180000(kcal/mol): PK_start=1496 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1531
(fs_start=1510)

C
GACACCAAATGAAAGACTGTACTAATGAGAGA

```

          ATTTTTT A ATCGGA
                    TGGCCTTC
GGGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1518 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1552
(fs_start=1510)
                    AAA
TAATGAGAGACAGGCTAATTTTTTTAGGGA
                    CCCT   TCCGGTCT
                    AGGCCAGGGA
ACAAGGGG
PK4:  -26.235000(kcal/mol): PK_start=1525 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1562
(fs_start=1510)
                    CCAC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
                    GGACCGGAGG   GGAA
                    TCTTCA
GAATTT
PK4B: -30.395000(kcal/mol): PK_start=1525 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1588
(fs_start=1510)
                    TCCCACAA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT
                    GGACCGGA   GGGG
                    CCCCAC
GAATTTTCTTCAGAGCAGACCAGAGCCATCAG
=====
(1089) AY878071
=====
PK1:  -12.155000(kcal/mol): PK_start=1486 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1514
(fs_start=1506)
                    A
GAAAGGAGGGACACCAAATGAAAGACTGT
                    GACG   GAGAGTT
                    TTTTTAGGG
GCTAAT
PK2:  -18.300000(kcal/mol): PK_start=1491 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1528
(fs_start=1506)
                    C
GAGGGACACCAAATGAAAGACTGTATTGAGAGG
                    GATTTTTT   AATCGGA
                    TTGGCCTTC
GGAAACT
PK3:  -26.955000(kcal/mol): PK_start=1514 sp=0 s1=4 s2=9 l1=2 l2=8 L3=0 PK_end=1549
(fs_start=1506)
                    AA
TATTGAGAGGCAGGCTAATTTTTTTAGGGA

```

```

          CCCT   TCCGGTTTC
                AGGCCAGGGAA
    ACAAGGGG

PK4:  -22.865000(kcal/mol): PK_start=1520 sp=6 s1=9 s2=4 l1=8 l2=6 L3=0 PK_end=1559
(fs_start=1506)
                TCCCACAA
GAGGCAGGCTAATTTTTTAGGGAACTTTGGCCT
                GGGACCGGA   GGGG
                        CTCAG
                AATTTC

PK4B:  -29.475000(kcal/mol): PK_start=1520 sp=6 s1=9 s2=4 l1=8 l2=31 L3=0 PK_end=1584
(fs_start=1506)
                TCCCACAA
GAGGCAGGCTAATTTTTTAGGGAACTTTGGCCT
                GGGACCGGA   GGGG
                        CCCCAC
                AATTTCTTCAGAACAGACCAGAGCCAACAG

=====
(1090) AY878072
=====

PK1:  -15.025000(kcal/mol): PK_start=1487 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1515
(fs_start=1507)
                A
GAAAGGAAGGACACCAGATGAAGGACTGT
                GACG   GAAAGTC
                        TTTTTAGGG
                GCTAAT

PK2:  -20.370000(kcal/mol): PK_start=1492 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1529
(fs_start=1507)
                C
GAAGGACACCAGATGAAGGACTGTACTGAAAGG
                GATTTTTT   AATCGGA
                        TTGGCCTTC
                GGAGAAT

PK3:  -18.840000(kcal/mol): PK_start=1515 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1549
(fs_start=1507)
                AA
TACTGAAAGGCAGGCTAATTTTTTAGGGAG
                CCTTC   CGGTTT
                        GCCAGGGA
                CACAAAGGGAG

PK4:  -19.885000(kcal/mol): PK_start=1522 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1559
(fs_start=1507)
                CCCACA
AGGCAGGCTAATTTTTTAGGGAGAATTTGGCCTT

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                GGACCGGAG    GGAA
                    TCTTCA
GAATTT
=====
(1091) AY882421
=====
PK1:  -11.420000(kcal/mol): PK_start=1584 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=1610
(fs_start=1604)
                CACA
GAAAGGAGGGACATCAAATGAAAGACTG
                GAC    AGAGAG
                    TTTTTTAG
                GCTAA

PK2:  -18.660000(kcal/mol): PK_start=1591 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1626
(fs_start=1604)
                C
GGGACATCAAATGAAAGACTGCACAGAGAGA
                TTTTTT    AATCGGA
                    TTGGCCTTC
                AGGGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1613 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1646
(fs_start=1604)
                AAA
ACAGAGAGACAGGCTAATTTTTTAGGGA
                CCT    TCCGGTTT
                    AGGCCAGGGA
                AACAAGGGG

PK4:  -18.485000(kcal/mol): PK_start=1619 sp=7 s1=9 s2=4 l1=6 l2=5 L3=0 PK_end=1655
(fs_start=1604)
                CCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
                GGACCGGAG    GGGA
                    TTCTCC
                GAATT

PK4B:  -26.865000(kcal/mol): PK_start=1619 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1682
(fs_start=1604)
                TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA    GGGG
                    CCCCAC
                GAATTTTCTCCAGAACAGGCCAGCCAACAG

=====
(1092) AY894993
=====

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PK1: -15.10000(kcal/mol): PK_start=1375 sp=0 s1=3 s2=8 l1=5 l2=5 L3=0 PK_end=1406 (fs_start=1398)

CACCA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.94000(kcal/mol): PK_start=1383 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1420 (fs_start=1398)

C
GGACATCAAATGAAAGACTGCACCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.28500(kcal/mol): PK_start=1407 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1440 (fs_start=1398)

AAA
ACTGAGAGACAGGCTAATTTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AACAAGGGG

PK4: -18.48500(kcal/mol): PK_start=1413 sp=7 s1=9 s2=4 l1=6 l2=5 L3=0 PK_end=1449 (fs_start=1398)

CCAACA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTT
GGACCGGAG GGGG
TTCTCC
GAATT

PK4B: -26.86500(kcal/mol): PK_start=1413 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1476 (fs_start=1398)

TCCAACAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCTCCAGAAGAGACCAGAGCCAACAG

=====
(1093) AY894994
=====

PK1: -13.84500(kcal/mol): PK_start=1278 sp=0 s1=3 s2=8 l1=5 l2=16 L3=0 PK_end=1320 (fs_start=1313)

CCAAA
GCTGTTGGAAATGTGGAAAGGAAGGGCA
CGT TAGAAAGT
ATTTTTTAGG
ACTGAAAGACAGGCTA

PK2: -21.980000(kcal/mol): PK_start=1298 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1335
(fs_start=1313)

C
GAAGGGCACCAAATGAAAGATTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1321 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1355
(fs_start=1313)

AAA
CACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGAA
ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1328 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1365
(fs_start=1313)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
AAACTT

PK4B: -26.865000(kcal/mol): PK_start=1328 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1391
(fs_start=1313)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
AAACTTCCTTCAGAGCAGACCAGAGCCAACAG

=====
(1094) AY894995
=====

PK1: -15.100000(kcal/mol): PK_start=1549 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1577
(fs_start=1569)

CA
GGAAGGAAGGACACCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1554 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1591
(fs_start=1569)

C
GAAGGACACCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAARAT

PK3: -18.565000(kcal/mol): PK_start=1578 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1611
(fs_start=1569)

ARA
ACTGAGAGACAGGCTAATTTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGGA
ACAAGGGG

PK4: -25.145000(kcal/mol): PK_start=1584 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1647
(fs_start=1569)

TCCAACAA
AGACAGGCTAATTTTTTTAGGGAARATTTGGCCT
GGGCCGGA GGGG
CCCCAC
GAATTTTCTCCAGAACAGGCCAGAGCCAACAG

=====
(1095) AY900571
=====

PK1: -7.200000(kcal/mol): PK_start=1516 sp=0 s1=3 s2=6 l1=5 l2=5 L3=2 PK_end=1543
(fs_start=1539)

CACAG
GAAAGGATGGACATCAAATGAAAGACTG
GAC AG AGGGAA
TTTTTTAG
GCTAA

PK2: -16.710000(kcal/mol): PK_start=1522 sp=0 s1=6 s2=7 l1=5 l2=9 L3=0 PK_end=1561
(fs_start=1539)

GAGAC
ATGGACATCAAATGAAAGACTGCACAGAAGG
TTTTTT AATCGGA
TTGGCCTC
AGGGAAACT

PK3: -26.955000(kcal/mol): PK_start=1547 sp=0 s1=4 s2=9 l1=2 l2=8 L3=0 PK_end=1582
(fs_start=1539)

AA
AGAAGGGAGACAGGCTAATTTTTTTAGGGA
CCCT TCCGGTTTC
AGGCCAGGGAA
ACAAGGGA

PK4: -25.525000(kcal/mol): PK_start=1553 sp=6 s1=9 s2=5 l1=7 l2=4 L3=0 PK_end=1591
(fs_start=1539)

TCCCACA
GAGACAGGCTAATTTTTTTAGGGAAACTTTGGCCT
GGGACCGGA AGGGA
TTCCTCA
AACT

=====
(1096) AY900572
=====

PK1: -11.420000(kcal/mol): PK_start=1516 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=1542
(fs_start=1536)

CACA
GAAAGGAGGGACATCAAATGAAAGACTG
GAC AGAGAG
TTTTTTAG
GCTAA

PK2: -18.660000(kcal/mol): PK_start=1523 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1558
(fs_start=1536)

C
GGGACATCAAATGAAAGACTGCACAGAGAGA
TTTTTT AATCGGA
TTGGCCTC
AGGGAAACT

PK3: -26.955000(kcal/mol): PK_start=1544 sp=0 s1=4 s2=9 l1=2 l2=8 L3=0 PK_end=1579
(fs_start=1536)

AA
CACAGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTTC
AGGCCAGGGAA
ACAAGGGG

PK4: -24.825000(kcal/mol): PK_start=1550 sp=6 s1=10 s2=4 l1=6 l2=5 L3=0 PK_end=1588
(fs_start=1536)

CCCACA
GAGACAGGCTAATTTTTTAGGGAAACTTTGGCCTT
GGGACCGGAG GGGA
TCCTCA
AATTT

PK4B: -29.475000(kcal/mol): PK_start=1550 sp=6 s1=9 s2=4 l1=8 l2=31 L3=0 PK_end=1614
(fs_start=1536)

TCCCACAA
GAGACAGGCTAATTTTTTAGGGAAACTTTGGCCT
GGGACCGGA GGGG
CCCCAC
AATTTTCCTCAGAACAGGATAGAGCCAACAG

=====
(1097) AY900574
=====

PK1: -11.420000(kcal/mol): PK_start=1516 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=1542
(fs_start=1536)

CACA
GAAAGGAGGGACATCAAATGAAAGACTG
GAC AGAGAG

TTTTTTAG
GCTAA
PK2: -18.660000(kcal/mol): PK_start=1523 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1558
(fs_start=1536)

C
GGGACATCAAATGAAAGACTGCACAGAGAGA
TTTTTT AATCGGA
TTGGCCTTC
AGGGAAACT

PK3: -22.025000(kcal/mol): PK_start=1544 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1578
(fs_start=1536)

AAC
CACAGAGAGACAGGCTAATTTTTTTAGGGA
CCCT TCCGGTTT
AGGCCGGGAA
ACAAGGGA

PK4: -21.195000(kcal/mol): PK_start=1551 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1588
(fs_start=1536)

TCCCACA
AGACAGGCTAATTTTTTTAGGGAACTTTGGCCT
GGGCCGGA AGGGA
TTCCTCA
AAACT

=====
(1098) AY900575
=====

PK1: -11.420000(kcal/mol): PK_start=1516 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=1542
(fs_start=1536)

CACA
GAAGGGAGGGACATCAAATGAAAGACTG
GAC AGAGAG
TTTTTTAG
GCTAA

PK2: -18.660000(kcal/mol): PK_start=1523 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1558
(fs_start=1536)

C
GGGACATCAAATGAAAGACTGCACAGAGAGA
TTTTTT AATCGGA
TTGGCCTTC
AGGGAAATT

PK3: -23.275000(kcal/mol): PK_start=1544 sp=0 s1=4 s2=9 l1=2 l2=8 L3=0 PK_end=1579
(fs_start=1536)

AA
CACAGAGAGACAGGCTAATTTTTTTAGGGA
CCCT TCCGGTTTT

AGGCCAGGGAA

ACAAGGGG

PK4: -21.745000(kcal/mol): PK_start=1550 sp=6 s1=10 s2=4 l1=6 l2=5 L3=0 PK_end=1588
(fs_start=1536)

CCCACA

GAGACAGGCTAATTTTTTTAGGGAAATTTTGGCCTT

GGGACCGGAG GGGG

TCCTCA

AATTT

PK4B: -26.395000(kcal/mol): PK_start=1550 sp=6 s1=9 s2=4 l1=8 l2=31 L3=0 PK_end=1614
(fs_start=1536)

TCCCACAA

GAGACAGGCTAATTTTTTTAGGGAAATTTTGGCCTT

GGGACCGGA GGGG

CCCCAC

AATTTTCCTCAGAACAGGCTAGAGCCGACAG

=====
(1099) AY900576
=====

PK1: -11.420000(kcal/mol): PK_start=1516 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=1542
(fs_start=1536)

CACA

GACAGGAGGGACACCAAATGAAAGACTG

GAC AGAGAG

TTTTTTAG

GCTAA

PK2: -18.660000(kcal/mol): PK_start=1523 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1558
(fs_start=1536)

C

GGGACACCAAATGAAAGACTGCACAGAGAGA

TTTTTT AATCGGA

TTGGCCTTC

AGGGAAACT

PK3: -22.025000(kcal/mol): PK_start=1544 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1578
(fs_start=1536)

AAC

CACAGAGAGACAGGCTAATTTTTTTAGGGA

CCCT TCCGGTTT

AGGCCGGGAA

ACAAGGGA

PK4: -23.525000(kcal/mol): PK_start=1551 sp=7 s1=8 s2=4 l1=8 l2=5 L3=0 PK_end=1587
(fs_start=1536)

TCCCACAA

AGACAGGCTAATTTTTTTAGGGAAACTTTGGCCTT

GGGCCGGA AGGG

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                                TCCCAC
AAACT
=====
(1100) AY901965
=====
PK1:  -15.025000(kcal/mol): PK_start=1493 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1521
(fs_start=1513)
                                A
GAAAGGAAGGACACCAAATGAAAGACTGT
                                GACG   GAAAGTC
                                TTTTtaggg
                                GCTAAT

PK2:  -20.370000(kcal/mol): PK_start=1498 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1535
(fs_start=1513)
                                C
GAAGGACACCAAATGAAAGACTGTACTGAAAGG
                                GATTTTTT   AATCGGA
                                TTGGCCTTC
                                GGAAAAT

PK3:  -23.745000(kcal/mol): PK_start=1521 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1555
(fs_start=1513)
                                AAA
TACTGAAAGGCAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTTT
                                AGGCCAGGGA
                                ACAAGGGG

PK4:  -25.010000(kcal/mol): PK_start=1528 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1565
(fs_start=1513)
                                CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
                                GGACCGGAGG   GGAA
                                CCTTCA
                                GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1528 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1591
(fs_start=1513)
                                TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
                                GGACCGGA   GGGG
                                CCCCAC
                                GAATTTCTTCAGAACAGACCAGAGCCAACAG

=====
(1101) AY901966
=====
PK1:  -14.985000(kcal/mol): PK_start=1481 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1509
(fs_start=1501)
                                A
GGAAAGAAGGACACCAAATGAAAGACTGT

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GACG GAGAGTC
TTTTTAGGG
GCTAAT
PK2: -20.330000(kcal/mol): PK_start=1486 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1523
(fs_start=1501)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAGAT

PK3: -22.580000(kcal/mol): PK_start=1509 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1543
(fs_start=1501)

A
TACTGAGAGGCAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTTT
GCCAGGGA
AGAAGGGGAG

PK4: -28.960000(kcal/mol): PK_start=1516 sp=7 s1=11 s2=4 l1=2 l2=7 L3=0 PK_end=1554
(fs_start=1501)

CA
AGGCAGGCTAATTTTTTAGGGAAGATTGGCCTTCC
GGACCGGAGGG GAAG
CTTCAG
GAATTC

PK4B: -26.865000(kcal/mol): PK_start=1516 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1579
(fs_start=1501)

TCCCAGAA
AGGCAGGCTAATTTTTTAGGGAAGATTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTCCTTCAGAGCAGGCCAGAGCCAACAG

=====
(1102) AY901967
=====

PK1: -12.310000(kcal/mol): PK_start=1496 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1524
(fs_start=1516)

CA
GAAAGGAAGGTCACCAAATGAAAGACTG
GAC AGAAAGTT
TTTTTTAGGG
GCTAA

PK2: -18.470000(kcal/mol): PK_start=1501 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1537
(fs_start=1516)

C
GAAGGTCACCAAATGAAAGACTGCATTGAAAGA

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          GATTTTTT A ATCGGA
                                TGGCCTTC
      GGAGATTC
PK3:  -26.805000(kcal/mol): PK_start=1524 sp=0 s1=4 s2=9 l1=2 l2=8 L3=0 PK_end=1559
(fs_start=1516)
          GA
CATTGAAAGACAGGCTAATTTTTTAGGGA
          CCCT   TCCGGTCTT
                                AGGCCAGGGAA
      ACAAGGGG
PK4:  -23.315000(kcal/mol): PK_start=1530 sp=6 s1=9 s2=4 l1=8 l2=6 L3=0 PK_end=1569
(fs_start=1516)
                                TCCCACAA
AAGACAGGCTAATTTTTTAGGGAGATTCTGGCCT
          GGGACCGGA   GGGG
                                CTCAG
      AACTTC
PK4B: -29.925000(kcal/mol): PK_start=1530 sp=6 s1=9 s2=4 l1=8 l2=31 L3=0 PK_end=1594
(fs_start=1516)
                                TCCCACAA
AAGACAGGCTAATTTTTTAGGGAGATTCTGGCCT
          GGGACCGGA   GGGG
                                CCCCAC
      AACTTCCTCAGAGCAGACCAGAGCCATCAG
=====
(1103) AY901968
=====
PK1:  -14.960000(kcal/mol): PK_start=1488 sp=0 s1=4 s2=5 l1=2 l2=8 L3=0 PK_end=1515
(fs_start=1508)
          AG
AGGAAGGACACCAAATGAAAGATTGTGCC
          ACGG   AAAGT
                                TTTTAGG
      GGCTAATT
PK2:  -17.990000(kcal/mol): PK_start=1494 sp=0 s1=7 s2=7 l1=1 l2=8 L3=0 PK_end=1530
(fs_start=1508)
          C
GACACCAAATGAAAGATTGTGCCAGTAAAGG
          ATTTTTT   AATCGGA
                                TTGGCCTTC
      GGGAAAAT
PK3:  -20.285000(kcal/mol): PK_start=1517 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1550
(fs_start=1508)
          AAA
AGTGAAAGGCAGGCTAATTTTTTAGGGA

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          CCT   TCCGGTTT
                AGGCCAGGGA
AACAAAGGGG

PK4:  -25.010000(kcal/mol): PK_start=1523 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1560
(fs_start=1508)
                CAAC
AGGCAGGCTAATTTTTTTAGGGAAAATTTGGCCTTC
                GGACCGGAGG   GGAA
                                CCTTCA
                GAATTT

PK4B:  -26.865000(kcal/mol): PK_start=1523 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1586
(fs_start=1508)
                TCCAACAA
AGGCAGGCTAATTTTTTTAGGGAAAATTTGGCCT
                GGACCGGA   GGGG
                                CCCAC
                GAATTTTCCTTCAGAGCAGACCAGAGCCGACAG

=====
(1104) AY901969
=====
PK1:  -15.585000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)
                A
GGCAAGAAGGACACCAAATGAAAGACTGT
                GACA   GAGAGTC
                                TTTTTAGGG
                GCTAAT

PK2:  -21.940000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1525
(fs_start=1503)
                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
                GATTTTTT   AATCGGA
                                TTGGCCTTC
                GGAAAAT

PK3:  -23.745000(kcal/mol): PK_start=1511 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1545
(fs_start=1503)
                AAA
TACTGAGAGACAGGCTAATTTTTTTAGGGA
                CCCT   TCCGGTTT
                                AGGCCAGGGA
                GCAAGGGG

PK4:  -25.010000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)
                CCGC
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTTC

```

GGACCGGAGG GGAA
 CCTTCA
 GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1581
 (fs_start=1503)

TCCCGCAA
 AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG
 CCCCAC
 GAATTTCCCTTCAGAGCAGACCAGAGCCAACAG

=====
 (1105) AY901970
 =====

PK1: -12.455000(kcal/mol): PK_start=1498 sp=0 s1=4 s2=6 l1=2 l2=5 L3=0 PK_end=1524
 (fs_start=1518)

AC
 GGAAAGAAGGACACCAAATGAAAGACTGT

GACA GAGAGA
 TTTTTTAG
 GCTAA

PK2: -18.660000(kcal/mol): PK_start=1505 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1540
 (fs_start=1518)

C
 AGGACACCAAATGAAAGACTGTACAGAGAGA

TTTTTT AATCGGA
 TTGGCCTTC
 AGGGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1526 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1560
 (fs_start=1518)

AAA
 TACAGAGAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT
 AGGCCAGGGA
 ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1533 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1570
 (fs_start=1518)

CCAC
 AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC

GGACCGGAGG GGAA
 CCTTCA
 GAACTT

PK4B: -26.865000(kcal/mol): PK_start=1533 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1596
 (fs_start=1518)

TCCCACAA
 AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGG
CCCCAC
GAACTTCCTTCAGAACAAAATAGAGCCAACAG

=====
(1106) AY901971
=====

PK1: -14.985000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAGGAGGGGCACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1526
(fs_start=1504)

C
GAGGGGCACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1519 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1582
(fs_start=1504)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGG
CCCCAC
GAATTCCTTCAGAACAGACCAGCCGACAG

=====
(1107) AY901972
=====

PK1: -13.065000(kcal/mol): PK_start=1467 sp=0 s1=3 s2=8 l1=5 l2=19 L3=0 PK_end=1512 (fs_start=1505)

 CCAAA
GCTGTTGGAAATGTGGGAAAGAAGGACA
 TGT TAGAAAGT
 ATTTTTTAGG
 ACTAATGGGAGGCAGGCTA

PK2: -15.290000(kcal/mol): PK_start=1491 sp=0 s1=7 s2=7 l1=1 l2=8 L3=0 PK_end=1527 (fs_start=1505)

 C
GACACCAAATGAAAGATTGTACTAATGGGAGG
 ATTTTTT AATCGGA
 TTGGCCTTC
 GGGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1513 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1547 (fs_start=1505)

 AAA
TAATGGGAGGCAGGCTAATTTTTTAGGGA
 CCCT TCCGGTTT
 AGGCCAGGGA
 AGAAGGGG

PK4: -28.960000(kcal/mol): PK_start=1520 sp=7 s1=11 s2=4 l1=2 l2=7 L3=0 PK_end=1558 (fs_start=1505)

 CA
AGGCAGGCTAATTTTTTAGGAAAATTGGCCTTCC
 GGACCGGAGGG GAAG
 CTTCAG
 GAACTTC

=====
(1108) AY901973
=====

PK1: -15.025000(kcal/mol): PK_start=1488 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1516 (fs_start=1508)

 A
GAAGGGAAGGACACCAAATGAAAGACTGT
 GACG GAAAGTC
 TTTTTAGGG
 GCTAAT

PK2: -20.370000(kcal/mol): PK_start=1493 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1530 (fs_start=1508)

 C
GAAGGACACCAAATGAAAGACTGTACTGAAAGG
 GATTTTTT AATCGGA
 TTGGCCTTC
 GGAAAGT

PK3: -23.745000(kcal/mol): PK_start=1516 sp=0 s1=4 s2=8 l1=3 l2=11 l3=0 PK_end=1553
(fs_start=1508)

AAG
TACTGAAAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGGGG

PK4: -33.500000(kcal/mol): PK_start=1525 sp=9 s1=9 s2=4 l1=5 l2=34 l3=0 PK_end=1589
(fs_start=1508)

CACAA
GCAGGCTAATTTTTTAGGGAAAGTTTGGCCTTCC
ACCGGAGGG GGGG
CCCCAC
GGGAATTTCTTCAGAACAGACCAGGCCATCAG

=====
(1109) AY901974
=====

PK1: -15.025000(kcal/mol): PK_start=1490 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1518
(fs_start=1510)

A
GCAAGGAGGGGCACCAAATGAAAGACTGT
GACG GAAAGTC
TTTTTAGGG
GCGAAT

PK2: -13.905000(kcal/mol): PK_start=1495 sp=0 s1=7 s2=5 l1=5 l2=5 l3=0 PK_end=1528
(fs_start=1510)

GCAGG
GAGGGGCACCAAATGAAAGACTGTACTGAAAG
GATTTTT TAAGC
ATTTGGC
GGAAA

PK3: -18.565000(kcal/mol): PK_start=1519 sp=0 s1=3 s2=8 l1=3 l2=9 l3=0 PK_end=1552
(fs_start=1510)

AAA
ACTGAAAGGCAGGCGAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGGA
AACAAGGGG

PK4: -25.625000(kcal/mol): PK_start=1525 sp=7 s1=8 s2=5 l1=7 l2=32 l3=0 PK_end=1589
(fs_start=1510)

TCCAACA
AGGCAGGCGAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA GGGGA
CCCCTCT
GAATTTTCATTCAGAGCAGACCAGAGCCCACAG

=====
(1110) AY901975
=====

PK1: -12.955000(kcal/mol): PK_start=1487 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1515
(fs_start=1507)

A
GAAAGGAAGGACATCAAATGAAAGATTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1492 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1529
(fs_start=1507)

C
GAAGGACATCAAATGAAAGATTGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAAT

PK3: -23.745000(kcal/mol): PK_start=1515 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=1549
(fs_start=1507)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1522 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1559
(fs_start=1507)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -25.545000(kcal/mol): PK_start=1522 sp=7 s1=9 s2=4 l1=6 l2=32 l3=0 PK_end=1585
(fs_start=1507)

CCCACA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGAG GGGA
CCCTAC
GAATTTCCCTTCAGAACAGACCAGAGCCAACAG

=====
(1111) AY901976
=====

PK1: -15.585000(kcal/mol): PK_start=1487 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1515
(fs_start=1507)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC

TTTTTAGGG
GCTAAT
PK2: -21.940000(kcal/mol): PK_start=1492 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1529
(fs_start=1507)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1515 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1549
(fs_start=1507)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1522 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1559
(fs_start=1507)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1522 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1585
(fs_start=1507)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCTTCAGAACAGACCAGAGCCAACAG

=====
(1112) AY901977
=====

PK1: -14.985000(kcal/mol): PK_start=1487 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1515
(fs_start=1507)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1492 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1529
(fs_start=1507)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1515 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1549
(fs_start=1507)

AAA

TACTGAGAGGCAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT

AGGCCAGGGA

ACAAGGGG

PK4: -24.120000(kcal/mol): PK_start=1522 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=1560
(fs_start=1507)

TCCCCAAA

AGGCAGGCTAATTTTTTAGGGAAAATTTGGCC

GGACCGG AGGGG

TCTCCAG

GAATTT

=====
(1113) AY901978
=====

PK1: -13.595000(kcal/mol): PK_start=1488 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1516
(fs_start=1508)

A

GAAAGGAAGGACACCAAATGAAAGATTGT

GACA GAAAGTC

TTTTTAGGG

GCTAAT

PK2: -21.980000(kcal/mol): PK_start=1493 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1530
(fs_start=1508)

C

GAAGGACACCAAATGAAAGATTGTACTGAAAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1516 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1550
(fs_start=1508)

AAA

TACTGAAAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT

AGGCCAGGGA

ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1523 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1560
(fs_start=1508)

CCAC

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC

GGACCGGAGG GGAA

CCTTCA

GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1523 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1586
(fs_start=1508)

TCCCACAA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG

CCCCAC

GAATTTCCCTCAGAACAGACCAGAGCCAACAG

=====

(1114) AY901979

=====

PK1: -15.025000(kcal/mol): PK_start=1487 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1515
(fs_start=1507)

A

GAAAGGAAGGACACCAAATGAAAGACTGT

GACG GAAAGTC

TTTTTAGGG

GCTAAT

PK2: -20.370000(kcal/mol): PK_start=1492 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1529
(fs_start=1507)

C

GAAGGACACCAAATGAAAGACTGTACTGAAAGG

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1515 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1549
(fs_start=1507)

AAA

TACTGAAAGGCAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT

AGGCCAGGGA

ACAAGGGG

PK4: -23.985000(kcal/mol): PK_start=1522 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1560
(fs_start=1507)

TCCCACAA

AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG

CTCCAG

GAATTTT

PK4B: -26.865000(kcal/mol): PK_start=1522 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1585
(fs_start=1507)

TCCCACAA

AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG

CCCCAC
GAATTTCCCTCCAGAGCAGACCAGAGCCAACAG

=====
(1115) AY901980
=====

PK1: -15.195000(kcal/mol): PK_start=1485 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1513
(fs_start=1505)

A
GAAAAGAAGGACACCAAATGAAAGATTGC

GACG GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.370000(kcal/mol): PK_start=1490 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1527
(fs_start=1505)

C
GAAGGACACCAAATGAAAGATTGCACTGAAAGG

GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -22.025000(kcal/mol): PK_start=1513 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1547
(fs_start=1505)

AAA
CACTGAAAGGCAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT
AGGCCGGGGA
ACAAGGGG

PK4: -23.290000(kcal/mol): PK_start=1520 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1557
(fs_start=1505)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC

GGGCCGAGG GGAA
CCTTCA
GAACTT

PK4B: -25.145000(kcal/mol): PK_start=1520 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1583
(fs_start=1505)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGGCCGGA GGGG
CCCCAC
GAACTTCCTTCAGAACAGACCAGAGCCAACAG

=====
(1116) AY901981
=====

PK1: -14.985000(kcal/mol): PK_start=1487 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1515
(fs_start=1507)

A
GAAAGGAAGGACACCAAATGAAAGACTGT

```

          GACG      GAGAGTC
                TTTTATAGGG
    GCTAAT
PK2:  -20.330000(kcal/mol): PK_start=1492 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1529
(fs_start=1507)
                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
                GATTTTTT      AATCGGA
                TTGGCCTTC
    GGAGAAT
PK3:  -18.840000(kcal/mol): PK_start=1515 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1549
(fs_start=1507)
                AA
TACTGAGAGGCAGGCTAATTTTTATAGGGAG
                CCTTC      CGGTTT
                GCCAGGGA
    CAGAAGGGGAG
PK4:  -28.960000(kcal/mol): PK_start=1522 sp=7 s1=11 s2=4 l1=2 l2=7 L3=0 PK_end=1560
(fs_start=1507)
                CA
AGGCAGGCTAATTTTTATAGGGAGAATTTGGCCTTCC
                GGACCGGAGGG      GAAG
                CTCAG
    GAATTTTC
PK4B:  -23.985000(kcal/mol): PK_start=1522 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1585
(fs_start=1507)
                TCCCAGAA
AGGCAGGCTAATTTTTATAGGGAGAATTTGGCCT
                GGACCGGA      GGGG
                CTCCGC
    GAATTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(1117) AY945709
=====
PK1:  -15.140000(kcal/mol): PK_start=1269 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1297
(fs_start=1289)
                CA
GAAAGGAGGGACACCAAATGAAAGACTG
                GAC      AGAAAGTC
                TTTTTTATAGGG
    GCTAA
PK2:  -20.500000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1310
(fs_start=1289)
                C
GAGGGACACCAAATGAAAGACTGCACTGAAAGA

```


GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -23.815000(kcal/mol): PK_start=1298 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1331
(fs_start=1289)

AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTCT
AGGCCAGGAA
AGCAAAGGG

PK4: -26.370000(kcal/mol): PK_start=1304 sp=7 s1=7 s2=4 l1=10 l2=6 L3=0 PK_end=1341
(fs_start=1289)

TTCCAGCAAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCC
GGACCGG AGGG
TCCCCA
AAATTT

=====
(1118) AY945710
=====

PK1: -13.555000(kcal/mol): PK_start=1278 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1306
(fs_start=1298)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -21.600000(kcal/mol): PK_start=1283 sp=0 s1=7 s2=7 l1=1 l2=8 L3=2 PK_end=1319
(fs_start=1298)

A
GAAGGACACCAAATGAAAGATTGTACTGAGAG
GATTTTTT TA ATCGGAC
TGGCCTGCC
GGAAAATC

PK3: -24.460000(kcal/mol): PK_start=1306 sp=0 s1=3 s2=8 l1=4 l2=8 L3=1 PK_end=1339
(fs_start=1298)

AAAA
TACTGAGAGACAGGCTAATTTTTTAGGG
CCC G TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -22.195000(kcal/mol): PK_start=1313 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1350
(fs_start=1298)

GCCCCA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT

```

                GGACCGGA    GGGGA
                    TTCTTCA
GAATT
PK4B:  -30.395000(kcal/mol): PK_start=1313 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1376
(fs_start=1298)
                    GCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                GGACCGGA    GGGG
                    CCCCAC
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

```

```

=====
(1119) AY945711
=====

```

```

PK1:  -13.555000(kcal/mol): PK_start=1269 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1297
(fs_start=1289)

```

```

                    A
GAAAGGAAGGACACCAAATGAAAGATTGT
                GACA    GAGAGTC
                    TTTTTAGGG
GCTAAT

```

```

PK2:  -20.460000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1310
(fs_start=1289)

```

```

                    C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT  A  ATCGGA
                    TGGCCTTC
GGAAGATC

```

```

PK3:  -26.110000(kcal/mol): PK_start=1297 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1331
(fs_start=1289)

```

```

                    A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                CCCTTC    CGGTCT
                    GCCAGGGA
ACAAAGGAAG

```

```

PK4:  -24.115000(kcal/mol): PK_start=1304 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1341
(fs_start=1289)

```

```

                    TCCCACA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
                GGACCGGA    AGGAA
                    TTCTTCA
GAATT

```

```

=====
(1120) AY945713
=====

```

PK1: -15.625000(kcal/mol): PK_start=1257 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1285
(fs_start=1277)

A
GAAAGGAAGGACATCAAATGAAAGACTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -21.980000(kcal/mol): PK_start=1262 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1299
(fs_start=1277)

C
GAAGGACATCAAATGAAAGACTGTACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1286 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1319
(fs_start=1277)

AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGAA
AACAAGGGA

PK4: -22.625000(kcal/mol): PK_start=1292 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1329
(fs_start=1277)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA AGGG
TCCCCA
AAATTT

=====
(1121) AY945716
=====

PK1: -15.100000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
(fs_start=1283)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTCC
GGAAAAT

PK3: -22.240000(kcal/mol): PK_start=1291 sp=0 s1=4 s2=7 l1=3 l2=10 l3=0 PK_end=1325
(fs_start=1283)

AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT CCGGTTT
GGCCAGGGA
AACAAGGGGA

PK4: -24.585000(kcal/mol): PK_start=1298 sp=7 s1=9 s2=4 l1=6 l2=6 l3=0 PK_end=1335
(fs_start=1283)

CCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTC
GGACCGGAG GGGA
TCCTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=1361
(fs_start=1283)

CCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCGC
GAATTTTCCTCAGGGAAGACCAGAGCCAACAG

=====
(1122) AY945717
=====

PK1: -15.100000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 l3=0 PK_end=1291
(fs_start=1283)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGA
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1305
(fs_start=1283)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GAAAAAT

PK3: -18.765000(kcal/mol): PK_start=1291 sp=0 s1=3 s2=8 l1=4 l2=9 l3=0 PK_end=1325
(fs_start=1283)

AAAA
CACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGGA
AACAAGGGGA

PK4: -21.195000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1335
(fs_start=1283)

```

                                TCCAACA
AGACAGGCTAATTTTTTAGGAAAAATTTGGCCT
                                GGGCCGGA   AGGGA
                                TTCCTCA
                                GAATT
```

=====
(1123) AY945718
=====

PK1: -10.440000(kcal/mol): PK_start=1252 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1290
(fs_start=1283)

```

                                A
TTGGAAATGTGGGAAAGAAGGACATCAA
                                GTT   AGAAAGT
                                TTTTTTAGG
                                CACTGAGAGACAGGCTAA
```

PK2: -21.940000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)

```

                                C
GAAGGACATCAAATGAAAGATTGCACTGAGAGA
                                GATTTTTT   AATCGGA
                                TTGGCCTTC
                                GGAAAAT
```

PK3: -18.565000(kcal/mol): PK_start=1292 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1325
(fs_start=1283)

```

                                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCT   TCCGGTTT
                                AGGCCGGGAA
                                AACAAGGGA
```

PK4: -21.195000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1335
(fs_start=1283)

```

                                TCCAACA
AGACAGGCTAATTTTTTAGGAAAAATTTGGCCT
                                GGGCCGGA   AGGGA
                                TTCCTCA
                                AAATT
```

=====
(1124) AY945719
=====

PK1: -15.100000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
(fs_start=1283)

```

                                CA
GAAAGGAAGGACATCAAATGAAAGACTG
                                GAC   AGAGAGTC
```

```

                TTTTTTAGGG
            GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)
                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT    AATCGGA
                TTGGCCTTC
            GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1292 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1325
(fs_start=1283)
                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                CCT    TCCGGTTT
                AGGCCAGGGA
            AACAAGGGA

PK4:  -22.915000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1335
(fs_start=1283)
                TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA    AGGGA
                TTCCTCA
            GAATT

=====
(1125) AY945720
=====
PK1:  -15.140000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
(fs_start=1283)
                CA
GGAAGGAAGGACATCAAATGAAAGACTG
                GAC    AGAAAGTC
                TTTTTTAGGG
            GCTAA

PK2:  -21.980000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)
                C
GAAGGACATCAAATGAAAGACTGCACTGAAAGA
                GATTTTTT    AATCGGA
                TTGGCCTTC
            GGAAAAT

PK3:  -18.565000(kcal/mol): PK_start=1292 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1325
(fs_start=1283)
                AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
                CCT    TCCGGTTT

```

```

                                AGGCCGGGGA
                                AACAAGGGA

PK4:  -21.195000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1335
(fs_start=1283)
                                TCCAACA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT

                                GGGCCGGA    AGGGA
                                TTCCTCA

                                GAATT

=====
(1126) AY945721
=====

PK1:  -15.100000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
(fs_start=1283)
                                CA
GAAAGGAAGGACATCAAATGAAAGACTG

                                GAC    AGAGAGTC
                                TTTTTTAGGG
                                GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)
                                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA

                                GATTTTTT    AATCGGA
                                TTGGCCTTC
                                GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1292 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1325
(fs_start=1283)
                                AAA
ACTGAGAGACAGGCTAATTTTTTTAGGGA

                                CCT    TCCGGTTT
                                AGGCCAGGAA
                                AACAAGGGG

PK4:  -22.215000(kcal/mol): PK_start=1298 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1335
(fs_start=1283)
                                CCAACA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTT

                                GGACCGGAG    GGGGA
                                TCCTCA

                                AAATTT

PK4B: -26.865000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1361
(fs_start=1283)
                                TCCAACAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT

                                GGACCGGA    GGGG

```

CCCCAC
AAATTTTCCTCAGAGCAGACCGGAGCCAACAG

=====
(1127) AY945722
=====

PK1: -15.100000(kcal/mol): PK_start=1278 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1306
(fs_start=1298)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1283 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1320
(fs_start=1298)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1307 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1340
(fs_start=1298)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AACAAGGGA

PK4: -22.915000(kcal/mol): PK_start=1313 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1350
(fs_start=1298)

TCCAACA
AGACAGGCTAATTTTTTAGGAAAATTTGGCCT
GGACCGGA AGGGA
TTCTCA
GAATT

=====
(1128) AY945724
=====

PK1: -15.100000(kcal/mol): PK_start=1254 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1282
(fs_start=1274)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1259 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1296
(fs_start=1274)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA


```

                GATTTTTT   AATCGGA
                    TTGGCCTTC
GGAGATT
PK3:  -23.275000(kcal/mol): PK_start=1282 sp=0 s1=4 s2=9 l1=2 l2=8 L3=0 PK_end=1317
(fs_start=1274)
                GA
CACTGAGAGACAGGCTAATTTTTTTAGGGA
                CCCT   TCCGGTTT
                    AGGCCAGGGAA
ACAAGGGA
PK4:  -21.750000(kcal/mol): PK_start=1289 sp=7 s1=6 s2=7 l1=9 l2=3 L3=0 PK_end=1326
(fs_start=1274)
                CTTCCCACA
AGACAGGCTAATTTTTTTAGGGAGATTTTGGC
                GGACCG   GAAGGGA
                    CTTTCCTCA
GAA

=====
(1129) AY945725
=====
PK1:  -15.100000(kcal/mol): PK_start=1254 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1282
(fs_start=1274)
                CA
GGAAGGAAGGACATCAAATGAAAGACTG
                GAC   AGAGAGTC
                    TTTTTTAGGG
GCTAA
PK2:  -21.940000(kcal/mol): PK_start=1259 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1296
(fs_start=1274)
                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT   AATCGGA
                    TTGGCCTTC
GGAAAAT
PK3:  -18.565000(kcal/mol): PK_start=1283 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1316
(fs_start=1274)
                AAA
ACTGAGAGACAGGCTAATTTTTTTAGGGA
                CCT   TCCGGTTT
                    AGGCCGGGGA
ACAAGGGA
PK4:  -21.195000(kcal/mol): PK_start=1289 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1326
(fs_start=1274)
                TCCAACA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT

```

```

GGGCCGGA    AGGGA
              TTCCTCA
GAATT
=====
(1130) AY945726
=====
PK1:  -12.160000(kcal/mol): PK_start=1252 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1290
(fs_start=1283)
              A
TTGGAATGTGGAAGGAAGGACATCAG
              GTC    AGAAAGT
              TTTTTTAGG
              CACTGAGAGACAGGCTAA

PK2:  -21.940000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)
              C
GAAGGACATCAGATGAAAGACTGCACTGAGAGA
              GATTTTTT    AATCGGA
              TTGGCCTTC
              GGAGACT

PK3:  -23.495000(kcal/mol): PK_start=1292 sp=0 s1=3 s2=9 l1=2 l2=9 L3=0 PK_end=1326
(fs_start=1283)
              GA
ACTGAGAGACAGGCTAATTTTTTAGGGA
              CCT    TCCGGTTTC
              AGGCCAGGGAA
              AACAAGGGA

PK4:  -25.525000(kcal/mol): PK_start=1297 sp=6 s1=9 s2=5 l1=7 l2=4 L3=0 PK_end=1335
(fs_start=1283)
              TCCAACA
GAGACAGGCTAATTTTTTAGGGAGACTTTGGCCT
              GGGACCGGA    AGGGA
              TTCCTCA
              AATT

=====
(1131) AY945727
=====
PK1:  -15.100000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
(fs_start=1283)
              CA
GGAAGGAAGGACACCAAATGAAAGACTG
              GAC    AGAGAGTC
              TTTTTTAGGG
              GCTAA

```

PK2: -21.940000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)

C
GAAGGACACCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1292 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1325
(fs_start=1283)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AACAAGGGA

PK4: -22.915000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1335
(fs_start=1283)

TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(1132) AY945728
=====

PK1: -15.585000(kcal/mol): PK_start=1263 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1291
(fs_start=1283)

A
GAAAGGAAGGACATCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -21.940000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)

C
GAAGGACATCAAATGAAAGACTGTACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1292 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1325
(fs_start=1283)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGGA
AACAAGGGA

PK4: -21.195000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1335
(fs_start=1283)

```

                                TCCAACA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
                                GGGCCGGA   AGGGA
                                TTCCTCA
                                GAACT
```

=====
(1133) AY945730
=====

PK1: -15.100000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
(fs_start=1283)

```

                                CA
GAAAGGAAGGACATCAAATGAAAGACTG
                                GAC   AGAGAGTC
                                TTTTTTAGGG
                                GCTAA
```

PK2: -21.940000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)

```

                                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                                GATTTTTT   AATCGGA
                                TTGGCCTTC
                                GGAAGCT
```

PK3: -17.400000(kcal/mol): PK_start=1292 sp=0 s1=5 s2=6 l1=1 l2=11 L3=0 PK_end=1325
(fs_start=1283)

```

                                C
ACTGAGAGACAGGCTAATTTTTTTAGGGAAG
                                CCTTC   CGGTTT
                                GCCGGGAA
                                AACAAGGGAAG
```

PK4: -21.195000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1335
(fs_start=1283)

```

                                TCCAACA
AGACAGGCTAATTTTTTTAGGGAAGCTTTGGCCT
                                GGGCCGGA   AGGGA
                                TTCCTCA
                                AAATT
```

=====
(1134) AY945731
=====

PK1: -10.440000(kcal/mol): PK_start=1255 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1293
(fs_start=1286)

```

                                A
TTGGAAATGTGGACAGGAAGGACATCAA
                                GTT   AGAAAGT
```

TTTTTTAGG
 CACTGAAAGACAGGCTAA

PK2: -21.980000(kcal/mol): PK_start=1271 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1308
 (fs_start=1286)

C
 GAAGGACATCAAATGAAAGATTGCACTGAAAGA

GATTTTTT AATCGGA
 TTGGCCTTC
 GAAAGCT

PK3: -12.090000(kcal/mol): PK_start=1297 sp=0 s1=3 s2=6 l1=1 l2=13 L3=0 PK_end=1328
 (fs_start=1286)

C
 TGAAAGACAGGCTAATTTTTTTAGGAAAG

TTC CGGTTT
 GCCGGGA
 CCCACAAGGGAAG

PK4: -23.505000(kcal/mol): PK_start=1300 sp=6 s1=9 s2=5 l1=7 l2=4 L3=0 PK_end=1338
 (fs_start=1286)

TCCCACA
 AAGACAGGCTAATTTTTTTAGGAAAGCTTTGGCCT

GGGGCCGGA AGGGA
 TTCCTCA
 AATT

=====
 (1135) AY945732
 =====

PK1: -15.100000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
 (fs_start=1283)

CA
 GGAAGGAAGGACATCAAATGAAAGACTG

GAC AGAGAGTC
 TTTTTTAGGG
 GCTAA

PK2: -21.940000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
 (fs_start=1283)

C
 GAAGGACATCAAATGAAAGACTGCACTGAGAGA

GATTTTTT AATCGGA
 TTGGCCTTC
 GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1292 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1325
 (fs_start=1283)

AAA
 ACTGAGAGACAGGCTAATTTTTTTAGGGA

CCT TCCGGTTT

```

                                AGGCCGGGGA
                AACAAGGGG
PK4:  -20.495000(kcal/mol): PK_start=1298 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1335
(fs_start=1283)
                                CCAACA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTT
                                GGGCCGGAG    GGGA
                                TCCTCA
                GAATTT

PK4B:  -25.145000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1361
(fs_start=1283)
                                TCCAACAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
                                GGGCCGGA    GGGG
                                CCCCAC
                GAATTTTCCTCAGAGCAGACCAGAGCCAACAG

=====
(1136) AY945733
=====
PK1:  -15.100000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
(fs_start=1283)
                                CA
GAAAGGAAGGACATCAAATGAAAGACTG
                                GAC    AGAGAGTC
                                TTTTTTAGGG
                GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)
                                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                                GATTTTTT    AATCGGA
                                TTGGCCTTC
                GGAAAAT

PK3:  -18.565000(kcal/mol): PK_start=1292 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1325
(fs_start=1283)
                                AAA
ACTGAGAGACAGGCTAATTTTTTTAGGGA
                                CCT    TCCGGTTT
                                AGGCCGGGAA
                AACAAGGGA

PK4:  -21.195000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1335
(fs_start=1283)
                                TCCAACA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
                                GGGCCGGA    AGGGA

```

```

                                TTCCTCA
AAATT
=====
(1137) AY945734
=====
PK1:  -15.100000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
(fs_start=1283)
                                CA
GAAAGGAAGGACATCAAATGAAAGACTG
                                GAC   AGAGAGTC
                                TTTTTTAGGG
GCTAA
PK2:  -21.940000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)
                                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                                GATTTTTT   AATCGGA
                                TTGGCCTTC
GAAAAAT
PK3:  -22.025000(kcal/mol): PK_start=1291 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1325
(fs_start=1283)
                                AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTTT
                                AGGCCGGGGA
ACAAGGGA
PK4:  -21.195000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1335
(fs_start=1283)
                                TCCCACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                                GGGCCGGA   AGGGA
                                TTCCTCA
GAATT
=====
(1138) AY945737
=====
PK1:  -9.405000(kcal/mol): PK_start=1275 sp=0 s1=4 s2=6 l1=2 l2=5 L3=0 PK_end=1301
(fs_start=1295)
                                AC
GAAGGGAAGGGCACCAAATGAAAGATTGT
                                GACA   GAGAGG
                                TTTTTTAG
GCTAA
PK2:  -18.760000(kcal/mol): PK_start=1282 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1317
(fs_start=1295)
                                C
AGGGCACCAAATGAAAGATTGTACGGAGAGA

```

```

          TTTTTT   AATCGGA
                    TTGGCCTTC
AGGGAAGGT
PK3:  -20.86000(kcal/mol): PK_start=1303 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1337
(fs_start=1295)
                    G
TACGGAGAGACAGGCTAATTTTTTTAGGGAAG
                    CCCTTC   CGGTTT
                    GCCGGGGA
          ACAAGGGGAG
PK4:  -20.985000(kcal/mol): PK_start=1310 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1347
(fs_start=1295)
                    CCAC
AGACAGGCTAATTTTTTTAGGGAAGGTTTGGCCTTC
                    GGGCCGGAGG   GGAA
                    TCTTCA
          GAACTT
PK4B:  -25.145000(kcal/mol): PK_start=1310 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1373
(fs_start=1295)
                    TCCCACAA
AGACAGGCTAATTTTTTTAGGGAAGGTTTGGCCT
                    GGGCCGGA   GGGG
                    CCCCAC
          GAACTTTCTTCAGAGCAGGCCAGCCAACAG
=====
(1139) AY945738
=====
PK1:  -15.585000(kcal/mol): PK_start=1260 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1288
(fs_start=1280)
                    A
GAAAGGAAGGACACCAAATGAAAGACTGT
                    GACA   GAGAGTC
                    TTTTTAGGG
          GCCAAT
PK2:  -24.200000(kcal/mol): PK_start=1265 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1302
(fs_start=1280)
                    C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
                    GATTTTTT   AACCGGA
                    TTGGCCTTC
          GGAAAAT
PK3:  -23.745000(kcal/mol): PK_start=1288 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1322
(fs_start=1280)
                    AAA
TACTGAGAGACAGGCCAATTTTTTTAGGGA

```



```

          CCCT   TCCGGTTT
                AGGCCAGGGA
ACAAGGGA
PK4:  -25.725000(kcal/mol): PK_start=1295 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1332
(fs_start=1280)
                TCCCACA
AGACAGGCCAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA   AGGGA
                TCCCTCA
          GAATT

=====
(1140) AY945739
=====
PK1:  -15.100000(kcal/mol): PK_start=1266 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1294
(fs_start=1286)
                CA
GGAGGGAAGGACATCAAATGAAAGACTG
                GAC   AGAGAGTC
                TTTTTTAGGG
          GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1271 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1308
(fs_start=1286)
                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT   AATCGGA
                TTGGCCTTC
          GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1295 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1328
(fs_start=1286)
                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                CCT   TCCGGTTT
                AGGCCAGGGA
          AACAAAGGG

PK4:  -20.930000(kcal/mol): PK_start=1301 sp=7 s1=7 s2=4 l1=10 l2=5 L3=0 PK_end=1337
(fs_start=1286)
                TTCCAACAAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCC
                GGACCGG   AGGG
                TTCCAC
          GAATT

=====
(1141) AY967803
=====

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PK1: -13.595000(kcal/mol): PK_start=1260 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1288
(fs_start=1280)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -19.120000(kcal/mol): PK_start=1265 sp=0 s1=8 s2=5 l1=2 l2=8 L3=1 PK_end=1300
(fs_start=1280)

CA
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGG
TGCCCT
GGAAAATC

PK3: -24.730000(kcal/mol): PK_start=1288 sp=0 s1=4 s2=7 l1=3 l2=9 L3=1 PK_end=1321
(fs_start=1280)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT C CCGTCT
GGCCAGGGA
ACAAGGGAA

PK4: -25.870000(kcal/mol): PK_start=1295 sp=7 s1=7 s2=6 l1=8 l2=3 L3=0 PK_end=1331
(fs_start=1280)

CTCCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCC
GGACCGG AAGGGA
TTTCCTCC
GAA

=====
(1142) AY967804
=====

PK1: -15.025000(kcal/mol): PK_start=1260 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1288
(fs_start=1280)

A
GAAAGGAAGGACATCAAATGAAAGACTGT
GACG GAAAGTC
TTTTTAGGA
GCTAAT

PK2: -20.370000(kcal/mol): PK_start=1265 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1302
(fs_start=1280)

C
GAAGGACATCAAATGAAAGACTGTACTGAAAGG
GATTTTTT AATCGGA
TTGGCCTTC
GAAAAAT

PK3: -20.485000(kcal/mol): PK_start=1288 sp=0 s1=3 s2=8 l1=4 l2=9 L3=0 PK_end=1322
(fs_start=1280)

AAAA
TACTGAAAGGCAGGCTAATTTTTTAGGA
CCT TCCGGTTT
AGGCCAGGGA
CACAAAGGGG

PK4: -23.985000(kcal/mol): PK_start=1295 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1333
(fs_start=1280)

TCCCACAA
AGGCAGGCTAATTTTTTAGGAAAAATTTGGCCT
GGACCGGA GGGG
CTCCAG
GAATTTTC

PK4B: -26.865000(kcal/mol): PK_start=1295 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1358
(fs_start=1280)

TCCCACAA
AGGCAGGCTAATTTTTTAGGAAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCTCCAGAGCAGACCAGAGCCAACAG

=====
(1143) AY967805
=====

PK1: -13.555000(kcal/mol): PK_start=1266 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1294
(fs_start=1286)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -19.080000(kcal/mol): PK_start=1271 sp=0 s1=8 s2=5 l1=2 l2=8 L3=1 PK_end=1306
(fs_start=1286)

CA
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGG
TGGCCCT
GGAAGATC

PK3: -24.730000(kcal/mol): PK_start=1294 sp=0 s1=4 s2=7 l1=3 l2=9 L3=1 PK_end=1327
(fs_start=1286)

AGA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT C CCGGTCT
GGCCAGGGA
ACAAGGGAA

PK4: -23.190000(kcal/mol): PK_start=1301 sp=7 s1=7 s2=6 l1=8 l2=4 L3=0 PK_end=1338
(fs_start=1286)

CTCCCACA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCC
GGACCGG AAGGGA
TTTCTTCA
GAAT

=====
(1144) AY967806
=====

PK1: -10.875000(kcal/mol): PK_start=1260 sp=0 s1=4 s2=6 l1=2 l2=5 L3=0 PK_end=1286
(fs_start=1280)

AC
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAAAGG
TTTTTTAG
GCTAA

PK2: -17.190000(kcal/mol): PK_start=1267 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1302
(fs_start=1280)

C
AGGACACCAAATGAAAGACTGTACGGAAAGG
TTTTTT AATCGGA
TTGGCCTTC
AGGGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1288 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1322
(fs_start=1280)

AAA
TACGGAAAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -23.985000(kcal/mol): PK_start=1295 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1333
(fs_start=1280)

TCCCACAA
AGGCAGGCTAATTTTTTAGGAAAATTTGGCCT
GGACCGGA GGGG
CTCCAG
GAATTTTC

PK4B: -26.865000(kcal/mol): PK_start=1295 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1358
(fs_start=1280)

TCCCACAA
AGGCAGGCTAATTTTTTAGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCCTCCAGAGCAGGCCAGAGCCAACAG

=====
(1145) AY968312
=====

PK1: -14.985000(kcal/mol): PK_start=1352 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1380
(fs_start=1372)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1357 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1394
(fs_start=1372)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1380 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=1414
(fs_start=1372)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGAA
ACAAGGGG

PK4: -23.985000(kcal/mol): PK_start=1387 sp=7 s1=8 s2=4 l1=8 l2=7 l3=0 PK_end=1425
(fs_start=1372)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CTCCAG
AAACTTC

PK4B: -26.865000(kcal/mol): PK_start=1387 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=1450
(fs_start=1372)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
AAACTTCCTCCAGAGCAGACCAGAGCCAACAG

=====
(1146) AY970946
=====

PK1: -13.555000(kcal/mol): PK_start=2014 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=2042
(fs_start=2034)

A
GAAGGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC

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                TTTT TAGGG
      GCTAAT
PK2:  -20.46000(kcal/mol): PK_start=2019 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2055
(fs_start=2034)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT A  ATCGGA
                TGGCCTTC
      GGAAAATC
PK3:  -27.27500(kcal/mol): PK_start=2042 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2076
(fs_start=2034)
                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTCT
                AGGCCAGGGA
      ACAAGGGA
PK4:  -26.71500(kcal/mol): PK_start=2049 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2086
(fs_start=2034)
                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                GGACCGGAAG   GGAA
                TCTTCA
      GAATTT

=====
(1147) AY970947
=====
PK1:  -10.72500(kcal/mol): PK_start=2007 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2035
(fs_start=2027)
                A
GAAGGGAAGGACACCAAATGAAAGATTGT
                GACA   GAGAGTT
                TTTT TAGGG
      GCTAAT
PK2:  -18.43000(kcal/mol): PK_start=2012 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2048
(fs_start=2027)
                C
GAAGGACACCAAATGAAAGATTGTATTGAGAGA
                GATTTTTT A  ATCGGA
                TGGCCTTC
      GGAAAATC
PK3:  -24.39500(kcal/mol): PK_start=2035 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2069
(fs_start=2027)
                AAA
TATTGAGAGACAGGCTAATTTTTTAGGGA
                CTCT   TCCGGTCT

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                                AGGCCAGGGA
                                ACAAGGGA

PK4:  -26.715000(kcal/mol): PK_start=2042 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2079
(fs_start=2027)
                                TCAC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAAG    GGAA
                                TCTTCA
                                GAATTT

=====
(1148) AY970948
=====

PK1:  -13.555000(kcal/mol): PK_start=1991 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2019
(fs_start=2011)
                                A
GAAGGGAAGGACACCAAATGAAAGATTGT
                                GACA    GAGAGTC
                                TTTTtaggg
                                GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1996 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2032
(fs_start=2011)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                                GATTTTTT  A  ATCGGA
                                TGGCCTTC
                                GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=2019 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2053
(fs_start=2011)
                                AAA
TACTGAGAGACAGGCTAATTTTTTTAGGGA
                                CCCT    TCCGGTCT
                                AGGCCAGGGA
                                ACAAGGGG

PK4:  -26.235000(kcal/mol): PK_start=2026 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2063
(fs_start=2011)
                                CCAC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAGG    GGAA
                                TCTTCA
                                GAATTT

PK4B:  -30.395000(kcal/mol): PK_start=2026 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2089
(fs_start=2011)
                                TCCCACAA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT
                                GGACCGGA    GGGG

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CCCCAC
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(1149) AY970949
=====

PK1: -13.555000(kcal/mol): PK_start=1981 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2009
(fs_start=2001)

A
GAAGAGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1986 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2022
(fs_start=2001)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=2009 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2043
(fs_start=2001)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=2016 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2053
(fs_start=2001)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=2016 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2079
(fs_start=2001)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCTTCAGAGCAGACCAGAACCAACAG

=====
(1150) AY970950
=====

PK1: -13.555000(kcal/mol): PK_start=2069 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2097
(fs_start=2089)

A
GAAGGGAAGGACACCAAATGAAAGATTGT


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          GACA    GAGAGTC
                TTTTATAGGG
    GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=2074 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2110
(fs_start=2089)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT  A  ATCGGA
                                TGGCCTTC
                GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=2097 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2131
(fs_start=2089)
                AAA
TACTGAGAGACAGGCTAATTTTTATAGGGA
                CCCT    TCCGGTCT
                                AGGCCAGGGA
                ACAAGGGG

PK4:  -26.235000(kcal/mol): PK_start=2104 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2141
(fs_start=2089)
                CCAC
AGACAGGCTAATTTTTATAGGAAAATCTGGCCTTC
                GGACCGGAGG    GGAA
                                TCTTCA
                GAATTT

PK4B:  -30.395000(kcal/mol): PK_start=2104 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2167
(fs_start=2089)
                TCCCACAA
AGACAGGCTAATTTTTATAGGAAAATCTGGCCT
                GGACCGGA    GGGG
                                CCCCAA
                GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(1151) BD187399
=====
PK1:  -15.100000(kcal/mol): PK_start=2072 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2100
(fs_start=2092)
                CA
GAAAGGAAGGACATCAAATGAAAGACTG
                GAC    AGAGAGTC
                                TTTTTTATAGGG
                GCTAA

PK2:  -21.940000(kcal/mol): PK_start=2077 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2114
(fs_start=2092)
                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA

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          GATTTTTT   AATCGGA
                    TTGGCCTTC
      GGAAAAT
PK3:  -18.565000(kcal/mol): PK_start=2101 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2134
(fs_start=2092)
          AAA
ACTGAGAGACAGGCTAATTTTTTTAGGGA
          CCT   TCCGGTTT
                    AGGCCGGGGA
          AACAAAGGA
PK4:  -20.745000(kcal/mol): PK_start=2107 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=2144
(fs_start=2092)
                    TCCAACAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
          GGGCCGGA   AGGA
                    TCCTCA
          GAATTT

=====
(1152) BD238372
=====
PK1:  -13.555000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2092
(fs_start=2084)
          A
GAAAGGAAGGACACCAAATGAAAGATTGT
          GACA   GAGAGTC
                    TTTTTAGGG
          GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2105
(fs_start=2084)
          C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
          GATTTTTT   A   ATCGGA
                    TTGGCCTTC
          GGAAGATC
PK3:  -26.110000(kcal/mol): PK_start=2092 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=2126
(fs_start=2084)
          A
TACTGAGAGACAGGCTAATTTTTTTAGGGAAG
          CCCTTC   CGGTCT
                    GCCAGGGA
          ACAAGGGAAG
PK4:  -26.715000(kcal/mol): PK_start=2099 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2136
(fs_start=2084)
                    CCAC
AGACAGGCTAATTTTTTTAGGGAAAGATCTGGCCTTC

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                GGACCGGAAG    GGAA
                                TCTTCA
        GAATTT

=====
(1153) BD298114
=====
PK1:  -13.555000(kcal/mol): PK_start=1387 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1415
(fs_start=1407)
                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                GACA    GAGAGTC
                                TTTTTAGGG
        GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1392 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1428
(fs_start=1407)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT    A    ATCGGA
                                TGGCCTTC
        GGAAGATC

PK3:  -25.060000(kcal/mol): PK_start=1415 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1449
(fs_start=1407)
                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                TCCTTC    CGGTCT
                                GCCAGGGA
        ACAAGGGAAG

PK4:  -26.715000(kcal/mol): PK_start=1422 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1459
(fs_start=1407)
                CTAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
                GGACCGGAAG    GGAA
                                TCTTCA
        GAATTT

PK4B:  -23.215000(kcal/mol): PK_start=1422 sp=7 s1=8 s2=4 l1=8 l2=41 L3=0 PK_end=1494
(fs_start=1407)
                TCCTACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
                GGACCGGA    AGGG
                                TTCTTC
        GAATTTTCTTCAGAGCAGACCAGAGCCAACAGCCCCACCAT

=====
(1154) BD437615
=====

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PK1: -14.985000(kcal/mol): PK_start=2051 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2079
(fs_start=2071)

A
GACAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=2056 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2093
(fs_start=2071)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA
TTGCGCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=2079 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2113
(fs_start=2071)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -23.985000(kcal/mol): PK_start=2086 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=2124
(fs_start=2071)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CTCCAG
GAATTTT

PK4B: -26.865000(kcal/mol): PK_start=2086 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2149
(fs_start=2071)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCTCCAGAACAGACCAGCCAACAG

=====
(1155) BD437626
=====

PK1: -14.985000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2092
(fs_start=2084)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2106
(fs_start=2084)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA
TTGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=2092 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2126
(fs_start=2084)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=2099 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2136
(fs_start=2084)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=2099 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2162
(fs_start=2084)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCCTTCAGAGCAGACCAGAGCCAACAG

=====
(1156) CS272319
=====

PK1: -13.555000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2092
(fs_start=2084)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2105
(fs_start=2084)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=2092 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=2126
(fs_start=2084)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=2099 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=2136
(fs_start=2084)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(1157) D10112
=====

PK1: -10.975000(kcal/mol): PK_start=2066 sp=0 s1=4 s2=6 l1=2 l2=6 l3=0 PK_end=2093
(fs_start=2086)

AA
GAAAGGAAGGACATCAAATGAAAGATTGT
GACA GAGAGT
TTTTTAGG
GCTAAT

PK2: -18.180000(kcal/mol): PK_start=2072 sp=0 s1=7 s2=6 l1=1 l2=9 l3=1 PK_end=2107
(fs_start=2086)

C
AAGGACATCAAATGAAAGATTGTAATGAGAGA
ATTTTTT A ATCGGA
TGGCCTTC
GGGAAAATC

PK3: -27.275000(kcal/mol): PK_start=2094 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=2128
(fs_start=2086)

AAA
TAATGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=2101 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=2138
(fs_start=2086)

CCAC
AGACAGGCTAATTTTTTAGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=2101 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2164
(fs_start=2086)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(1158) D86068
=====

PK1: -13.555000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2092
(fs_start=2084)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2105
(fs_start=2084)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=2092 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=2126
(fs_start=2084)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=2099 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2136
(fs_start=2084)

CTAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

PK4B: -23.215000(kcal/mol): PK_start=2099 sp=7 s1=8 s2=4 l1=8 l2=41 L3=0 PK_end=2171
(fs_start=2084)

TCCTACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGG
TTCTTC
GAATTTTCTTCAGAGCAGACCAGAGCCAACAGCCCCACCAT

=====

(1159) D86069

=====

PK1: -13.555000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=2092
(fs_start=2084)

A

GAAAGGAAGGACACCAAATGAAAGATTGT

GACA GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=2105
(fs_start=2084)

C

GAAGGACACCAAATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=2092 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=2126
(fs_start=2084)

A

TACTGAGAGACAGGCTAATTTTTTAGGGAAG

TCCTTC CGGTCT

GCCAGGGA

ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=2099 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=2136
(fs_start=2084)

CTAC

AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC

GGACCGGAAG GGAA

TCTTCA

GAATTT

PK4B: -23.215000(kcal/mol): PK_start=2099 sp=7 s1=8 s2=4 l1=8 l2=41 l3=0 PK_end=2171
(fs_start=2084)

TCCTACAA

AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT

GGACCGGA AGGG

TTCTTC

GAATTTTCTTCAGAGCAGACCAGAGCCAACAGCCCCACCAT

=====

(1160) DD033495

=====

PK1: -15.025000(kcal/mol): PK_start=2047 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=2075
(fs_start=2067)

A

GAAAGGAAGGACACCAAATGAAAGACTGT

GACG GAAAGTC


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                TTTT TAGGG
      GCGAAT
PK2:  -12.380000(kcal/mol): PK_start=2052 sp=0 s1=8 s2=4 l1=4 l2=6 L3=0 PK_end=2085
(fs_start=2067)
                CAGG
GAAGGACACCAAATGAAAGACTGTACTGAAAGG
                GATTTTTT   AAGC
                TTTGGC
      GGAAAC
PK3:  -26.955000(kcal/mol): PK_start=2075 sp=0 s1=4 s2=9 l1=2 l2=8 L3=0 PK_end=2110
(fs_start=2067)
                AA
TACTGAAAGGCAGGCGAATTTTTTAGGGA
                CCCT   TCCGGTTC
                AGGCCAGGGAA
      AGAAGGGG
PK4:  -26.595000(kcal/mol): PK_start=2081 sp=6 s1=9 s2=4 l1=8 l2=6 L3=0 PK_end=2120
(fs_start=2067)
                TCCCAGAA
AAGGCAGGCGAATTTTTTAGGGAAACTTTGGCCT
                GGGACCGGA   GGGG
                CTCCAG
      AATTTC
PK4B: -26.595000(kcal/mol): PK_start=2081 sp=6 s1=9 s2=4 l1=8 l2=31 L3=0 PK_end=2145
(fs_start=2067)
                TCCCAGAA
AAGGCAGGCGAATTTTTTAGGGAAACTTTGGCCT
                GGGACCGGA   GGGG
                CTCCAC
      AATTTCCCTCCAGAGCAGACCAGAGCCAACAG

=====
(1161) DD153311
=====
PK1:  -13.555000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2092
(fs_start=2084)
                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                GACA   GAGAGTC
                TTTT TAGGG
      GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2105
(fs_start=2084)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT   A   ATCGGA

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TGGCCTTC
GGAAGATC
PK3: -26.110000(kcal/mol): PK_start=2092 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=2126
(fs_start=2084)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=2099 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=2136
(fs_start=2084)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(1162) DD153312
=====

PK1: -13.555000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=2092
(fs_start=2084)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=2105
(fs_start=2084)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=2092 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=2126
(fs_start=2084)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=2099 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=2136
(fs_start=2084)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA

```

                                TCTTCA
                                GAATTT

=====
(1163) DD409979
=====
PK1:  -15.585000(kcal/mol): PK_start=1589 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1617
(fs_start=1609)
                                A
GGAAAGAAGGACACCAAATGAAAGACTGT
                                GACA   GAGAGTC
                                TTTTtaggg
                                GCTAAT

PK2:  -21.940000(kcal/mol): PK_start=1594 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1631
(fs_start=1609)
                                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
                                GATTTTTT   AATCGGA
                                TTGGCCTTC
                                GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1618 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1651
(fs_start=1609)
                                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCT   TCCGGTTT
                                AGGCCAGGAA
                                AGCAAGGGG

PK4:  -24.120000(kcal/mol): PK_start=1624 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=1662
(fs_start=1609)
                                TTCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCC
                                GGACCGG   AGGGG
                                TCCTCAG
                                AAATTT

PK4B:  -21.200000(kcal/mol): PK_start=1625 sp=8 s1=6 s2=4 l1=9 l2=33 L3=1 PK_end=1686
(fs_start=1609)
                                TTCCAGCAA
GACAGGCTAATTTTTTAGGGAAAATTTGGCC
                                GACCGG  A  GGGG
                                CTCCAC
                                GAAATTTTCTCAGAGCAGACCGGAACCAACAG

=====
(1164) DL260745
=====
PK1:  -13.555000(kcal/mol): PK_start=1610 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1638
(fs_start=1630)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT

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          GACA      GAGAGTC
                TTTTATAGGG
      GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1615 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1651
(fs_start=1630)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT  A  ATCGGA
                                TGGCCTTC
          GGAAGATC
PK3:  -25.060000(kcal/mol): PK_start=1638 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1672
(fs_start=1630)
                A
TACTGAGAGACAGGCTAATTTTTATAGGGAAG
                TCCTTC      CGGTCT
                                GCCAGGGA
          ACAAGGGAAG
PK4:  -26.715000(kcal/mol): PK_start=1645 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1682
(fs_start=1630)
                CTAC
AGACAGGCTAATTTTTATAGGGAAGATCTGGCCTTC
                GGACCGGAAG      GGAA
                                TCTTCA
          GAATTT
=====
(1165) DL464814
=====
PK1:  -13.555000(kcal/mol): PK_start=1610 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1638
(fs_start=1630)
                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                GACA      GAGAGTC
                TTTTATAGGG
      GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1615 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1651
(fs_start=1630)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT  A  ATCGGA
                                TGGCCTTC
          GGAAGATC
PK3:  -25.060000(kcal/mol): PK_start=1638 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1672
(fs_start=1630)
                A
TACTGAGAGACAGGCTAATTTTTATAGGGAAG

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TCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG
PK4: -26.715000(kcal/mol): PK_start=1645 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1682
(fs_start=1630)

CTAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(1166) DM111087
=====

PK1: -13.555000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2092
(fs_start=2084)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2105
(fs_start=2084)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=2092 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=2126
(fs_start=2084)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=2099 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2136
(fs_start=2084)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(1167) DQ007901
=====

PK1: -13.555000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2092 (fs_start=2084)

A
GAAAGGAAGGACACCAAATGAAGGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2105 (fs_start=2084)

C
GAAGGACACCAAATGAAGGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=2092 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2126 (fs_start=2084)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGAA
ACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=2099 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2136 (fs_start=2084)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
AAATTT

PK4B: -30.395000(kcal/mol): PK_start=2099 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2162 (fs_start=2084)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(1168) DQ007902
=====

PK1: -13.555000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2092 (fs_start=2084)

A
GAAAGGAAGGACACCAAATGAAGGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2105
(fs_start=2084)

C
GAAGGACACCAAATGAAGGATTGTTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=2092 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=2126
(fs_start=2084)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGGAG

PK4: -24.345000(kcal/mol): PK_start=2099 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=2136
(fs_start=2084)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
TCTCCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=2099 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2162
(fs_start=2084)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCTCCAGAGCAGACCAGCCAACAG

=====
(1169) DQ007903
=====

PK1: -13.555000(kcal/mol): PK_start=2066 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2094
(fs_start=2086)

A
GACAGGAAGGACACCAAATGAAGGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2071 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2107
(fs_start=2086)

C
GAAGGACACCAAATGAAGGATTGTTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGCTC

PK3: -26.110000(kcal/mol): PK_start=2094 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=2128
(fs_start=2086)

C
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGGAG

PK4: -26.095000(kcal/mol): PK_start=2100 sp=6 s1=9 s2=4 l1=8 l2=6 l3=0 PK_end=2139
(fs_start=2086)

TCCCACAA
GAGACAGGCTAATTTTTTAGGGAAGCTCTGGCCT
GGGACCGGA GGGG
CTTCAG
AATTTTC

PK4B: -32.705000(kcal/mol): PK_start=2100 sp=6 s1=9 s2=4 l1=8 l2=31 l3=0 PK_end=2164
(fs_start=2086)

TCCCACAA
GAGACAGGCTAATTTTTTAGGGAAGCTCTGGCCT
GGGACCGGA GGGG
CCCCAC
AATTTTCCTTCAGAGCAGACCAGAGCCAACAG

=====
(1170) DQ011165
=====

PK1: -15.025000(kcal/mol): PK_start=1482 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1510
(fs_start=1502)

A
GAAAAGAAGGACACCAAATGAAAGACTGT
GACG GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -18.760000(kcal/mol): PK_start=1487 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1523
(fs_start=1502)

C
GAAGGACACCAAATGAAAGACTGTACTGAAAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1510 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=1544
(fs_start=1502)

AAA
TACTGAAAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -27.515000(kcal/mol): PK_start=1517 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1555
(fs_start=1502)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CTCCAG
GAATTTTC

PK4B: -30.395000(kcal/mol): PK_start=1517 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1580
(fs_start=1502)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCCCTCCAGAGCAGGCCAGCGCCAACAG

=====
(1171) DQ011166
=====

PK1: -12.955000(kcal/mol): PK_start=1446 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1474
(fs_start=1466)

A
GAAAGGAGGGACACCAAATGAAAGATTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1451 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1488
(fs_start=1466)

C
GAGGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1474 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1508
(fs_start=1466)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -23.985000(kcal/mol): PK_start=1481 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1519
(fs_start=1466)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CTCCAA
GAACTTC

PK4B: -26.865000(kcal/mol): PK_start=1481 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1544
(fs_start=1466)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAACTTCCTCCAAAACAGACCGGAGCCAACAG

=====
(1172) DQ011167
=====

PK1: -14.985000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAAGAAGGACATCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -18.720000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACATCAAATGAAAGACTGTACTGAGAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAGATTC

PK3: -26.805000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=9 l1=2 l2=8 L3=0 PK_end=1547
(fs_start=1504)

GA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCTT
AGGCCAGGGAA
ACAAGGGG

PK4: -23.315000(kcal/mol): PK_start=1518 sp=6 s1=9 s2=4 l1=8 l2=6 L3=0 PK_end=1557
(fs_start=1504)

TCCCACAA
GAGGCAGGCTAATTTTTTAGGGAGATTCTGGCCT
GGGACCGGA GGGG
CTTCAG
AATTTC

PK4B: -29.925000(kcal/mol): PK_start=1518 sp=6 s1=9 s2=4 l1=8 l2=31 L3=0 PK_end=1582
(fs_start=1504)

TCCCACAA
GAGGCAGGCTAATTTTTTAGGGAGATTCTGGCCT
GGGACCGGA GGGG
CCCCAC
AATTCCTTCAGAACAGACCAGAGCCAACGG

=====
(1173) DQ011169
=====

PK1: -15.025000(kcal/mol): PK_start=1482 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1510
(fs_start=1502)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.370000(kcal/mol): PK_start=1487 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1524
(fs_start=1502)

C
GAAGGACACCAAATGAAAGACTGTACTGAAAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAAT

PK3: -22.025000(kcal/mol): PK_start=1510 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1544
(fs_start=1502)

AAA
TACTGAAAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCGGGAA
AGAAGGGG

PK4: -27.240000(kcal/mol): PK_start=1517 sp=7 s1=11 s2=4 l1=2 l2=7 L3=0 PK_end=1555
(fs_start=1502)

CA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTCC
GGGCCGGAGGG GAAG
CTTCAG
AAATTTTC

PK4B: -25.145000(kcal/mol): PK_start=1517 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1580
(fs_start=1502)

TCCCAGAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA GGGG
CCCCAC
AAATTTCTTCAGAACAGACCAGAACCAACGG

=====
(1174) DQ011170
=====

PK1: -14.985000(kcal/mol): PK_start=1487 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1515
(fs_start=1507)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC

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                TTTT TAGGA
      GCTAAT
PK2:  -20.330000(kcal/mol): PK_start=1492 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1529
(fs_start=1507)
                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
                GATTTTTT   AATCGGA
                TTGCCTTC
      GAAAAAT
PK3:  -20.485000(kcal/mol): PK_start=1515 sp=0 s1=3 s2=8 l1=4 l2=9 L3=0 PK_end=1549
(fs_start=1507)
                AAAA
TACTGAGAGGCAGGCTAATTTTTTAGGA
                CCT   TCCGGTTT
                AGGCCAGGAA
      CACAAGGGG
PK4:  -25.010000(kcal/mol): PK_start=1522 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1559
(fs_start=1507)
                CCAC
AGGCAGGCTAATTTTTTAGGAAAAATTTGGCCTTC
                GGACCGGAGG   GGAA
                CCTTCA
      AAATTT
PK4B:  -26.865000(kcal/mol): PK_start=1522 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1585
(fs_start=1507)
                TCCCACAA
AGGCAGGCTAATTTTTTAGGAAAAATTTGGCCT
                GGACCGGA   GGGG
                CCCCAC
      AAATTTCTTCAGAACAGACCAGAGCCAACAG

=====
(1175) DQ011171
=====
PK1:  -14.985000(kcal/mol): PK_start=1480 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1508
(fs_start=1500)
                A
GAAAAGAAGGACATCACATGAAAGACTGT
                GACG   GAGAGTC
                TTTT TAGGG
      GCTAAT
PK2:  -18.720000(kcal/mol): PK_start=1485 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1521
(fs_start=1500)
                C
GAAGGACATCACATGAAAGACTGTACTGAGAGG
                GATTTTTT   A   ATCGGA

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                                TGGCCTTC
                GGAAAATC
PK3:  -23.815000(kcal/mol): PK_start=1509 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1542
(fs_start=1500)
                                AAA
ACTGAGAGGCAGGCTAATTTTTTAGGGA
                                CCT   TCCGGTCT
                                AGGCCAGGGA
                AACAAAGGGG
PK4:  -28.540000(kcal/mol): PK_start=1515 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1552
(fs_start=1500)
                                CAAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAGG   GGAA
                                CCTTCA
                GAATTT
PK4B:  -30.395000(kcal/mol): PK_start=1515 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1578
(fs_start=1500)
                                TCCAACAA
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCT
                                GGACCGGA   GGGG
                                CCCCAC
                GAATTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(1176) DQ011172
=====
PK1:  -12.605000(kcal/mol): PK_start=1490 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1517
(fs_start=1509)
                                A
AAAGGAAGGACACCAAATGAAAGAGTGT
                                ACG   GAGAGTC
                                TTTTTAGGG
                GGCTAAT
PK2:  -20.330000(kcal/mol): PK_start=1494 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1531
(fs_start=1509)
                                C
GAAGGACACCAAATGAAAGAGTGTACTGAGAGG
                                GATTTTTT   AATCGGA
                                TTGGCCTTC
                GGAAAAT
PK3:  -23.745000(kcal/mol): PK_start=1517 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1551
(fs_start=1509)
                                AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTTT

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                                AGGCCAGGGA
                ACAAGGGG
PK4:  -25.010000(kcal/mol): PK_start=1524 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1561
(fs_start=1509)
                                CCAC
AGGCAGGCTAATTTTTTTAGGGAAAATTTGGCCTTC
                                GGACCGGAGG    GGAA
                                CCTTCA
                GAATTT

PK4B:  -26.865000(kcal/mol): PK_start=1524 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1587
(fs_start=1509)
                                TCCCACAA
AGGCAGGCTAATTTTTTTAGGGAAAATTTGGCCT
                                GGACCGGA    GGGG
                                CCCCAC
                GAATTTCTTCAGAACAGACCAGAGCCAACAG

=====
(1177) DQ011173
=====
PK1:  -15.585000(kcal/mol): PK_start=1485 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1513
(fs_start=1505)
                                A
GAAAGGAAGGACACCAAATGAAAGACTGT
                                GACA    GAGAGTC
                                TTTTTAGGG
                GCTAAT

PK2:  -21.940000(kcal/mol): PK_start=1490 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1527
(fs_start=1505)
                                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
                                GATTTTTT    AATCGGA
                                TTGGCCTTC
                GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1514 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1547
(fs_start=1505)
                                AAA
ACTGAGAGACAGGCTAATTTTTTTAGGGA
                                CCT    TCCGGTTT
                                AGGCCAGGAA
                AACAAGGGG

PK4:  -22.705000(kcal/mol): PK_start=1520 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1557
(fs_start=1505)
                                CAAC
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTTC
                                GGACCGGAGG    GGAA

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TCTTCA

AAATTT

PK4B: -26.865000(kcal/mol): PK_start=1520 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1583
(fs_start=1505)

TCCAACAA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG

CCCCAC

AAATTTTCTTCAGAACAGACCAGAGCCAACAG

=====

(1178) DQ011174

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PK1: -10.725000(kcal/mol): PK_start=1487 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1515
(fs_start=1507)

A

GAAAGGAAGGACACCAGATGAAAGATTGT

GACA GAGAGTT

TTTTTAGGG

GCTAAT

PK2: -18.430000(kcal/mol): PK_start=1492 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1528
(fs_start=1507)

C

GAAGGACACCAGATGAAAGATTGTATTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAAATC

PK3: -23.815000(kcal/mol): PK_start=1516 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1549
(fs_start=1507)

AAA

ATTGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTCT

AGGCCAGGGA

AACAAGGGG

PK4: -28.540000(kcal/mol): PK_start=1522 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1559
(fs_start=1507)

CAAC

AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAGG GGAA

CCTTCA

GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1522 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1585
(fs_start=1507)

TCCAACAA

AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT

GGACCGGA GGGG

CCCCAC
GAATTTCCCTTCAGAGCAGACCAGAGCCAACAG

=====
(1179) DQ011175
=====

PK1: -14.985000(kcal/mol): PK_start=1485 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1513
(fs_start=1505)

A
GGAAAGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -18.720000(kcal/mol): PK_start=1490 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1526
(fs_start=1505)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1513 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1547
(fs_start=1505)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -30.395000(kcal/mol): PK_start=1520 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1583
(fs_start=1505)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAACTTCATTCAGAGCAGGCCAGAGCCGACAG

=====
(1180) DQ011177
=====

PK1: -15.625000(kcal/mol): PK_start=1491 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1519
(fs_start=1511)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -21.980000(kcal/mol): PK_start=1496 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1533
(fs_start=1511)

C
GAAGGACACCAAATGAAAGACTGTACTGAAAGA


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                GATTTTTT   AATCGGA
                TTGGCCTTC
        GGAGAAT
PK3:  -17.120000(kcal/mol): PK_start=1519 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1553
(fs_start=1511)
                AA
TACTGAAAGACAGGCTAATTTTTTAGGGAG
                CCTTC   CGGTTT
                GCCGGGAA
        CTCAAGGGGAG
PK4:  -23.355000(kcal/mol): PK_start=1526 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1563
(fs_start=1511)
                TCCCTCA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
                GGGCCGGA   GGGGA
                TCCCTCA
        AAATT
PK4B: -25.145000(kcal/mol): PK_start=1526 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1589
(fs_start=1511)
                TCCCTCAA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
                GGGCCGGA   GGGG
                CCCCAC
        AAATTTCCCTCAGAGCAGACCAGAGCCAACAG
=====
(1181) DQ011178
=====
PK1:  -14.985000(kcal/mol): PK_start=1486 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1514
(fs_start=1506)
                A
GAAAGGAAGGGCACCAAATGAAAGACTGT
                GACG   GAGAGTC
                TTTTTAGGG
        GCTAAT
PK2:  -20.330000(kcal/mol): PK_start=1491 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1528
(fs_start=1506)
                C
GAAGGGCACCAAATGAAAGACTGTACTGAGAGG
                GATTTTTT   AATCGGA
                TTGGCCTTC
        GGAAAAT
PK3:  -23.745000(kcal/mol): PK_start=1514 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1548
(fs_start=1506)
                AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA

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          CCCT   TCCGGTTT
                AGGCCAGGGA
ACAAGGGG

PK4:  -18.485000(kcal/mol): PK_start=1521 sp=7 s1=9 s2=4 l1=6 l2=5 L3=0 PK_end=1557
(fs_start=1506)
                CCCACA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTT
                GGACCGGAG   GGGA
                                TTCTCC
                GAATT

PK4B:  -26.865000(kcal/mol): PK_start=1521 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1584
(fs_start=1506)
                TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA   GGGG
                                CCCCAC
                GAATTTTCTCCAGAACAGAACAGAGCCAACAG

=====
(1182) DQ011179
=====

PK1:  -12.445000(kcal/mol): PK_start=1486 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=1513
(fs_start=1506)
                AA
GGAAAGAAGGACACCAAATGAAAGACTGT
                GACG   GAAAGT
                                TTTTTAGG
                GCTAAT

PK2:  -18.090000(kcal/mol): PK_start=1492 sp=0 s1=7 s2=7 l1=1 l2=8 L3=0 PK_end=1528
(fs_start=1506)
                C
AAGGACACCAAATGAAAGACTGTAATGAAAGG
                ATTTTTT   AATCGGA
                                TTGGCCTTC
                GGGAAAAT

PK3:  -23.745000(kcal/mol): PK_start=1514 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1548
(fs_start=1506)
                AAA
TAATGAAAGGCAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTTT
                                AGGCCAGGGA
                ACAAGGGG

PK4:  -25.010000(kcal/mol): PK_start=1521 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1558
(fs_start=1506)
                CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC

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GGACCGGAGG GGAA
 CCTTCA
 GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1521 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1584
 (fs_start=1506)

TCCCACAA
 AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG
 CCCCAC
 GAATTTCC TTCAGAACAGGCCAGAGCCGTCAG

=====
 (1183) DQ011180
 =====

PK1: -14.945000(kcal/mol): PK_start=1487 sp=0 s1=3 s2=7 l1=4 l2=7 L3=0 PK_end=1517
 (fs_start=1509)

ACTA
 AAAGGAAGGACACCAAATGAAAGAATGC

ACG GAAAGTC
 TTTTTAGGG
 GGCTAAT

PK2: -20.370000(kcal/mol): PK_start=1494 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1531
 (fs_start=1509)

C
 GGACACCAAATGAAAGAATGCACTACTGAAAGG

GATTTTTT AATCGGA
 TTGGCCTTC
 GGAAAAT

PK3: -26.690000(kcal/mol): PK_start=1517 sp=0 s1=3 s2=10 l1=5 l2=3 L3=0 PK_end=1550
 (fs_start=1509)

AAAAT
 TACTGAAAGGCAGGCTAATTTTTTAGGG

CTC CCTTCCGGTT
 GGAAGGCCAGGG
 AAG

PK4: -23.515000(kcal/mol): PK_start=1524 sp=7 s1=8 s2=5 l1=7 l2=4 L3=0 PK_end=1560
 (fs_start=1509)

TCCCTCA
 AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA AGGGA
 TTCCTAC
 GAAT

=====
 (1184) DQ017382
 =====

PK1: -13.065000(kcal/mol): PK_start=1527 sp=0 s1=3 s2=8 l1=5 l2=22 l3=0 PK_end=1575
(fs_start=1568)

TCAAA
GCTGTTGGAAGTGTGGGCAAGAAGGACA
TGT TAGAAAGT
ATTTTTTAGG
AAAAATGAAGGAAGACAGGCTA

PK2: -14.180000(kcal/mol): PK_start=1551 sp=0 s1=7 s2=6 l1=4 l2=9 l3=1 PK_end=1589
(fs_start=1568)

AGAC
GACATCAAATGAAAGATTGTAAAAATGAAGGA
ATTTTTT A ATCGGA
TGGTCTCC
GGAAAGGGC

PK3: -23.845000(kcal/mol): PK_start=1579 sp=0 s1=5 s2=6 l1=1 l2=7 l3=0 PK_end=1608
(fs_start=1568)

C
AGGAAGACAGGCTAATTTTTTAGGAAAGGG
TTCCC TCTGGT
AGACCAGG
CAAAGGG

PK4: -25.970000(kcal/mol): PK_start=1579 sp=3 s1=4 s2=8 l1=1 l2=6 l3=0 PK_end=1609
(fs_start=1568)

G
AGGAAGACAGGCTAATTTTTTAGGAAAGG
TTCC CTCTGGTC
GAGACCAGGG
CAAAGG

=====
(1185) DQ017383
=====

PK1: -13.065000(kcal/mol): PK_start=1526 sp=0 s1=3 s2=8 l1=5 l2=22 l3=0 PK_end=1574
(fs_start=1567)

TCAAA
GCTGTTGGAATGTGGGCAAGAAGGACA
TGT TAGAAAGT
ATTTTTTAGG
AAAAATGAAGGAAGACAGGCTA

PK2: -14.180000(kcal/mol): PK_start=1550 sp=0 s1=7 s2=6 l1=4 l2=9 l3=1 PK_end=1588
(fs_start=1567)

AGAC
GACATCAAATGAAAGATTGTAAAAATGAAGGA
ATTTTTT A ATCGGA
TGGTCTCC
GGGAAGGGC

PK3: -25.895000(kcal/mol): PK_start=1577 sp=0 s1=6 s2=6 l1=1 l2=6 L3=0 PK_end=1607
(fs_start=1567)

C
AAGGAAGACAGGCTAATTTTTTAGGGAAGGG
CTTCCC TCTGGT
AGACCAGG
AAAGGG

PK4: -26.070000(kcal/mol): PK_start=1578 sp=3 s1=4 s2=8 l1=1 l2=6 L3=0 PK_end=1608
(fs_start=1567)

G
AGGAAGACAGGCTAATTTTTTAGGGAAGG
TTCC CTCTGGTC
GAGACCAGGG
CAAAGG

=====
(1186) DQ020274
=====

PK1: -11.420000(kcal/mol): PK_start=1510 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=1536
(fs_start=1530)

CACA
GAAGGGAAGGACATCAAATGAAAGACTG
GAC AGAGAG
TTTTTTAG
GCTAA

PK2: -18.660000(kcal/mol): PK_start=1517 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1552
(fs_start=1530)

C
AGGACATCAAATGAAAGACTGCACAGAGAGA
TTTTTT AATCGGA
TTGGCCTC
AGGGAAACT

PK3: -26.955000(kcal/mol): PK_start=1538 sp=0 s1=4 s2=9 l1=2 l2=8 L3=0 PK_end=1573
(fs_start=1530)

AA
CACAGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTTC
AGGCCAGGGAA
ACAAGGGA

PK4: -24.145000(kcal/mol): PK_start=1544 sp=6 s1=9 s2=4 l1=8 l2=3 L3=0 PK_end=1580
(fs_start=1530)

TCCCACAA
GAGACAGGCTAATTTTTTAGGGAAACTTTGGCCT
GGGACCGGA AGGG
TTCCCC
AAT

=====
(1187) DQ054367
=====

PK1: -10.640000(kcal/mol): PK_start=2015 sp=0 s1=3 s2=7 l1=1 l2=18 l3=0 PK_end=2053
(fs_start=2046)

A
TTGGAAATGTGGAAAGGAAGGACACCAA
GTT AGAAAGT
TTTTTTAGG
CACTGAAAGACAGGCTAA

PK2: -20.500000(kcal/mol): PK_start=2031 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=2067
(fs_start=2046)

C
GAAGGACACCAAATGAAAGATTGCACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=2054 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=2088
(fs_start=2046)

A
CACTGAAAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGAA
ACAATGGAAG

PK4: -24.040000(kcal/mol): PK_start=2061 sp=7 s1=7 s2=4 l1=10 l2=4 l3=0 PK_end=2096
(fs_start=2046)

TTCCACAAT
AGACAGGCTAATTTTTTAGGGAAGATCTGGCC
GGACCGG AAGG
TTCCCT
AAAC

=====
(1188) DQ056404
=====

PK1: -15.585000(kcal/mol): PK_start=1489 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1517
(fs_start=1509)

A
GGAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1494 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1530
(fs_start=1509)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT A ATCGGA

TGGCCTTC

GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1517 sp=0 s1=4 s2=8 l1=3 l2=11 l3=0 PK_end=1554
(fs_start=1509)

AAA

TACTGAGAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT

AGGCCAGGGA

ACAAGGGGGGG

PK4: -30.300000(kcal/mol): PK_start=1524 sp=7 s1=11 s2=4 l1=5 l2=7 l3=0 PK_end=1565
(fs_start=1509)

CACAA

AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTCC

GGACCGGAGGG GGGG

CTTCAG

GAATTTTC

PK4B: -34.030000(kcal/mol): PK_start=1524 sp=7 s1=11 s2=4 l1=5 l2=32 l3=0
PK_end=1590 (fs_start=1509)

CACAA

AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTCC

GGACCGGAGGG GGGG

CTCCAC

GAATTTCTTCAGAACAGGCCAGAGCCAACAG

=====
(1189) DQ056405
=====

PK1: -15.625000(kcal/mol): PK_start=1490 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1518
(fs_start=1510)

A

GAAAGGAAGGACACCAAATGAAAGACTGT

GACA GAAAGTC

TTTTTAGGG

GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1495 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1531
(fs_start=1510)

C

GAAGGACACCAAATGAAAGACTGTACTGAAAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1518 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=1552
(fs_start=1510)

AAA

TACTGAAAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT

AGGCCAGGGA

ACAAGGGG

PK4: -28.540000(kcal/mol): PK_start=1525 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1562
(fs_start=1510)

CCAC

AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAGG GGAA

CCTTCA

GAACTT

PK4B: -27.515000(kcal/mol): PK_start=1525 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1588
(fs_start=1510)

TCCCACAA

AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT

GGACCGGA GGGG

CTCCAC

GAACTTCCTTCAGAGCAGACCAGAGCCTTCAG

=====
(1190) DQ056406
=====

PK1: -14.985000(kcal/mol): PK_start=1486 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1514
(fs_start=1506)

A

GAAAAGAAGGACACCAAATGAAAGACTGT

GACG GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1491 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1528
(fs_start=1506)

C

GAAGGACACCAAATGAAAGACTGTACTGAGAGG

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1515 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1548
(fs_start=1506)

AAA

ACTGAGAGGCAGGCTAATTTTTTAGGGA

CCT TCCGGTTT

AGGCCAGGGA

ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1521 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1558
(fs_start=1506)

CAAC

AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC

GGACCGGAGG GGAA


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                                CCTTCA
                                GAATTT
PK4B:  -26.865000(kcal/mol): PK_start=1521 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1584
(fs_start=1506)
                                TCCAACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
                                GGACCGGA    GGGG
                                CCCCAC
                                GAATTTCTTCAGAGCAGGCCAGAGCCAACAG

=====
(1191) DQ056408
=====
PK1:  -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)
                                A
GAAAGGAAGGACATCAAATGAAAGATTGT
                                GACA    GAGAGTC
                                TTTTtaggg
                                GCTAAT

PK2:  -21.940000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1525
(fs_start=1503)
                                C
GAAGGACATCAAATGAAAGATTGTACTGAGAGA
                                GATTTTTT    AATCGGA
                                TTGGCCTTC
                                GGAAAAT

PK3:  -23.745000(kcal/mol): PK_start=1511 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1545
(fs_start=1503)
                                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCCT    TCCGGTTT
                                AGGCCAGGGA
                                ACAAGGGG

PK4:  -25.010000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)
                                CCAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
                                GGACCGGAGG    GGAA
                                CCTTCA
                                GAATTT

PK4B:  -26.865000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1581
(fs_start=1503)
                                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                                GGACCGGA    GGGG

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CCCCAC
GAATTTCTTCAGAACAGGCCAGAGCCAACAG

=====
(1192) DQ056409
=====

PK1: -15.025000(kcal/mol): PK_start=1486 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1514
(fs_start=1506)

A
GAAGGGAAGGACACCAAATGAAAGACTGT

GACG GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.370000(kcal/mol): PK_start=1491 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1528
(fs_start=1506)

C
GAAGGACACCAAATGAAAGACTGTACTGAAAGG

GATTTTTT AATCGGA
TTGGCCTTC
GGAAGAT

PK3: -22.580000(kcal/mol): PK_start=1514 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1548
(fs_start=1506)

A
TACTGAAAGGCAGGCTAATTTTTTAGGGAAG

CCCTTC CGGTTT
GCCAGGGA
ACAGGGGGAG

PK4: -22.355000(kcal/mol): PK_start=1521 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1558
(fs_start=1506)

CCAC
AGGCAGGCTAATTTTTTAGGGAAGATTGGCCTTC

GGACCGGAG GGG
TCTTCA
GAATTT

PK4B: -27.725000(kcal/mol): PK_start=1521 sp=7 s1=9 s2=4 l1=6 l2=32 L3=0 PK_end=1584
(fs_start=1506)

CCCACA
AGGCAGGCTAATTTTTTAGGGAAGATTGGCCTT

GGACCGGAG GGGG
CCCCAC
GAATTTCTTCAGAACAGACCAGAGCCAACAG

=====
(1193) DQ056410
=====

PK1: -11.500000(kcal/mol): PK_start=1469 sp=0 s1=3 s2=7 l1=5 l2=17 L3=1 PK_end=1510
(fs_start=1504)

CCAAA
GCTGTTGAAATGTGAAAAGAAGACA

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          TGT C AGAAAGT
                TTTTTTAGG
          ACCGAGAGGCAGGCTAA

PK2:  -15.910000(kcal/mol): PK_start=1491 sp=0 s1=5 s2=6 l1=2 l2=11 L3=1 PK_end=1525
(fs_start=1504)
                GC
          AGGACACCAAATGAAAGACTGTACCGAGAG
                TTTTT A ATCGGA
                TGGCCTTC
          TAGGGAAAATC

PK3:  -27.115000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)
                AAA
          TACCGAGAGGCAGGCTAATTTTTTAGGGA
                CCCT TCCGGTCT
                GGGCCAGGGA
          AGAAGGGG

PK4:  -26.235000(kcal/mol): PK_start=1519 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1556
(fs_start=1504)
                TCCCAGAA
          AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCT
                GGACCGGG GGGG
                CCTCCA
          GAATTT

PK4B: -30.015000(kcal/mol): PK_start=1519 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1582
(fs_start=1504)
                TCCCAGAA
          AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCT
                GGACCGGG GGGG
                CCCAC
          GAATTTCTCCAGAGCAGGCCAGAGCCGACAG

=====
(1194) DQ056411
=====

PK1:  -12.745000(kcal/mol): PK_start=1487 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1514
(fs_start=1506)
                A
          AAAGGAAGGACACCAAATGAAAGAATGT
                ACG GAAAGTC
                TTTTTTAGGG
          GGCTAAT

PK2:  -20.370000(kcal/mol): PK_start=1491 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1528
(fs_start=1506)
                C
          GAAGGACACCAAATGAAAGAATGTACTGAAAGG

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                GATTTTTT   AATCGGA
                    TTGGCCTTC
    GGAAAAT
PK3:  -23.745000(kcal/mol): PK_start=1514 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1548
(fs_start=1506)
                AAA
TACTGAAAGGCAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTTT
                    AGGCCAGGGA
    ACAAGGGG
PK4:  -25.010000(kcal/mol): PK_start=1521 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1558
(fs_start=1506)
                    CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
                GGACCGGAGG   GGAA
                    CCTTCA
    GAATTT
PK4B: -26.865000(kcal/mol): PK_start=1521 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1584
(fs_start=1506)
                    TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA   GGGG
                    CCCCAC
    GAATTTCTTCAGAGCAGGCCAGAGCCAACAG
=====
(1195) DQ056412
=====
PK1:  -15.025000(kcal/mol): PK_start=1487 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1515
(fs_start=1507)
                A
GACAAGAAGGACACCAAATGAAAGACTGT
                GACG   GAAAGTC
                    TTTTTAGGG
    GCTAAT
PK2:  -20.370000(kcal/mol): PK_start=1492 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1529
(fs_start=1507)
                C
GAAGGACACCAAATGAAAGACTGTACTGAAAGG
                GATTTTTT   AATCGGA
                    TTGGCCTTC
    GGAAAAT
PK3:  -22.025000(kcal/mol): PK_start=1515 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1549
(fs_start=1507)
                AAA
TACTGAAAGGCAGGCTAATTTTTTAGGGA

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          CCCT   TCCGGTTT
                AGGCCGGGGA
ACAAGGGG

PK4:  -23.290000(kcal/mol): PK_start=1522 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1559
(fs_start=1507)
                CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
                GGGCCGGAGG   GGAA
                                CCTTCA
                GAATTT

PK4B:  -25.145000(kcal/mol): PK_start=1522 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1585
(fs_start=1507)
                TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGGCCGGA   GGGG
                                CCCAC
                GAATTCCTTCAGAACAGACTAGAGCCAACGG

=====
(1196) DQ056413
=====
PK1:  -15.025000(kcal/mol): PK_start=1496 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1524
(fs_start=1516)
                A
GAAAAGAAGGACACCAAATGAAAGACTGT
                GACG   GAAAGTC
                                TTTTTAGGG
                GCTAAT

PK2:  -18.760000(kcal/mol): PK_start=1501 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1537
(fs_start=1516)
                C
GAAGGACACCAAATGAAAGACTGTACTGAAAGG
                GATTTTTT   A   ATCGGA
                                TGGCCTTC
                GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1524 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1558
(fs_start=1516)
                AAA
TACTGAAAGGCAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTCT
                                AGGCCAGGGA
                ACAAGGGG

PK4:  -28.540000(kcal/mol): PK_start=1531 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1568
(fs_start=1516)
                CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

```

GGACCGGAGG GGAA
 CCTTCA
 GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1531 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1594
 (fs_start=1516)

TCCCACAA
 AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCT

GGACCGGA GGGG
 CCCCAC
 GAATTTCTTCAGAGCAGGCCAGAGCCGACAG

=====
 (1197) DQ056414
 =====

PK1: -14.985000(kcal/mol): PK_start=1487 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1515
 (fs_start=1507)

A
 GAAAGGAAGGACACCAAATGAAAGACTGT

GACG GAGAGTC
 TTTTTAGGG
 GCCAAT

PK2: -22.590000(kcal/mol): PK_start=1492 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1529
 (fs_start=1507)

C
 GAAGGACACCAAATGAAAGACTGTACTGAGAGG

GATTTTTT AACCGGA
 TTGGCCTTC
 GGGGAAT

PK3: -17.130000(kcal/mol): PK_start=1515 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1549
 (fs_start=1507)

AA
 TACTGAGAGGCAGGCCAATTTTTTAGGGGG

CCTTC CGGTTT
 GCCAGGGA
 CACAAGGGGAG

PK4: -25.010000(kcal/mol): PK_start=1522 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1559
 (fs_start=1507)

CCAC
 AGGCAGGCCAATTTTTTAGGGGGAATTTGGCCTTC

GGACCGGAGG GGAA
 CCTTCA
 GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1522 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1585
 (fs_start=1507)

TCCCACAA
 AGGCAGGCCAATTTTTTAGGGGGAATTTGGCCT

GGACCGGA GGGG
CCCCAC
GAATTTCCCTTCAGAACAGACCAGAGCCAACAG

=====
(1198) DQ056415
=====

PK1: -13.595000(kcal/mol): PK_start=1502 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1530
(fs_start=1522)

A
GAAAAGAGGGACACCAAATGAAAGATTGT

GACA GAAAGTC
TTTTTAGGG
GTTAAT

PK2: -18.490000(kcal/mol): PK_start=1507 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1544
(fs_start=1522)

C
GAGGGACACCAAATGAAAGATTGTACTGAAAGA

GATTTTTT AATTGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1530 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1564
(fs_start=1522)

AAA
TACTGAAAGACAGGTTAATTTTTTAGGGA

CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -26.865000(kcal/mol): PK_start=1537 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1575
(fs_start=1522)

TCCCACAA
AGACAGGTTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG
CCCCAG
GAATTC

PK4B: -26.865000(kcal/mol): PK_start=1537 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1600
(fs_start=1522)

TCCCACAA
AGACAGGTTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG
CCCCAC
GAATTTCCCCAGAGCAGACTAGAGCCAACAG

=====
(1199) DQ056416
=====

PK1: -14.985000(kcal/mol): PK_start=1486 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1514
(fs_start=1506)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1491 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1528
(fs_start=1506)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAGAAT

PK3: -18.840000(kcal/mol): PK_start=1514 sp=0 s1=5 s2=6 l1=2 l2=14 L3=0 PK_end=1551
(fs_start=1506)

AA
TACTGAGAGGCAGGCTAATTTTTTAGGGAG
CCTTC CGGTTT
GCCAGGGA
CACAAAGGGGGGAG

PK4: -34.330000(kcal/mol): PK_start=1522 sp=8 s1=11 s2=4 l1=3 l2=39 L3=0 PK_end=1593
(fs_start=1506)

ACA
GGCAGGCTAATTTTTTAGGGAGAATTTGGCCTTCCC
GACCGGAGGGG GGGA
CCCTTC
GGAATTTTCCTTCAGAACAGACCAGAACCAACAGCCCCAC

=====
(1200) DQ056417
=====

PK1: -15.025000(kcal/mol): PK_start=1486 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1514
(fs_start=1506)

A
GAAGAGAAGGACACCAAATGAAAGACTGT
GACG GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.370000(kcal/mol): PK_start=1491 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1528
(fs_start=1506)

C
GAAGGACACCAAATGAAAGACTGTACTGAAAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAGAAT

PK3: -18.840000(kcal/mol): PK_start=1514 sp=0 s1=5 s2=6 l1=2 l2=11 l3=0 PK_end=1548
(fs_start=1506)

AA
TACTGAAAGGCAGGCTAATTTTTTAGGGAG
CCTTC CGGTTT
GCCAGGGA
CACAAAGGGGAG

PK4: -26.865000(kcal/mol): PK_start=1521 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=1584
(fs_start=1506)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAGAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCATGCAGAACAGGCTAGAGCCGACAG

=====
(1201) DQ056418
=====

PK1: -15.025000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1511
(fs_start=1503)

A
GACAAGAAGGACACCAAATGAAAGACTGT
GACG GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -18.760000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1524
(fs_start=1503)

C
GAAGGACACCAAATGAAAGACTGTACTGAAAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1511 sp=0 s1=4 s2=8 l1=3 l2=11 l3=0 PK_end=1548
(fs_start=1503)

AAA
TACTGAAAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
GCAACAAGGGG

PK4: -28.540000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=7 l2=6 l3=0 PK_end=1558
(fs_start=1503)

CCGCAAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAACTT

=====
(1202) DQ083238
=====

PK1: -15.625000(kcal/mol): PK_start=2066 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2094
(fs_start=2086)

A
GGAAAGAGGGACACCAAATGAAAGACTGT
GACA GAAAGTC
TTTTTAGGA
GCTAAT

PK2: -21.980000(kcal/mol): PK_start=2071 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2108
(fs_start=2086)

C
GAGGGACACCAAATGAAAGACTGTACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GAAGAAT

PK3: -19.320000(kcal/mol): PK_start=2094 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=2128
(fs_start=2086)

AA
TACTGAAAGACAGGCTAATTTTTTTAGGAAG
CCTTC CGGTTT
GCCAGGAA
AGCAAGGGGAG

PK4: -24.120000(kcal/mol): PK_start=2101 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=2139
(fs_start=2086)

TTCCAGCAA
AGACAGGCTAATTTTTTTAGGAAGAATTTGGCC
GGACCGG AGGGG
TCCTCAG
AAATTT

PK4B: -21.200000(kcal/mol): PK_start=2102 sp=8 s1=6 s2=4 l1=9 l2=33 L3=1 PK_end=2163
(fs_start=2086)

TTCCAGCAA
GACAGGCTAATTTTTTTAGGAAGAATTTGGCC
GACCGG A GGGG
CTCCAC
GAAATTTTCCTCAGAACAGACTGGAACCAACAG

=====
(1203) DQ085867
=====

PK1: -15.140000(kcal/mol): PK_start=1459 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1487
(fs_start=1479)

CA
GAAAAGAAGGACATCAAATGAAAGACTG
GAC AGAAAGTC

```

          TTTTTTAGGG
    GCTAA
PK2:  -21.980000(kcal/mol): PK_start=1464 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1501
(fs_start=1479)
          C
    GAAGGACATCAAATGAAAGACTGCACTGAAAGA
          GATTTTTT   AATCGGA
          TTGGCCTTC
    GGAAAAAT
PK3:  -21.780000(kcal/mol): PK_start=1487 sp=0 s1=5 s2=4 l1=5 l2=9 L3=0 PK_end=1518
(fs_start=1479)
          AATTT
    CACTGAAAGACAGGCTAATTTTTTTAGGGAA
          CCCTT   CCGG
          GGCCCG
    ACAAGGGGA
PK4:  -22.820000(kcal/mol): PK_start=1497 sp=10 s1=7 s2=4 l1=4 l2=9 L3=0 PK_end=1531
(fs_start=1479)
          CCAC
    CAGGCTAATTTTTTTAGGGAAAATTTGGCCTTC
          CCGGAGG   GGAA
          CCTTCA
    CGGAAATTT
PK4B:  -24.675000(kcal/mol): PK_start=1497 sp=10 s1=5 s2=4 l1=8 l2=35 L3=0
PK_end=1557 (fs_start=1479)
          TCCCACAA
    CAGGCTAATTTTTTTAGGGAAAATTTGGCCT
          CCGGA   GGGG
          CCCCCG
    CGGAAATTTCTTCAGAACAGGCCAGAACCAACAG
=====
(1204) DQ085868
=====
PK1:  -13.555000(kcal/mol): PK_start=1274 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1302
(fs_start=1294)
          A
    GAAGAGAAGGACACCAAATGAAAGATTGT
          GACA   GAGAGTC
          TTTTTTAGGG
    GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1279 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1315
(fs_start=1294)
          C
    GAAGGACACCAAATGAAAGATTGTACTGAGAGA
          GATTTTTT   A   AATCGGA

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                                TGGCCTTC
          GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1302 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1336
(fs_start=1294)
                                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTCT
                                AGGCCAGGGA
          ACAAGGGA
PK4:  -29.020000(kcal/mol): PK_start=1309 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1346
(fs_start=1294)
                                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAAG   GGAA
                                CCTTCA
          GAATTT
=====
(1205) DQ085869
=====
PK1:  -13.555000(kcal/mol): PK_start=1480 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1508
(fs_start=1500)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                                GACA   GAGAGTC
                                TTTTTAGGG
          GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1485 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1521
(fs_start=1500)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                                GATTTTTT   A   ATCGGA
                                TGGCCTTC
          GGAAGATC
PK3:  -25.060000(kcal/mol): PK_start=1508 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1542
(fs_start=1500)
                                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                                TCCTTC   CGGTCT
                                GCCAGGGA
          CCAAGGGAAG
PK4:  -26.715000(kcal/mol): PK_start=1515 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1552
(fs_start=1500)
                                CTCC
AGACAGGCTAATTTTTTAGGGAAAGATCTGGCCTTC
                                GGACCGGAAG   GGAA

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TCTTCA

GAATTT

PK4B: -26.530000(kcal/mol): PK_start=1515 sp=7 s1=8 s2=4 l1=1 l2=40 L3=7 PK_end=1579
(fs_start=1500)

T

AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCT

GGACCGGA AGGGAAC CTCC

GAGGAG

GAATTTTTCTTCAGAACAGACCAGAGCCAACAGCCCCACCA

=====

(1206) DQ085870

=====

PK1: -9.405000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=6 l1=2 l2=5 L3=0 PK_end=1509
(fs_start=1503)

AC

GAAAGGAAGGACACCAAATGAAAGATTGT

GACA GAGAGG

TTTTTTAG

GCTAA

PK2: -17.280000(kcal/mol): PK_start=1490 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=1524
(fs_start=1503)

C

AGGACACCAAATGAAAGATTGTACGGAGAGA

TTTTTT A ATCGGA

TGGCCTTC

AGGGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)

A

TACGGAGAGACAGGCTAATTTTTTTAGGGAAG

TCCTTC CGGTCT

GCCAGGGA

CCAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)

CTCC

AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCTTC

GGACCGGAAG GGAA

TCTTCA

GAATTT

PK4B: -26.530000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=4 l1=1 l2=40 L3=7 PK_end=1582
(fs_start=1503)

T

AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCT

GGACCGGA AGGGAAC CTCC

GAGGAG
GAATTTTCTTCAGAACAGACCAGAGCCAACAGCCCCACCA

=====
(1207) DQ085872
=====

PK1: -15.625000(kcal/mol): PK_start=1473 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1501
(fs_start=1493)

A
GAAGAGAAGGACACCAAATGAAAGACTGT

GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1478 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1514
(fs_start=1493)

C
GAAGGACACCAAATGAAAGACTGTACTGAAAGA

GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1501 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1535
(fs_start=1493)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -28.540000(kcal/mol): PK_start=1508 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1545
(fs_start=1493)

CCAC
AGACAGGCTAATTTTTTAGGAAAATCTGGCCTTC

GGACCGGAGG GGAA
CCTTCA
GAATTT

=====
(1208) DQ085873
=====

PK1: -10.640000(kcal/mol): PK_start=1419 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1457
(fs_start=1450)

A
TTGGAAATGTGGAAGAGAAGGACACCAA

GTT AGAAAGT
TTTTTTAGG
CACTGAAAGACAGGCTAA

PK2: -21.980000(kcal/mol): PK_start=1435 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1472
(fs_start=1450)

C
GAAGGACACCAAATGAAAGATTGCACTGAAAGA

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          GATTTTTT   AATCGGA
                    TTGGCCTTC
GGAAAAT
PK3:  -21.780000(kcal/mol): PK_start=1458 sp=0 s1=5 s2=4 l1=5 l2=9 L3=0 PK_end=1489
(fs_start=1450)
          AATTT
CACTGAAAGACAGGCTAATTTTTTTAGGGAA
          CCCTT   CCGG
                    GGCCCG
          ACAAGGGGA
PK4:  -22.820000(kcal/mol): PK_start=1468 sp=10 s1=7 s2=4 l1=4 l2=9 L3=0 PK_end=1502
(fs_start=1450)
          CCAC
CAGGCTAATTTTTTTAGGGAAAATTTGGCCTTC
          CCGGAGG   GGAA
                    CCTTCA
          CGGAAATTT
PK4B:  -24.675000(kcal/mol): PK_start=1468 sp=10 s1=5 s2=4 l1=8 l2=35 L3=0
PK_end=1528 (fs_start=1450)
          TCCCACAA
CAGGCTAATTTTTTTAGGGAAAATTTGGCCT
          CCGGA   GGGG
                    CCCCCG
          CGGAAATTTCTTCAGAACAGGCCAGAGCCAACAG
=====
(1209) DQ085874
=====
PK1:  -15.140000(kcal/mol): PK_start=1472 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1500
(fs_start=1492)
          CA
GAAAGGAAGGACATCAAATGAAAGACTG
          GAC   AGAAAGTC
                    TTTTTTTAGGG
          GCTAA
PK2:  -21.980000(kcal/mol): PK_start=1477 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1514
(fs_start=1492)
          C
GAAGGACATCAAATGAAAGACTGCACTGAAAGA
          GATTTTTT   AATCGGA
                    TTGGCCTTC
          GGAGAAT
PK3:  -21.415000(kcal/mol): PK_start=1500 sp=0 s1=5 s2=4 l1=5 l2=9 L3=0 PK_end=1531
(fs_start=1492)
          AATTT
CACTGAAAGACAGGCTAATTTTTTTAGGGAG

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CCCTT CCGG
 GGCCCG
 ACAAGGGAA

PK4: -23.30000(kcal/mol): PK_start=1510 sp=10 s1=7 s2=4 l1=4 l2=9 L3=0 PK_end=1544
 (fs_start=1492)

CCAC
 CAGGCTAATTTTTTAGGGAGAATTTGGCCTTC
 CCGGAAG GGAA
 CCTTCA
 CGGGAATTT

=====
 (1210) DQ085875
 =====

PK1: -13.805000(kcal/mol): PK_start=1488 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1516
 (fs_start=1508)

A
 GACAGGAAGGACACCAAATGAAAGATTGT
 GACA AAAAGTC
 TTTTTAGGG
 GCTAAT

PK2: -20.540000(kcal/mol): PK_start=1493 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1529
 (fs_start=1508)

C
 GAAGGACACCAAATGAAAGATTGTACTGAAAAA
 GATTTTTT A ATCGGA
 TGGCCTTC
 GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1516 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1550
 (fs_start=1508)

A
 TACTGAAAAACAGGCTAATTTTTTAGGGAAG
 CCCTTC CGGTCT
 GCCAGGGA
 AAAAGGGAAG

PK4: -26.445000(kcal/mol): PK_start=1523 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1560
 (fs_start=1508)

TCCCAA
 AAACAGGCTAATTTTTTAGGGAAGATCTGGCCT
 GGACCGGA AGGGA
 TTCCTCA
 GAATT

=====
 (1211) DQ093585
 =====

PK1: -12.34000(kcal/mol): PK_start=1484 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1512 (fs_start=1504)

CA
GACAGGAAGGACACCAAATGAAAGACTG
GAC AGAGGGTC
TTTTTTAGGG
GCTAA

PK2: -19.18000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1526 (fs_start=1504)

C
GAAGGACACCAAATGAAAGACTGCACTGGGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.74500(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546 (fs_start=1504)

AAA
CACTGGGAGACAGGCTAATTTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -22.81500(kcal/mol): PK_start=1519 sp=7 s1=9 s2=4 l1=6 l2=5 L3=0 PK_end=1555 (fs_start=1504)

CCCACA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTT
GGACCGGAG GGGA
TCCTAC
GAACT

PK4B: -26.86500(kcal/mol): PK_start=1519 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1582 (fs_start=1504)

TCCCACAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCGC
GAACTTCCTACAGAGCCGTCCAGAGCCATCAG

=====
(1212) DQ093586
=====

PK1: -12.40500(kcal/mol): PK_start=1484 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=1511 (fs_start=1504)

GA
GGAAAGAAGGACACCAAATGGAAGACTGT
GACG GAGAGT
TTTTTAGG
GCTAAT

PK2: -18.05000(kcal/mol): PK_start=1490 sp=0 s1=7 s2=7 l1=1 l2=8 L3=0 PK_end=1526
(fs_start=1504)

C
AAGGACACCAAATGGAAGACTGTGATGAGAGG
 ATTTTTT AATCGGA
 TTGGCCTTC
 GGGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TGATGAGAGGCAGGCTAATTTTTTAGGGA
 CCCT TCCGGTTT
 AGGCCAGGGA
 ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
 GGACCGGAGG GGAA
 CCTTCA
 GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1519 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1582
(fs_start=1504)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
 GGACCGGA GGGG
 CCCCAC
 GAATTTTCCTTCAGAGCAGACCAGAGCCAACAG

=====
(1213) DQ093587
=====

PK1: -14.985000(kcal/mol): PK_start=1487 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1515
(fs_start=1507)

A
GAAAGGAAGGGCACCAAATGAAAGACTGT
 GACG GAGAGTC
 TTTTTAGGG
 GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1492 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1529
(fs_start=1507)

C
GAAGGGCACCAAATGAAAGACTGTACTGAGAGG
 GATTTTTT AATCGGA
 TTGGCCTTC
 GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1515 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1549
(fs_start=1507)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1522 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1559
(fs_start=1507)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1522 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1585
(fs_start=1507)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCCTTCAGAACAGGCCAGCCAACAG

=====
(1214) DQ093588
=====

PK1: -15.585000(kcal/mol): PK_start=1486 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1514
(fs_start=1506)

A
GAAAGGAAGGACATCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -21.940000(kcal/mol): PK_start=1491 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1528
(fs_start=1506)

C
GAAGGACATCAAATGAAAGACTGTACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1515 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1548
(fs_start=1506)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AGCAAAGGA

PK4: -23.395000(kcal/mol): PK_start=1521 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1558
(fs_start=1506)

TCCAGCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA AGGAA
TCCTTCA
GAATT

=====
(1215) DQ093589
=====

PK1: -14.985000(kcal/mol): PK_start=1494 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1522
(fs_start=1514)

A
GAAAGGAAGGACACCGAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1499 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1536
(fs_start=1514)

C
GAAGGACACCGAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1522 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1556
(fs_start=1514)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -23.985000(kcal/mol): PK_start=1529 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1567
(fs_start=1514)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CTCCAG
GAATTTTC

PK4B: -26.865000(kcal/mol): PK_start=1529 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1592
(fs_start=1514)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCCTCCAGAGCCGACCAGAGCCAACAG

=====
(1216) DQ093590
=====

PK1: -17.185000(kcal/mol): PK_start=1487 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1515
(fs_start=1507)

A
GAAAGGAAGGACACCAAATGAAAGACTGC
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1492 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1529
(fs_start=1507)

C
GAAGGACACCAAATGAAAGACTGCACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAGT

PK3: -23.745000(kcal/mol): PK_start=1515 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=1549
(fs_start=1507)

AAG
CACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1522 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1559
(fs_start=1507)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAGTTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1522 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=1585
(fs_start=1507)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAGTTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCTTCAGAACAGACCGGAGCCATCAG

=====
(1217) DQ093591
=====

PK1: -15.585000(kcal/mol): PK_start=1486 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1514
(fs_start=1506)

A
GAAAGGAAGGACATCAAATGAAAGACTGT
GACA GAGAGTC

TTTTTAGGG
GCTAAT
PK2: -21.940000(kcal/mol): PK_start=1491 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1528
(fs_start=1506)

C
GAAGGACATCAAATGAAAGACTGTACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1514 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1548
(fs_start=1506)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
AGAAGGGG

PK4: -28.960000(kcal/mol): PK_start=1521 sp=7 s1=11 s2=4 l1=2 l2=7 L3=0 PK_end=1559
(fs_start=1506)

CA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTCC
GGACCGGAGGG GAAG
CTTCAG
GAATTTTC

PK4B: -26.865000(kcal/mol): PK_start=1521 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1584
(fs_start=1506)

TCCCAGAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCTTCAGAACAGACCAGAGCCAACAG

=====
(1218) DQ093592
=====

PK1: -15.025000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAAGAAGGACACCAAATGAAAGACTGT
GACG GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.370000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1526
(fs_start=1504)

C
GAAGGACACCAAATGAAAGACTGTACTGAAAGG
GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAAT

PK3: -23.745000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA

TACTGAAAGGCAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT

AGGCCAGGGA

ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC

AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC

GGACCGGAGG GGAA

CCTTCA

GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1519 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1582
(fs_start=1504)

TCCCACAA

AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG

CCCCAC

GAATTTCTTCAGAGCAGGCCAGAGCCAACAG

=====

(1219) DQ093593

=====

PK1: -14.985000(kcal/mol): PK_start=1487 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1515
(fs_start=1507)

A

GAAAGGAAGGACACCAAATGAAAGACTGT

GACG GAGAGTC

TTTTTAGGG

GCCAAT

PK2: -22.590000(kcal/mol): PK_start=1492 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1529
(fs_start=1507)

C

GAAGGACACCAAATGAAAGACTGTACTGAGAGG

GATTTTTT AACCGGA

TTGGCCTTC

GGAAAAAT

PK3: -23.745000(kcal/mol): PK_start=1515 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1549
(fs_start=1507)

AAA

TACTGAGAGGCAGGCCAATTTTTTAGGGA

CCCT TCCGGTTT

```

                                AGGCCAGGGA
ACAAGGGG

PK4:  -25.010000(kcal/mol): PK_start=1522 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1559
(fs_start=1507)
                                CCAC
AGGCAGGCCAATTTTTTAGGGAAAATTTGGCCTTC
                                GGACCGGAGG    GGAA
                                CCTTCA
                                GAATTT

PK4B:  -26.865000(kcal/mol): PK_start=1522 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1585
(fs_start=1507)
                                TCCCACAA
AGGCAGGCCAATTTTTTAGGGAAAATTTGGCCT
                                GGACCGGA    GGGG
                                CCCCAC
                                GAATTTCTTCAGAGCAGGCCAGAGCCAACAG

=====
(1220) DQ093594
=====
PK1:  -14.985000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)
                                A
GAAAAGAAGGACACCAAATGAAAGACTGT
                                GACG    GAGAGTC
                                TTTTTAGGG
                                GCTAAT

PK2:  -20.330000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1525
(fs_start=1503)
                                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
                                GATTTTTT    AATCGGA
                                TTGGCCTTC
                                GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1512 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1545
(fs_start=1503)
                                AAA
ACTGAGAGGCAGGCTAATTTTTTAGGGA
                                CCT    TCCGGTTT
                                AGGCCAGGGA
                                AACAAGGGG

PK4:  -25.010000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)
                                CAAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
                                GGACCGGAGG    GGAA

```


CCTTCA

GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1581
(fs_start=1503)

TCCAACAA

AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG

CCCCAC

GAATTTCC TTCAGAGCAGACCAGAGCCAACAG

=====
(1221) DQ093595
=====

PK1: -14.985000(kcal/mol): PK_start=1491 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1519
(fs_start=1511)

A

GAAAGGAAGGACACCAAATGAAAGACTGT

GACG GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1496 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1533
(fs_start=1511)

C

GAAGGACACCAAATGAAAGACTGTACTGAGAGG

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1519 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1553
(fs_start=1511)

AAA

TACTGAGAGGCAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT

AGGCCAGGGA

ACAAGGGA

PK4: -25.490000(kcal/mol): PK_start=1526 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1563
(fs_start=1511)

CCAC

AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC

GGACCGGAAG GGAA

CCTTCA

GAATTT

=====
(1222) DQ093596
=====

PK1: -13.065000(kcal/mol): PK_start=1471 sp=0 s1=3 s2=8 l1=5 l2=19 L3=0 PK_end=1516
(fs_start=1509)

CCAAA

GCTGTTGGAAATGTGGAAAGGAAGGACA

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          TGT   TAGAAAGT
                ATTTTTTAGG
          ACTAATGAGAGGCAGGCTA

PK2:  -16.440000(kcal/mol): PK_start=1495 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1530
(fs_start=1509)
                C
          GACACCAAATGAAAGATTGTACTAATGAGAGG
                ATTTTTT  A  ATCGGA
                        TGGCCTTC
          GGGAAAATA

PK3:  -21.005000(kcal/mol): PK_start=1518 sp=0 s1=3 s2=6 l1=5 l2=9 L3=0 PK_end=1549
(fs_start=1509)
                AAATA
          AATGAGAGGCAGGCTAATTTTTTAGGGA
                CCT   TCCGGT
                        AGGCCAGG
          AACAAAGGGG

PK4:  -25.230000(kcal/mol): PK_start=1526 sp=9 s1=8 s2=4 l1=4 l2=8 L3=0 PK_end=1561
(fs_start=1509)
                CAAC
          GCAGGCTAATTTTTTAGGGAAAAATATGGCCTTC
                ACCGGAGG   GGAA
                        CCTTCA
          GGGAATTT

PK4B:  -27.085000(kcal/mol): PK_start=1526 sp=9 s1=6 s2=4 l1=8 l2=34 L3=0 PK_end=1587
(fs_start=1509)
                TCCAACAA
          GCAGGCTAATTTTTTAGGGAAAAATATGGCCT
                ACCGGA   GGGG
                        CCCCAC
          GGGAAATTCCTTCAGAGCAGACCAGAGCCAACAG

=====
(1223) DQ093597
=====
PK1:  -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)
                A
          GAAAAGAAGGACACCAAATGAAAGATTGT
                GACG   GAGAGTC
                        TTTTTAGGG
          GCTAAT

PK2:  -20.330000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1526
(fs_start=1504)
                C
          GAAGGACACCAAATGAAAGATTGTACTGAGAGG

```

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          GATTTTTT   AATCGGA
                    TTGGCCTTC
      GGAAAAT
PK3:  -23.745000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)
                    AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
          CCCT   TCCGGTTT
                    AGGCCAGGGA
      ACAAGGGG
PK4:  -25.010000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)
                    CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
          GGACCGGAGG   GGAA
                    CCTTCA
      GAATTT
PK4B:  -26.865000(kcal/mol): PK_start=1519 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1582
(fs_start=1504)
                    TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
          GGACCGGA   GGGG
                    CCCCAC
      GAATTTCTTCAGAGCAGGCCAGAGCCGACAG
=====
(1224) DQ093598
=====
PK1:  -13.595000(kcal/mol): PK_start=1487 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1515
(fs_start=1507)
                    A
GAAAGGAAGGACACCAAATGAAAGATTGT
          GACA   GAAAGTC
                    TTTTTAGGG
      GCTAAT
PK2:  -20.500000(kcal/mol): PK_start=1492 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1528
(fs_start=1507)
                    C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
          GATTTTTT   A   ATCGGA
                    TGGCCTTC
      GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1515 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1549
(fs_start=1507)
                    AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA

```

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          CCCT   TCCGGTCT
                AGGCCAGGGA
ACAAGGGG
PK4:  -28.54000(kcal/mol): PK_start=1522 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1559
(fs_start=1507)
                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                GGACCGGAGG   GGAA
                                CCTTCA
                GAATTT

PK4B:  -30.395000(kcal/mol): PK_start=1522 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1585
(fs_start=1507)
                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                GGACCGGA   GGGG
                                CCCCAC
                GAATTTTCCTTCAGAGCAGACCAGAGCCAACAG

=====
(1225) DQ093599
=====
PK1:  -12.745000(kcal/mol): PK_start=1484 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1511
(fs_start=1503)
                A
AAAGGAAGGACACCAAATGAAAGAATGT
                ACG   GAAAGTC
                                TTTTTAGGG
                GGCTAAT

PK2:  -20.370000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1525
(fs_start=1503)
                C
GAAGGACACCAAATGAAAGAATGTACTGAAAGG
                GATTTTTT   AATCGGA
                                TTGGCCTTC
                GGAAAAT

PK3:  -23.745000(kcal/mol): PK_start=1511 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1545
(fs_start=1503)
                AAA
TACTGAAAGGCAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTTT
                                AGGCCAGGGA
                ACAAGGGG

PK4:  -25.010000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)
                CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC

```

GGACCGGAGG GGAA
 CCTTCA
 GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1581
 (fs_start=1503)

TCCCACAA
 AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG
 CCCCAC
 GAATTTCTTCAGAACAGATCAGAGCCAACAG

=====
 (1226) DQ093600
 =====

PK1: -14.985000(kcal/mol): PK_start=1488 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1516
 (fs_start=1508)

A
 GAAGGGAAGGACACCAAATGAAAGACTGT

GACG GAGAGTC
 TTTTTAGGG
 GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1493 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1530
 (fs_start=1508)

C
 GAAGGACACCAAATGAAAGACTGTACTGAGAGG

GATTTTTT AATCGGA
 TTGGCCTTC
 GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1516 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1550
 (fs_start=1508)

AAA
 TACTGAGAGGCAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT
 AGGCCAGGGA
 ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1523 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1560
 (fs_start=1508)

CCAC
 AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC

GGACCGGAGG GGAA
 CCTTCA
 GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1523 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1586
 (fs_start=1508)

TCCCACAA
 AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGG
CCCCGC
GAATTCCTTCAGAACAGACCAGAGCCAACAG

=====
(1227) DQ093601
=====

PK1: -14.985000(kcal/mol): PK_start=1487 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1515
(fs_start=1507)

A
GAAAGGAAGGACATCAAATGAAAGACTGT

GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1492 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1529
(fs_start=1507)

C
GAAGGACATCAAATGAAAGACTGTACTGAGAGG

GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1515 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1549
(fs_start=1507)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1522 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1559
(fs_start=1507)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC

GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1522 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1585
(fs_start=1507)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGG
CCCCAC
GAATTCCTTCAGAACAGACCAGAGCCAACAG

=====
(1228) DQ093602
=====

PK1: -14.985000(kcal/mol): PK_start=1486 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1514
(fs_start=1506)

A
GAAAAGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1491 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1528
(fs_start=1506)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1514 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1548
(fs_start=1506)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1521 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1558
(fs_start=1506)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1521 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1584
(fs_start=1506)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCCCTTCAGAACAGACCAGAACCAACAG

=====
(1229) DQ093604
=====

PK1: -15.585000(kcal/mol): PK_start=1487 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1515
(fs_start=1507)

A
GAAAGGAAGGACATCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -21.940000(kcal/mol): PK_start=1492 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1529
(fs_start=1507)

C
GAAGGACATCAAATGAAAGACTGTACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAGAT

PK3: -22.580000(kcal/mol): PK_start=1515 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1549
(fs_start=1507)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTTT
GCCAGGGA
ACAAGGGAAG

PK4: -25.490000(kcal/mol): PK_start=1522 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1559
(fs_start=1507)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATTGGCCTTC
GGACCGAAG GGAA
CCTTCA
GAATTT

PK4B: -25.245000(kcal/mol): PK_start=1522 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1585
(fs_start=1507)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATTGGCCT
GGACCGGA AGGG
TCCCAA
GAATTTCCCTCAGAACAGACCAGAGCCAACAG

=====
(1230) DQ093605
=====

PK1: -15.025000(kcal/mol): PK_start=1486 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1514
(fs_start=1506)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -18.760000(kcal/mol): PK_start=1491 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1527
(fs_start=1506)

C
GAAGGACACCAAATGAAAGACTGTACTGAAAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1514 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1548
(fs_start=1506)

AAA
TACTGAAAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -28.540000(kcal/mol): PK_start=1521 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1558
(fs_start=1506)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1521 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1584
(fs_start=1506)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCCTTCAGAGCAGACCAGAGCCAACAG

=====
(1231) DQ093606
=====

PK1: -15.025000(kcal/mol): PK_start=1487 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1515
(fs_start=1507)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.370000(kcal/mol): PK_start=1492 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1529
(fs_start=1507)

C
GAAGGACACCAAATGAAAGACTGTACTGAAAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAGAT

PK3: -22.580000(kcal/mol): PK_start=1515 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1549
(fs_start=1507)

A
TACTGAAAGGCAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTTT
GCCAGGGA
ACAAGGGGAG

PK4: -25.010000(kcal/mol): PK_start=1522 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1559
(fs_start=1507)

CCAC
AGGCAGGCTAATTTTTTAGGGAAGATTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1522 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1585
(fs_start=1507)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAGATTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(1232) DQ093607
=====

PK1: -15.645000(kcal/mol): PK_start=1476 sp=0 s1=3 s2=9 l1=4 l2=16 L3=0 PK_end=1519
(fs_start=1511)

CCAA
GCTGTTGGAAATGTGGAAAGGAAGGACA
TGT TAGAAAGTC
ATTTTTTAGGG
ACTGAAAGGCAGGCCA

PK2: -22.630000(kcal/mol): PK_start=1496 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1533
(fs_start=1511)

C
GAAGGACACCAACTGAAAGATTGTACTGAAAGG
GATTTTTT AACCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1519 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1553
(fs_start=1511)

AAA
TACTGAAAGGCAGGCCAATTTTTTAGGGA
CCCT TCCGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1526 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1563
(fs_start=1511)

CCAC
AGGCAGGCCAATTTTTTAGGAAAATTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1526 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1589
(fs_start=1511)

TCCCACAA
AGGCAGGCCAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCCTTCAGAACAGGCCAGGCCAACAG

=====
(1233) DQ127534
=====

PK1: -13.555000(kcal/mol): PK_start=1275 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1303
(fs_start=1295)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1280 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1316
(fs_start=1295)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1303 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1337
(fs_start=1295)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
CCAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1310 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1347
(fs_start=1295)

CTCC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(1234) DQ127535
=====

PK1: -13.555000(kcal/mol): PK_start=1275 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1303
(fs_start=1295)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC

```

                TTTTtaggg
      GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1280 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1316
(fs_start=1295)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT A  ATCGGA
                TGGCCTTC
      GGAAGATC
PK3:  -25.060000(kcal/mol): PK_start=1303 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1337
(fs_start=1295)
                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                TCCTTC  CGGTCT
                GCCAGGGA
      CCAAGGGAAG
PK4:  -26.715000(kcal/mol): PK_start=1310 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1347
(fs_start=1295)
                CTCC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
                GGACCGGAAG  GGAA
                TCTTCA
      GAATTT

=====
(1235) DQ127536
=====
PK1:  -13.555000(kcal/mol): PK_start=1275 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1303
(fs_start=1295)
                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                GACA  GAGAGTC
                TTTTtaggg
      GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1280 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1316
(fs_start=1295)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT A  ATCGGA
                TGGCCTTC
      GGAAGATC
PK3:  -25.060000(kcal/mol): PK_start=1303 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1337
(fs_start=1295)
                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                TCCTTC  CGGTCT

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                                GCCAGGGA
          CCAAGGGAAG
PK4:  -26.715000(kcal/mol): PK_start=1310 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1347
(fs_start=1295)
                                CTCC
AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCTTC
          GGACCGGAAG      GGAA
                                TCTTCA
          GAATTT

=====
(1236) DQ127537
=====
PK1:  -13.555000(kcal/mol): PK_start=1275 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1303
(fs_start=1295)
          A
GAAAGGAAGGACACCAAATGAAAGATTGT
          GACA      GAGAGTC
                                TTTTATAGGG
          GCTAAT

PK2:  -17.820000(kcal/mol): PK_start=1280 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1316
(fs_start=1295)
          C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
          GATTTTTT  A  ATCGGA
                                TGGTCTTC
          GGAAGATC

PK3:  -24.335000(kcal/mol): PK_start=1303 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1337
(fs_start=1295)
          A
TACTGAGAGACAGGCTAATTTTTTTAGGGAAG
          CCCTTC      TGGTCT
                                GCCAGGGA
          ACAAGGGGAG

PK4:  -24.875000(kcal/mol): PK_start=1310 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1348
(fs_start=1295)
                                TCCCACAA
AGACAGGCTAATTTTTTTAGGGAAGATCTGGTCT
          GGACCGGA      GGGG
                                CTCCAG
          GAATTTTC

PK4B:  -27.755000(kcal/mol): PK_start=1310 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1373
(fs_start=1295)
                                TCCCACAA
AGACAGGCTAATTTTTTTAGGGAAGATCTGGTCT
          GGACCGGA      GGGG

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CCCCAC
GAATTTCCCTCCAGAACAGACCAGAGCCAACAG

=====
(1237) DQ127538
=====

PK1: -13.555000(kcal/mol): PK_start=1275 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1303
(fs_start=1295)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -17.820000(kcal/mol): PK_start=1280 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1316
(fs_start=1295)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGTCTTC
GGAAGATC

PK3: -24.335000(kcal/mol): PK_start=1303 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1337
(fs_start=1295)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC TGGTCT
GCCAGGGA
ACAAGGGGAG

PK4: -24.875000(kcal/mol): PK_start=1310 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1348
(fs_start=1295)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGTCT
GGACCGGA GGGG
CTCCAG
GAATTC

PK4B: -27.755000(kcal/mol): PK_start=1310 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1373
(fs_start=1295)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGTCT
GGACCGGA GGGG
CCCCAC
GAATTTCCCTCCAGAACAGACCAGAGCCAACAG

=====
(1238) DQ127539
=====

PK1: -13.555000(kcal/mol): PK_start=1275 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1303
(fs_start=1295)

A
GAAAGGAAGGACACCAAATGAAAGATTGT

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          GACA    GAGAGTC
                TTTTATAGG
    GCTAAT
PK2:  -17.82000(kcal/mol): PK_start=1280 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1316
(fs_start=1295)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT A  ATCGGA
                        TGGTCTTC
    GGAAGATC
PK3:  -24.335000(kcal/mol): PK_start=1303 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1337
(fs_start=1295)
                A
TACTGAGAGACAGGCTAATTTTTATAGGGAAG
                CCCTTC    TGGTCT
                        GCCAGGGA
    ACAAGGGGAG
PK4:  -24.875000(kcal/mol): PK_start=1310 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1348
(fs_start=1295)
                TCCCACAA
AGACAGGCTAATTTTTATAGGGAAGATCTGGTCT
                GGACCGGA    GGGG
                        CTCCAG
    GAATTC
PK4B:  -27.755000(kcal/mol): PK_start=1310 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1373
(fs_start=1295)
                TCCCACAA
AGACAGGCTAATTTTTATAGGGAAGATCTGGTCT
                GGACCGGA    GGGG
                        CCCAC
    GAATTCCTCCAGAACAGACCAGACCAACAG
=====
(1239) DQ127548
=====
PK1:  -12.615000(kcal/mol): PK_start=1281 sp=0 s1=4 s2=6 l1=5 l2=6 L3=0 PK_end=1311
(fs_start=1304)
                ACTAA
GAAAGGAAGGACACCAAATGAAAGATTGC
                GACG    GAAAGT
                        TTTTATAG
    GCTAAT
PK2:  -16.480000(kcal/mol): PK_start=1290 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1325
(fs_start=1304)
                C
GACACCAAATGAAAGATTGCACTAATGAAAGG

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                ATTTTTT A ATCGGA
                                TGGCCTTC
        GGAAGATC
PK3:  -25.060000(kcal/mol): PK_start=1312 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1346
(fs_start=1304)
                A
TAATGAAAGGCAGGCTAATTTTTTTAGGGAAG
                TCCTTC   CGGTCT
                                GCCAGGGA
                CCAAGGGGAG
PK4:  -26.235000(kcal/mol): PK_start=1319 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1356
(fs_start=1304)
                                CTCC
AGGCAGGCTAATTTTTTTAGGGAAGATCTGGCCTTC
                GGACCGGAGG   GGAA
                                TCTTCA
                GAATTT
PK4B:  -30.395000(kcal/mol): PK_start=1319 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1382
(fs_start=1304)
                                TCCTCCAA
AGGCAGGCTAATTTTTTTAGGGAAGATCTGGCCT
                GGACCGGA   GGGG
                                CCCCAC
                GAATTTTCTTCAGAGCAGGCCAGAGCCAACAG
=====
(1240) DQ127549
=====
PK1:  -12.615000(kcal/mol): PK_start=1281 sp=0 s1=4 s2=6 l1=5 l2=6 L3=0 PK_end=1311
(fs_start=1304)
                ACTAA
GAAAGGAAGGACACCAAATGAAAGATTGC
                GACG   GAAAGT
                                TTTTTTAGG
                GCTAAT
PK2:  -16.480000(kcal/mol): PK_start=1290 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1325
(fs_start=1304)
                C
GACACCAAATGAAAGATTGCACTAATGAAAGG
                ATTTTTT A ATCGGA
                                TGGCCTTC
                GGAAGATC
PK3:  -25.060000(kcal/mol): PK_start=1312 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1346
(fs_start=1304)
                A
TAATGAAAGGCAGGCTAATTTTTTTAGGGAAG

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TCCTTC   CGGTCT
          GCCAGGGA
CCAAGGGGAG

PK4:  -26.235000(kcal/mol): PK_start=1319 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1356
(fs_start=1304)
          CTCC
AGGCAGGCTAATTTTTTTAGGGAAGATCTGGCCTTC
          GGACCGGAGG   GGAA
          TCTTCA
          GAATTT

PK4B:  -30.395000(kcal/mol): PK_start=1319 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1382
(fs_start=1304)
          TCCTCCAA
AGGCAGGCTAATTTTTTTAGGGAAGATCTGGCCT
          GGACCGGA   GGGG
          CCCCAC
          GAATTTTCTTCAGAGCAGGCCAGAGCCAACAG

=====
(1241) DQ127550
=====
PK1:  -12.615000(kcal/mol): PK_start=1281 sp=0 s1=4 s2=6 l1=5 l2=6 L3=0 PK_end=1311
(fs_start=1304)
          ACTAA
GAAAGGAAGGACACCAAATGAAAGATTGC
          GACG   GAAAGT
          TTTTTAGG
          GCTAAT

PK2:  -16.480000(kcal/mol): PK_start=1290 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1325
(fs_start=1304)
          C
GACACCAAATGAAAGATTGCACTAATGAAAGG
          ATTTTTT   A   ATCGGA
          TGGCCTTC
          GGAAGATC

PK3:  -25.060000(kcal/mol): PK_start=1312 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1346
(fs_start=1304)
          A
TAATGAAAGGCAGGCTAATTTTTTTAGGGAAG
          TCCTTC   CGGTCT
          GCCAGGGA
          CCAAGGGGAG

PK4:  -26.235000(kcal/mol): PK_start=1319 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1356
(fs_start=1304)
          CTCC
AGGCAGGCTAATTTTTTTAGGGAAGATCTGGCCTTC

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GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1319 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1382
(fs_start=1304)

TCCTCCAA
AGGCAGGCTAATTTTTTAGGGAAGATCTGGCCT

GGACCGGA GGGG
CCCCAC
GAATTTTCTTCAGAGCAGGCCAGAGCCAACAG

=====
(1242) DQ127551
=====

PK1: -12.615000(kcal/mol): PK_start=1281 sp=0 s1=4 s2=6 l1=5 l2=6 L3=0 PK_end=1311
(fs_start=1304)

ACTAA
GAAAGGAAGGACACCAAATGAAAGATTGC

GACG GAAAGT
TTTTTAGG
GCTAAT

PK2: -16.480000(kcal/mol): PK_start=1290 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1325
(fs_start=1304)

C
GACACCAAATGAAAGATTGCACTAATGAAAGG

ATTTTTT A ATCGGA
TGGCCTTC
GGGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1312 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1346
(fs_start=1304)

A
TAATGAAAGGCAGGCTAATTTTTTAGGGAAG

TCCTTC CGGTCT
GCCAGGGA
CCAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1319 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1356
(fs_start=1304)

CTCC
AGGCAGGCTAATTTTTTAGGGAAGATCTGGCCTTC

GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1319 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1382
(fs_start=1304)

TCCTCCAA
AGGCAGGCTAATTTTTTAGGGAAGATCTGGCCT

GGACCGGA GGGG
CCCCAC
GAATTTTCTTCAGAGCAGGCCAGAGCCAACAG

=====
(1243) DQ164104
=====

PK1: -12.955000(kcal/mol): PK_start=1486 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1514
(fs_start=1506)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1491 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1528
(fs_start=1506)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAACT

PK3: -26.955000(kcal/mol): PK_start=1514 sp=0 s1=4 s2=9 l1=2 l2=8 L3=0 PK_end=1549
(fs_start=1506)

AA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTTC
AGGCCAGGGAA
ACAAGGGG

PK4: -22.865000(kcal/mol): PK_start=1520 sp=6 s1=9 s2=4 l1=8 l2=6 L3=0 PK_end=1559
(fs_start=1506)

TCCCACAA
GAGGCAGGCTAATTTTTTAGGGAACTTTGGCCT
GGGACCGGA GGGG
CTTCAG
AATTTC

PK4B: -29.475000(kcal/mol): PK_start=1520 sp=6 s1=9 s2=4 l1=8 l2=31 L3=0 PK_end=1584
(fs_start=1506)

TCCCACAA
GAGGCAGGCTAATTTTTTAGGGAACTTTGGCCT
GGGACCGGA GGGG
CCCCAC
AATTTCTTCAGAACAGACTAGAGCCAACAG

=====
(1244) DQ164105
=====

PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A
GAAAGGAAGGACATCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -21.940000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1525
(fs_start=1503)

C
GAAGGACATCAAATGAAAGATTGTACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1511 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1545
(fs_start=1503)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAGGGGG

PK4: -25.035000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=5 L3=0 PK_end=1554
(fs_start=1503)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAG GGGG
TCCTTC
GAATT

PK4B: -27.725000(kcal/mol): PK_start=1518 sp=7 s1=9 s2=4 l1=6 l2=32 L3=0 PK_end=1581
(fs_start=1503)

CCCACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAG GGGG
CCCCAC
GAATTCCTTCAGAACAGACCAGAACCAACAG

=====
(1245) DQ164106
=====

PK1: -14.985000(kcal/mol): PK_start=1478 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1506
(fs_start=1498)

A
GAAAGGAGGGGCACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1483 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1520
(fs_start=1498)

C
GAGGGGCACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1506 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1540
(fs_start=1498)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1513 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1550
(fs_start=1498)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1513 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1576
(fs_start=1498)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCCCTCAGAACAGGCCAGAGCCAACAG

=====
(1246) DQ164107
=====

PK1: -17.185000(kcal/mol): PK_start=1475 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1503
(fs_start=1495)

A
GAAAAGAAGGACACCAAATGAAAGACTGC
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1480 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1517
(fs_start=1495)

C
GAAGGACACCAAATGAAAGACTGCACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAACT

PK3: -26.955000(kcal/mol): PK_start=1503 sp=0 s1=4 s2=9 l1=2 l2=8 L3=0 PK_end=1538
(fs_start=1495)

AA
CACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTTC
AGGCCAGGGAA
AGAAGGGG

PK4: -31.570000(kcal/mol): PK_start=1509 sp=6 s1=12 s2=4 l1=2 l2=6 L3=0 PK_end=1548
(fs_start=1495)

CA
GAGGCAGGCTAATTTTTTAGGGAACTTTGGCCTTCC
GGGACCGGAGGG GAAG
CTTCAG
AATTTTC

PK4B: -29.475000(kcal/mol): PK_start=1509 sp=6 s1=9 s2=4 l1=8 l2=31 L3=0 PK_end=1573
(fs_start=1495)

TCCCAGAA
GAGGCAGGCTAATTTTTTAGGGAACTTTGGCCT
GGGACCGGA GGGG
CCCCAC
AATTTTCCTTCAGAACAGACCAGAGCCAACAG

=====
(1247) DQ164108
=====

PK1: -14.355000(kcal/mol): PK_start=1486 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1514
(fs_start=1506)

A
GAAAAGAAGGACACCAGATGAAAGACTGC
GACG GAGAGTT
TTTTTAGGG
GCTAAT

PK2: -18.300000(kcal/mol): PK_start=1491 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1528
(fs_start=1506)

C
GAAGGACACCAGATGAAAGACTGCATTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.245000(kcal/mol): PK_start=1512 sp=0 s1=5 s2=8 l1=4 l2=7 L3=0 PK_end=1548
(fs_start=1506)

AAAA
TGCATTGAGAGGCAGGCTAATTTTTTAGGG
ATCCT TCCGGTTT
AGGCCAGGGA
CAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1521 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1558
(fs_start=1506)

CTAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1521 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1584
(fs_start=1506)

TCCTACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCCTTCAGAACAGACCAGAGCCAACAG

=====
(1248) DQ164109
=====

PK1: -15.585000(kcal/mol): PK_start=1487 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1515
(fs_start=1507)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -21.940000(kcal/mol): PK_start=1492 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1529
(fs_start=1507)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1515 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1549
(fs_start=1507)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1522 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1559
(fs_start=1507)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1522 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1585
(fs_start=1507)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCCTTCAGAGCAGACCAGAGCCAACAG

=====
(1249) DQ164110
=====

PK1: -15.585000(kcal/mol): PK_start=1487 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1515
(fs_start=1507)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -21.940000(kcal/mol): PK_start=1492 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1529
(fs_start=1507)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAGAAT

PK3: -18.840000(kcal/mol): PK_start=1515 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1549
(fs_start=1507)

AA
TACTGAGAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTTT
GCCAGGGA
CACAAAGGGGAG

PK4: -25.010000(kcal/mol): PK_start=1522 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1559
(fs_start=1507)

CCAC
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1522 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1585
(fs_start=1507)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCCTTCAGAACAGACCAGAGCCAACAG

=====
(1250) DQ164111
=====

PK1: -15.585000(kcal/mol): PK_start=1487 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1515
(fs_start=1507)

A
GAAAGGAAGGACACCAGATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -21.940000(kcal/mol): PK_start=1492 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1529
(fs_start=1507)

C
GAAGGACACCAGATGAAAGACTGTACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAGAAT

PK3: -18.840000(kcal/mol): PK_start=1515 sp=0 s1=5 s2=6 l1=2 l2=11 l3=0 PK_end=1549
(fs_start=1507)

AA
TACTGAGAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTTT
GCCAGGGA
CACAAAGGGAG

PK4: -25.010000(kcal/mol): PK_start=1522 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1559
(fs_start=1507)

CCAC
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1522 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=1585
(fs_start=1507)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCTTCAGGACAGACTAGAACCAACAG

=====
(1251) DQ164112
=====

PK1: -14.985000(kcal/mol): PK_start=1487 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1515
(fs_start=1507)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC

TTTTTAGGG
GCTAAT
PK2: -20.330000(kcal/mol): PK_start=1492 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1529
(fs_start=1507)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -22.025000(kcal/mol): PK_start=1515 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1549
(fs_start=1507)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCGGGGA
AGAAGGGG

PK4: -27.240000(kcal/mol): PK_start=1522 sp=7 s1=11 s2=4 l1=2 l2=7 L3=0 PK_end=1560
(fs_start=1507)

CA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTCC
GGGCCGGAGGG GAAG
CTTCAG
GAATTTTC

PK4B: -25.145000(kcal/mol): PK_start=1522 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1585
(fs_start=1507)

TCCCAGAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA GGGG
CCCCAC
GAATTTCTTCAGAGCAGGCCAGAGCCCTCAG

=====
(1252) DQ164113
=====

PK1: -14.985000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1526
(fs_start=1504)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA

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                                TTGGCCTTC
          GGAGAAT
PK3:  -18.840000(kcal/mol): PK_start=1512 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1546
(fs_start=1504)
                                AA
TACTGAGAGGCAGGCTAATTTTTTAGGGAG
                                CCTTC   CGGTTT
                                GCCAGGGA
          CACAAGGGGAG
PK4:  -25.010000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)
                                CCAC
AGGCAGGCTAATTTTTTAGGGAGAATTTGGCCTTC
                                GGACCGGAGG   GGAA
                                CCTTCA
          GAATTT
PK4B:  -26.865000(kcal/mol): PK_start=1519 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1582
(fs_start=1504)
                                TCCCACAA
AGGCAGGCTAATTTTTTAGGGAGAATTTGGCCT
                                GGACCGGA   GGGG
                                CCCCAC
          GAATTTCTTCAGAACAGACCAGGCCAACAG
=====
(1253) DQ164114
=====
PK1:  -15.025000(kcal/mol): PK_start=1466 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1494
(fs_start=1486)
                                A
GAAAGGAAGGCCACCAAATGAAAGACTGT
                                GACG   GAAAGTC
                                TTTTTAGGG
          GCTAAT
PK2:  -20.370000(kcal/mol): PK_start=1471 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1508
(fs_start=1486)
                                C
GAAGGCCACCAAATGAAAGACTGTACTGAAAGG
                                GATTTTTT   AATCGGA
                                TTGGCCTTC
          GGAAAAT
PK3:  -23.745000(kcal/mol): PK_start=1494 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1528
(fs_start=1486)
                                AAA
TACTGAAAGGCAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTTT

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                                AGGCCAGGGA
          ACAAGGGG
PK4:  -25.010000(kcal/mol): PK_start=1501 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1538
(fs_start=1486)
                                CCAC
AGGCAGGCTAATTTTTTTAGGGAAAATTTGGCCTTC
                                GGACCGGAGG    GGAA
                                CCTTCA
          GAACTT
PK4B:  -26.865000(kcal/mol): PK_start=1501 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1564
(fs_start=1486)
                                TCCCACAA
AGGCAGGCTAATTTTTTTAGGGAAAATTTGGCCT
                                GGACCGGA    GGGG
                                CCCCAC
          GAACTTCCTTCAGAACAGACCAGAGCCAACAG

=====
(1254) DQ164115
=====
PK1:  -14.985000(kcal/mol): PK_start=1487 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1515
(fs_start=1507)
                                A
GAAGGGAAGGACACCAAATGAAAGACTGT
                                GACG    GAGAGTC
                                TTTTTAGGG
          GCTAAT
PK2:  -18.720000(kcal/mol): PK_start=1492 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1528
(fs_start=1507)
                                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
                                GATTTTTT A  ATCGGA
                                TGGCCTTC
          GGAAAGTC
PK3:  -26.605000(kcal/mol): PK_start=1515 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1549
(fs_start=1507)
                                AAG
TACTGAGAGGCAGGCTAATTTTTTTAGGGA
                                CCCT    TCCGGTCT
                                AGGCCGGGAA
          AGAAGGGG
PK4:  -31.820000(kcal/mol): PK_start=1522 sp=7 s1=11 s2=4 l1=2 l2=7 L3=0 PK_end=1560
(fs_start=1507)
                                CA
AGGCAGGCTAATTTTTTTAGGGAAAGTCTGGCCTTCC
                                GGGCCGGAGGG    GAAG

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CTTCAG

AAATTTTC

PK4B: -29.725000(kcal/mol): PK_start=1522 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1585
(fs_start=1507)

TCCCAGAA

AGGCAGGCTAATTTTTTTAGGGAAAGTCTGGCCT

GGGCCGGA GGGG

CCCCAC

AAATTTCCCTTCAGAACAGACCAGAGCCAACAG

=====

(1255) DQ164116

=====

PK1: -12.955000(kcal/mol): PK_start=1486 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1514
(fs_start=1506)

A

GAAAGGAAGGACACCAAATGAAAGATTGT

GACG GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1491 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1528
(fs_start=1506)

C

GAAGGACACCAAATGAAAGATTGTACTGAGAGG

GATTTTTT AATCGGA

TTGGCCTTC

GGAAGAT

PK3: -20.860000(kcal/mol): PK_start=1514 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1548
(fs_start=1506)

A

TACTGAGAGGCAGGCTAATTTTTTTAGGGAAG

CCCTTC CGGTTT

GCCGGGAA

ACAAGGGGAG

PK4: -23.290000(kcal/mol): PK_start=1521 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1558
(fs_start=1506)

CCAC

AGGCAGGCTAATTTTTTTAGGGAAGATTGGCCTTC

GGGCCGAGG GGAA

CCTTCA

AAATTT

PK4B: -25.145000(kcal/mol): PK_start=1521 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1584
(fs_start=1506)

TCCCACAA

AGGCAGGCTAATTTTTTTAGGGAAGATTGGCCT

GGGCCGGA GGGG

CCCCAC
AAATTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(1256) DQ164117
=====

PK1: -12.405000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=1511
(fs_start=1504)

AA
GAAAAGAAGGACACCAAATGAAAGACTGT
GACG GAGAGT
TTTTTAGG
GCTAAT

PK2: -16.440000(kcal/mol): PK_start=1490 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1525
(fs_start=1504)

C
AAGGACACCAAATGAAAGACTGTAATGAGAGG
ATTTTTT A ATCGGA
TGGCCTTC
GGGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1512 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1546
(fs_start=1504)

A
TAATGAGAGGCAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
AGAGGGGGAG

PK4: -33.920000(kcal/mol): PK_start=1519 sp=7 s1=11 s2=4 l1=2 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CA
AGGCAGGCTAATTTTTTAGGGAAGATCTGGCCTTCC
GGACCGGAGGG GGAG
CCTCCA
GAATTT

PK4B: -31.255000(kcal/mol): PK_start=1519 sp=7 s1=9 s2=4 l1=6 l2=32 L3=0 PK_end=1582
(fs_start=1504)

CCCAGA
AGGCAGGCTAATTTTTTAGGGAAGATCTGGCCTT
GGACCGGAG GGGG
CCCCAC
GAATTTCTCCAGAGCAGGCCAGAGCCAACAG

=====
(1257) DQ164118
=====

PK1: -12.995000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GGAAAAGAAGGACACCAAATGAAAGATTGT

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          GACG    GAAAGTC
          TTTT TAGGG
    GCTAAT
PK2:  -20.370000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1526
(fs_start=1504)
          C
    GAAGGACACCAAATGAAAGATTGTACTGAAAGG
          GATTTTTT    AATCGGA
          TTGGCCTTC
    GGAAAAT
PK3:  -26.210000(kcal/mol): PK_start=1512 sp=0 s1=3 s2=10 l1=5 l2=3 L3=0 PK_end=1545
(fs_start=1504)
          AAAAT
    TACTGAAAGGCAGGCTAATTTTTTAGGG
          CTC    CCTTCCGGTT
          GGGAGGCCAGGG
    AAG
PK4:  -25.010000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)
          CCTC
    AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
          GGACCGGAGG    GGAA
          CCTTCA
    GAATTT
PK4B:  -26.865000(kcal/mol): PK_start=1519 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1582
(fs_start=1504)
          TCCCTCAA
    AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
          GGACCGGA    GGGG
          CCCAC
    GAATTTCTTCAGAACAGACTAGAGCCAACAG

=====
(1258) DQ164119
=====
PK1:  -15.025000(kcal/mol): PK_start=1486 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1514
(fs_start=1506)
          A
    GAAAGGAAGGACATCAAATGAAAGACTGT
          GACG    GAAAGTC
          TTTT TAGGG
    GCTAAT
PK2:  -20.370000(kcal/mol): PK_start=1491 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1528
(fs_start=1506)
          C
    GAAGGACATCAAATGAAAGACTGTACTGAAAGG

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                GATTTTTT   AATCGGA
                    TTGGCCTTC
    GGAAAAT
PK3:  -23.745000(kcal/mol): PK_start=1514 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1548
(fs_start=1506)
                AAA
TACTGAAAGGCAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTTT
                    AGGCCAGGGA
    ACAAGGGG
PK4:  -25.010000(kcal/mol): PK_start=1521 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1558
(fs_start=1506)
                    CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
                GGACCGGAGG   GGAA
                    CCTTCA
    GAATTT
PK4B: -26.865000(kcal/mol): PK_start=1521 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1584
(fs_start=1506)
                    TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA   GGGG
                    CCCCAT
    GAATTTCTTCAGAACAGACCAGAGCCAACGG
=====
(1259) DQ164121
=====
PK1:  -14.985000(kcal/mol): PK_start=1476 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1504
(fs_start=1496)
                A
GAAAGGAAGGACACCAAATGAAAGACTGT
                GACG   GAGAGTC
                    TTTTTAGGG
    GCTAAT
PK2:  -20.330000(kcal/mol): PK_start=1481 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1518
(fs_start=1496)
                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
                GATTTTTT   AATCGGA
                    TTGGCCTTC
    GGAAAAT
PK3:  -23.745000(kcal/mol): PK_start=1504 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1538
(fs_start=1496)
                AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA

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          CCCT   TCCGGTTT
                AGGCCAGGGA
ACAAGGGG

PK4:  -18.485000(kcal/mol): PK_start=1511 sp=7 s1=9 s2=4 l1=6 l2=5 L3=0 PK_end=1547
(fs_start=1496)
                CCCACA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTT
                GGACCGGAG   GGGA
                        TTCTCC
          GAATT

PK4B:  -26.865000(kcal/mol): PK_start=1511 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1574
(fs_start=1496)
                TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA   GGGG
                        CCCCAC
          GAATTTTCTCCAGAACAGGCCAGAGCCAACAG

=====
(1260) DQ164122
=====

PK1:  -14.985000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)
                A
GAAAAGAAGGACACCAAATGAAAGACTGT
                GACG   GAGAGTC
                        TTTTTAGGG
          GCTAAT

PK2:  -20.330000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1525
(fs_start=1503)
                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
                GATTTTTT   AATCGGA
                        TTGGCCTTC
          GGAAAAT

PK3:  -23.745000(kcal/mol): PK_start=1511 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1545
(fs_start=1503)
                AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTTT
                        AGGCCAGGGA
          ACAAGGGG

PK4:  -25.010000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)
                CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC

```

GGACCGGAGG GGAA
 CCTTCA
 GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1581
 (fs_start=1503)

TCCCACAA
 AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG
 CCCCAC
 GAATTTCC TTCAGAGCAGGCCAGAGCCTACAG

=====
 (1261) DQ164126
 =====

PK1: -15.025000(kcal/mol): PK_start=1481 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1509
 (fs_start=1501)

A
 GGCAAGAAGGACACCAAATGAAAGACTGT

GACG GAAAGTC
 TTTTTAGGG
 GCTAAT

PK2: -20.370000(kcal/mol): PK_start=1486 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1523
 (fs_start=1501)

C
 GAAGGACACCAAATGAAAGACTGTACTGAAAGG

GATTTTTT AATCGGA
 TTGGCCTTC
 GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1509 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1543
 (fs_start=1501)

AAA
 TACTGAAAGGCAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT
 AGGCCAGGGA
 ACAAGGGG

PK4: -23.985000(kcal/mol): PK_start=1516 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1554
 (fs_start=1501)

TCCCACAA
 AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG
 CTCCAG
 GAACTTC

PK4B: -26.865000(kcal/mol): PK_start=1516 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1579
 (fs_start=1501)

TCCCACAA
 AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG
CCCCAC
GAACTTCCTCCAGAGCCGGCCAGAGCCGACAG

=====
(1262) DQ164127
=====

PK1: -12.745000(kcal/mol): PK_start=1500 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1527
(fs_start=1519)

A
AAAAGAAGGACACCAAATGAAAGAATGT

ACG GAAAGTC
TTTTTAGGG
GGCTAAT

PK2: -20.370000(kcal/mol): PK_start=1504 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1541
(fs_start=1519)

C
GAAGGACACCAAATGAAAGAATGTACTGAAAGG

GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1527 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1561
(fs_start=1519)

AAA
TACTGAAAGGCAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1534 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1571
(fs_start=1519)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC

GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1534 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1597
(fs_start=1519)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG
CCCCAC
GAATTCCTTCAGAGCAGACCAGCCAACAG

=====
(1263) DQ167215
=====

PK1: -15.10000(kcal/mol): PK_start=1513 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1541 (fs_start=1533)

CA
GAAAGGAAGGCCATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.94000(kcal/mol): PK_start=1518 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1555 (fs_start=1533)

C
GAAGGCCATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.28500(kcal/mol): PK_start=1542 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1575 (fs_start=1533)

AAA
ACTGAGAGACAGGCTAATTTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
ARCAAGGGG

PK4: -22.70500(kcal/mol): PK_start=1548 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1585 (fs_start=1533)

CARC
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
AAACTT

PK4B: -26.86500(kcal/mol): PK_start=1548 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1611 (fs_start=1533)

TCCARCAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
AAACTTTCTTCAGAACAGGCCAGAGCCAACAG

=====
(1264) DQ167216
=====

PK1: -15.10000(kcal/mol): PK_start=1481 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1509 (fs_start=1501)

CA
GAAAGGAAGGCCATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1486 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1523
(fs_start=1501)

C
GAAGGCCATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAAT

PK3: -20.285000(kcal/mol): PK_start=1510 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1543
(fs_start=1501)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AGCAAAGGG

PK4: -21.815000(kcal/mol): PK_start=1516 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1553
(fs_start=1501)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGG
TCCTCA
AAATTT

=====
(1265) DQ168573
=====

PK1: -11.420000(kcal/mol): PK_start=1260 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=1286
(fs_start=1280)

CACA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAG
TTTTTTAG
GCTAA

PK2: -18.660000(kcal/mol): PK_start=1267 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1302
(fs_start=1280)

C
AGGACATCAAATGAAAGACTGCACAGAGAGA
TTTTTT AATCGGA
TTGGCCTTC
AGGGAAAAT

PK3: -20.865000(kcal/mol): PK_start=1288 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1322
(fs_start=1280)

AAA
CACAGAGAGACAGGCTAATTTTTTAGGGA
CTCT TCCGGTTT
AGGCCAGGGA
AAAAGGGG

PK4: -26.865000(kcal/mol): PK_start=1295 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1358
(fs_start=1280)

TCTCAAAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTATTCAGAACAGGCTAGAGCCAACAG

=====
(1266) DQ168575
=====

PK1: -11.420000(kcal/mol): PK_start=1272 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=1298
(fs_start=1292)

CACA
GAAAGGAGGGACATCAAATGAAAGACTG
GAC AGAGAG
TTTTTTAG
GCTAA

PK2: -18.660000(kcal/mol): PK_start=1279 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1314
(fs_start=1292)

C
GGGACATCAAATGAAAGACTGCACAGAGAGA
TTTTTT AATCGGA
TTGGCCTTC
AGGGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1301 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1334
(fs_start=1292)

AAA
ACAGAGAGACAGGCTAATTTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AACAAAGGG

PK4: -19.885000(kcal/mol): PK_start=1307 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1344
(fs_start=1292)

CCAACA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTT
GGACCGGAG GGAA
TCTTCA
GAATTT

=====
(1267) DQ168576
=====

PK1: -11.420000(kcal/mol): PK_start=1272 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=1298
(fs_start=1292)

CACA
GAAGGGAGGGACATCAAATGAAAGACTG
GAC AGAGAG

TTTTTTAG
GCTAA
PK2: -18.660000(kcal/mol): PK_start=1279 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1314
(fs_start=1292)

C
GGGACATCAAATGAAAGACTGCACAGAGAGA
TTTTTT AATCGGA
TTGGCCTTC
AGGGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1301 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1334
(fs_start=1292)

AAA
ACAGAGAGACAGGCTAATTTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AACAAGGGG

PK4: -22.705000(kcal/mol): PK_start=1307 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1344
(fs_start=1292)

CAAC
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
AAATTT

PK4B: -26.865000(kcal/mol): PK_start=1307 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1370
(fs_start=1292)

TCCAACAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTTCTTCAGAACAGGCTAGAGCCGACAG

=====
(1268) DQ168577
=====

PK1: -15.100000(kcal/mol): PK_start=1248 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1276
(fs_start=1268)

CA
GAAAGGAAGGACACCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1253 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1290
(fs_start=1268)

C
GAAGGACACCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1277 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1310
(fs_start=1268)

AAA

ACTGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT

AGGCCAGGAA

AGCAAGGGA

PK4: -22.915000(kcal/mol): PK_start=1283 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1320
(fs_start=1268)

TCCAGCA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA AGGGA

TTCCTCA

AAATT

=====
(1269) DQ168578
=====

PK1: -15.100000(kcal/mol): PK_start=1254 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1282
(fs_start=1274)

CA

GGAAGGAAGGACACCAAATGAAAGACTG

GAC AGAGAGTC

TTTTTTTAGGG

GCTAA

PK2: -21.940000(kcal/mol): PK_start=1259 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1296
(fs_start=1274)

C

GAAGGACACCAAATGAAAGACTGCACTGAGAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1283 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1316
(fs_start=1274)

AAA

ACTGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT

AGGCCAGGAA

AGCAAGGGG

PK4: -27.000000(kcal/mol): PK_start=1289 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=1327
(fs_start=1274)

TTCCAGCAA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCC

GGACCGG AGGGG

TCCCCAG

AAATTT

PK4B: -24.080000(kcal/mol): PK_start=1290 sp=8 s1=6 s2=4 l1=9 l2=33 L3=1 PK_end=1351
(fs_start=1274)

TTCCAGCAA

GACAGGCTAATTTTTTAGGGAAAATTTGGCC

GACCGG A GGGG

CCCCAC

GAAATTTTCCCCAGAGCAGACCAGAACCAACAG

=====

(1270) DQ189088

=====

PK1: -15.140000(kcal/mol): PK_start=1358 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1386
(fs_start=1378)

CA

GAAGAGAAGGACACCAAATGAAAGACTG

GAC AGAAAGTC

TTTTTTAGGG

GCTAA

PK2: -21.980000(kcal/mol): PK_start=1363 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1400
(fs_start=1378)

C

GAAGGACACCAAATGAAAGACTGCACTGAAAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -18.320000(kcal/mol): PK_start=1387 sp=0 s1=4 s2=4 l1=5 l2=10 L3=0 PK_end=1417
(fs_start=1378)

AATTT

ACTGAAAGACAGGCTAATTTTTTAGGGAA

CCTT CCGG

GGCCCG

AACAAAGGGGA

PK4: -22.820000(kcal/mol): PK_start=1396 sp=10 s1=7 s2=4 l1=4 l2=9 L3=0 PK_end=1430
(fs_start=1378)

CAAC

CAGGCTAATTTTTTAGGGAAAATTTGGCCTTC

CCGGAGG GGAA

CCTTCA

CGGAAATTT

PK4B: -24.675000(kcal/mol): PK_start=1396 sp=10 s1=5 s2=4 l1=8 l2=35 L3=0
PK_end=1456 (fs_start=1378)

TCCAACAA

CAGGCTAATTTTTTAGGGAAAATTTGGCCT

CCGGA GGGG

CCCCGC
CGGAAATTTTCCTTCAGAGCAGACCAGAGCCAACAG

=====
(1271) DQ207940
=====

PK1: -13.555000(kcal/mol): PK_start=1260 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1288
(fs_start=1280)

A
GAAAGGAAGGACATCAGATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1265 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1301
(fs_start=1280)

C
GAAGGACATCAGATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1288 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1322
(fs_start=1280)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGAA
ACAAGGGGAG

PK4: -27.515000(kcal/mol): PK_start=1295 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1333
(fs_start=1280)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CTCCAG
AAATTTTC

PK4B: -30.395000(kcal/mol): PK_start=1295 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1358
(fs_start=1280)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTCTCCAGAGCAGACCAGAGCCAACAG

=====
(1272) DQ207941
=====

PK1: -13.305000(kcal/mol): PK_start=1258 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1285
(fs_start=1277)

A
AAAGGAAGGACACCAGATGAAAGAATGT

```

          ACA      GAGAGTC
                TTTTTAGGG
GGCTAAT
PK2:  -21.940000(kcal/mol): PK_start=1262 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1299
(fs_start=1277)
                C
GAAGGACACCAGATGAAAGAATGTACTGAGAGA
                GATTTTTT      AATCGGA
                TTGGCCTTC
                GGAAAAT

PK3:  -23.745000(kcal/mol): PK_start=1285 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1319
(fs_start=1277)
                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                CCCT      TCCGGTTT
                AGGCCAGGGA
                ACAAGGGG

PK4:  -23.985000(kcal/mol): PK_start=1292 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1330
(fs_start=1277)
                TCCCACAA
AGACAGGCTAATTTTTTAGGAAAATTTGGCCT
                GGACCGGA      GGGG
                CTCCAG
                GAACTTC

PK4B:  -26.865000(kcal/mol): PK_start=1292 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1355
(fs_start=1277)
                TCCCACAA
AGACAGGCTAATTTTTTAGGAAAATTTGGCCT
                GGACCGGA      GGGG
                CCCCAC
                GAACTTCTCCAGAGCAGGCCAGAGCCGACAG

=====
(1273) DQ207942
=====
PK1:  -10.640000(kcal/mol): PK_start=1258 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1296
(fs_start=1289)
                A
TTGGAAATGTGGGAAAGAAGGACACCAA
                GTT      AGAAAGT
                TTTTTTAGG
                CACTGAGAGACAGGCTAA

PK2:  -20.460000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1310
(fs_start=1289)
                C
GAAGGACACCAAATGAAAGATTGCACTGAGAGA

```

GATTTTTT A ATCGGA
 TGGCCTTC
 GGAAAATC
 PK3: -27.275000(kcal/mol): PK_start=1297 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1331
 (fs_start=1289)
 AAA
 CACTGAGAGACAGGCTAATTTTTTAGGGA
 CCCT TCCGGTCT
 AGGCCAGGGA
 ACAAGGGA
 PK4: -26.715000(kcal/mol): PK_start=1304 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1341
 (fs_start=1289)
 CCAC
 AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
 GGACCGGAAG GGAA
 TCTTCA
 GAATTT
 =====
 (1274) DQ207943
 =====
 PK1: -13.555000(kcal/mol): PK_start=1266 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1294
 (fs_start=1286)
 A
 GAAAGGAAGGACACCAAATGAAAGATTGT
 GACA GAGAGTC
 TTTTTAGGG
 GCTAAT
 PK2: -20.460000(kcal/mol): PK_start=1271 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1307
 (fs_start=1286)
 C
 GAAGGACACCAAATGAAAGATTGTACTGAGAGA
 GATTTTTT A ATCGGA
 TGGCCTTC
 GGAAAATC
 PK3: -27.275000(kcal/mol): PK_start=1294 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1328
 (fs_start=1286)
 AAA
 TACTGAGAGACAGGCTAATTTTTTAGGGA
 CCCT TCCGGTCT
 AGGCCAGGGA
 ACAAAGGA
 PK4: -25.995000(kcal/mol): PK_start=1301 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1338
 (fs_start=1286)
 TCCCACAA
 AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT

```

                GGACCGGA    AGGA
                                TCCTCA
        GAACTT
=====
(1275) DQ207944
=====
PK1:  -15.100000(kcal/mol): PK_start=1248 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1276
(fs_start=1268)
                CA
GAAAGGAAGGCCATCAAATGAAAGACTG
                GAC    AGAGAGTC
                                TTTTTTAGGG
        GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1253 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1290
(fs_start=1268)
                C
GAAGGCCATCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT    AATCGGA
                                TTGGCCTTC
        GGAGAAT

PK3:  -18.840000(kcal/mol): PK_start=1276 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1310
(fs_start=1268)
                AA
CACTGAGAGACAGGCTAATTTTTTAGGGAG
                CCTTC    CGGTTT
                                GCCAGGAA
        AGCAAAGGGAG

PK4:  -21.815000(kcal/mol): PK_start=1283 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1320
(fs_start=1268)
                TCCAGCAA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
                GGACCGGA    GGGA
                                TCCTCA
        AAATTT

=====
(1276) DQ230841
=====
PK1:  -13.555000(kcal/mol): PK_start=1394 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1422
(fs_start=1414)
                A
GAAAAGAAGGACACCAAATGAAAGATTGT
                GACA    GAGAGTC
                                TTTTTTAGGG
        GCCAAT

```

PK2: -21.340000(kcal/mol): PK_start=1399 sp=0 s1=8 s2=5 l1=2 l2=8 L3=1 PK_end=1434
(fs_start=1414)

CA
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ACCGG
TGCCCT
GGAAAATC

PK3: -24.730000(kcal/mol): PK_start=1422 sp=0 s1=4 s2=7 l1=3 l2=9 L3=1 PK_end=1455
(fs_start=1414)

AAA
TACTGAGAGACAGGCCAATTTTTTAGGGA
CCCT C CCGGTCT
GGCCAGGGA
ACAAGGGAA

PK4: -23.190000(kcal/mol): PK_start=1429 sp=7 s1=7 s2=6 l1=8 l2=4 L3=0 PK_end=1466
(fs_start=1414)

CTCCCACA
AGACAGGCCAATTTTTTAGGGAAAATCTGGCC
GGACCGG AAGGGA
TTTCTTCA
GAAC

=====
(1277) DQ234790
=====

PK1: -15.100000(kcal/mol): PK_start=1435 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1463
(fs_start=1455)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1440 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1477
(fs_start=1455)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTCC
GGAAAAT

PK3: -22.240000(kcal/mol): PK_start=1463 sp=0 s1=4 s2=7 l1=3 l2=10 L3=0 PK_end=1497
(fs_start=1455)

AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT CCGGTTT
GGCCAGGGA
AACAAGGGGA

PK4: -27.82000(kcal/mol): PK_start=1470 sp=7 s1=10 s2=4 l1=4 l2=25 L3=0 PK_end=1526
(fs_start=1455)

CAAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTCC
GGACCGGAGG GGAA
CCTTCA
GAATTTTCCTCAGAGCAGACCAGAG

PK4B: -26.865000(kcal/mol): PK_start=1470 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1533
(fs_start=1455)

CCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCCTCAGAGCAGACCAGAGCCTTCAG

=====
(1278) DQ275642
=====

PK1: -15.025000(kcal/mol): PK_start=1486 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1514
(fs_start=1506)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -18.760000(kcal/mol): PK_start=1491 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1527
(fs_start=1506)

C
GAAGGACACCAAATGAAAGACTGTACTGAAAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAACTC

PK3: -27.025000(kcal/mol): PK_start=1515 sp=0 s1=3 s2=9 l1=2 l2=9 L3=0 PK_end=1549
(fs_start=1506)

AA
ACTGAAAGGCAGGCTAATTTTTTAGGGA
CCT TCCGGTCTC
AGGCCAGGGAA
AACAAAGGG

PK4: -28.885000(kcal/mol): PK_start=1520 sp=6 s1=9 s2=5 l1=7 l2=4 L3=0 PK_end=1558
(fs_start=1506)

TCCAACA
AAGGCAGGCTAATTTTTTAGGGAAACTCTGGCCT
GGGACCGGA GGGAA
TCCTTCA
AATT

=====
(1279) DQ275643
=====

PK1: -15.025000(kcal/mol): PK_start=1485 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1513
(fs_start=1505)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.370000(kcal/mol): PK_start=1490 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1527
(fs_start=1505)

C
GAAGGACACCAAATGAAAGACTGTACTGAAAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAACT

PK3: -26.955000(kcal/mol): PK_start=1513 sp=0 s1=4 s2=9 l1=2 l2=8 L3=0 PK_end=1548
(fs_start=1505)

AA
TACTGAAAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTTC
AGGCCAGGGAA
ACAAGGGG

PK4: -22.865000(kcal/mol): PK_start=1519 sp=6 s1=9 s2=4 l1=8 l2=6 L3=0 PK_end=1558
(fs_start=1505)

TCCCACAA
AAGGCAGGCTAATTTTTTAGGGAACTTTGGCCT
GGGACCGGA GGGG
CTTCAG
AATTTC

PK4B: -29.475000(kcal/mol): PK_start=1519 sp=6 s1=9 s2=4 l1=8 l2=31 L3=0 PK_end=1583
(fs_start=1505)

TCCCACAA
AAGGCAGGCTAATTTTTTAGGGAACTTTGGCCT
GGGACCGGA GGGG
CCCCAC
AATTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(1280) DQ275644
=====

PK1: -17.185000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A
GAAAAGAAGGACACCAAATGAAAGACTGC
GACG GAGAGTC

TTTTTAGGG
GCTAAT
PK2: -20.330000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1525
(fs_start=1503)

C
GAAGGACACCAAATGAAAGACTGCACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAAT

PK3: -23.745000(kcal/mol): PK_start=1511 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1545
(fs_start=1503)

AAA
CACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1581
(fs_start=1503)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCTTCAGAACAGACCAGCGCCAACAG

=====
(1281) DQ275645
=====

PK1: -14.985000(kcal/mol): PK_start=1477 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1505
(fs_start=1497)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1482 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1519
(fs_start=1497)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA

```

                                TTGGCCTTC
          GGAAAAAT
PK3:  -20.285000(kcal/mol): PK_start=1506 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1539
(fs_start=1497)
                                AAA
ACTGAGAGGCAGGCTAATTTTTTAGGGA
                                CCT   TCCGGTTT
                                AGGCCAGGGA
          AACAAAGGGA
PK4:  -25.490000(kcal/mol): PK_start=1512 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1549
(fs_start=1497)
                                CAAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
                                GGACCGGAAG   GGAA
                                CCTTCA
          GAATTT
=====
(1282) DQ275646
=====
PK1:  -15.025000(kcal/mol): PK_start=1486 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1514
(fs_start=1506)
                                A
GAAAGGAAGGACACCAAATGAAAGACTGT
                                GACG   GAAAGTC
                                TTTTTAGGG
          GCGAAT
PK2:  -13.905000(kcal/mol): PK_start=1491 sp=0 s1=7 s2=5 l1=5 l2=5 L3=0 PK_end=1524
(fs_start=1506)
                                GCAGG
GAAGGACACCAAATGAAAGACTGTACTGAAAG
                                GATTTTT   TAAGC
                                ATTTGGC
          GGAAA
PK3:  -20.285000(kcal/mol): PK_start=1515 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1548
(fs_start=1506)
                                AAA
ACTGAAAGGCAGGCGAATTTTTTAGGGA
                                CCT   TCCGGTTT
                                AGGCCAGGGA
          AACAAAGGG
PK4:  -22.745000(kcal/mol): PK_start=1521 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1558
(fs_start=1506)
                                TCCAACA
AGGCAGGCGAATTTTTTAGGGAAAATTTGGCCT
                                GGACCGGA   GGGAA

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                                TCCTTCA
                                GAATT
=====
(1283) DQ275647
=====
PK1:  -14.985000(kcal/mol): PK_start=1474 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1502
(fs_start=1494)
                                A
GAAAAGAAGGACACCAAATGAAAGACTGT
                                GACG   GAGAGTC
                                TTTT TAGGG
                                GCTAAT

PK2:  -20.330000(kcal/mol): PK_start=1479 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1516
(fs_start=1494)
                                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
                                GATTTTTT   AATCGGA
                                TTGGCCTTC
                                GGAAAAT

PK3:  -23.745000(kcal/mol): PK_start=1502 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1536
(fs_start=1494)
                                AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTTT
                                AGGCCAGGGA
                                ACAAGGGG

PK4:  -25.010000(kcal/mol): PK_start=1509 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1546
(fs_start=1494)
                                CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
                                GGACCGGAGG   GGAA
                                CCTTCA
                                GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1509 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1572
(fs_start=1494)
                                TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
                                GGACCGGA   GGGG
                                CCCCAC
                                GAATTTCTTCAGAGCAGGCCAGAACCGACAG

=====
(1284) DQ275648
=====
PK1:  -14.985000(kcal/mol): PK_start=1487 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1515
(fs_start=1507)
                                A
GAAAAGAAGGACACCAAATGAAAGACTGT

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          GACG      GAGAGTC
                TTTTATAGGG
      GCTAAT
PK2:  -20.330000(kcal/mol): PK_start=1492 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1529
(fs_start=1507)
                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
                GATTTTTT      AATCGGA
                TTGGCCTTC
      GGAAAAT
PK3:  -23.745000(kcal/mol): PK_start=1515 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1549
(fs_start=1507)
                AAA
TACTGAGAGGCAGGCTAATTTTTATAGGGA
                CCCT      TCCGGTTT
                AGGCCAGGGA
      ACAAGGGG
PK4:  -25.010000(kcal/mol): PK_start=1522 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1559
(fs_start=1507)
                CCAC
AGGCAGGCTAATTTTTATAGGAAAATTTGGCCTTC
                GGACCGGAGG      GGAA
                CCTTCA
      GAATTT
PK4B:  -26.865000(kcal/mol): PK_start=1522 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1585
(fs_start=1507)
                TCCCACAA
AGGCAGGCTAATTTTTATAGGAAAATTTGGCCT
                GGACCGGA      GGGG
                CCCAC
      GAATTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(1285) DQ275649
=====
PK1:  -16.555000(kcal/mol): PK_start=1490 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1518
(fs_start=1510)
                A
GACAGGAAGGACATCAAATGAAGGACTGC
                GGCG      GAAAGTC
                TTTTATAGGG
      GCTAAT
PK2:  -20.400000(kcal/mol): PK_start=1495 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1532
(fs_start=1510)
                C
GAAGGACATCAAATGAAGGACTGCACTGAAAGG

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          GATTTTTT   AATCGGG
                    TTGGCCTTC
GGAAAAT

PK3:  -22.025000(kcal/mol): PK_start=1518 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1552
(fs_start=1510)
                    AAA
CACTGAAAGGCGGGCTAATTTTTTTAGGGA
                    CCCT   TCCGGTTT
                    AGGCCGGGAA
ACAAGGGG

PK4:  -23.290000(kcal/mol): PK_start=1525 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1562
(fs_start=1510)
                    CCAC
AGGCGGGCTAATTTTTTTAGGGAAAATTTGGCCTTC
                    GGGCCGGAGG   GGAA
                    CCTTCA
AAATTT

PK4B: -25.145000(kcal/mol): PK_start=1525 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1588
(fs_start=1510)
                    TCCCACAA
AGGCGGGCTAATTTTTTTAGGGAAAATTTGGCCT
                    GGGCCGGA   GGGG
                    CCCCAC
AAATTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(1286) DQ275650
=====
PK1:  -12.360000(kcal/mol): PK_start=1478 sp=0 s1=3 s2=7 l1=1 l2=21 L3=0 PK_end=1519
(fs_start=1512)
                    A
TTGGAAATGTGGAAAGGAAGGACACCAG
                    GTC   AGAAAGT
                    TTTTTTAGG
TACTACTGAAAGGCAGGCTAA

PK2:  -20.370000(kcal/mol): PK_start=1497 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1534
(fs_start=1512)
                    C
GGACACCAGATGAAAGACTGTACTACTGAAAGG
                    GATTTTTT   AATCGGA
                    TTGGCCTTC
GGAAAAT

PK3:  -22.025000(kcal/mol): PK_start=1520 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1554
(fs_start=1512)
                    AAA
TACTGAAAGGCAGGCTAATTTTTTTAGGGA

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          CCCT   TCCGGTTT
                AGGCCGGGAA
ACAAGGGG
PK4:  -23.290000(kcal/mol): PK_start=1527 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1564
(fs_start=1512)
                CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
                GGGCCGGAGG   GGAA
                                CCTTCA
                AAATTT
PK4B:  -25.145000(kcal/mol): PK_start=1527 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1590
(fs_start=1512)
                TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGGCCGGA   GGGG
                                CCCAC
                AAATTTCTTCAGAGCAGACCAGAGCCAACAG
=====
(1287) DQ275651
=====
PK1:  -14.985000(kcal/mol): PK_start=1488 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1516
(fs_start=1508)
                A
GAAAGGAAGGACACCAAATGAAAGACTGT
                GACG   GAGAGTC
                                TTTTTAGGG
                GCTAAT
PK2:  -20.330000(kcal/mol): PK_start=1493 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1530
(fs_start=1508)
                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
                GATTTTTT   AATCGGA
                                TTGGCCTTC
                GGAAGAT
PK3:  -22.580000(kcal/mol): PK_start=1516 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1550
(fs_start=1508)
                A
TACTGAGAGGCAGGCTAATTTTTTAGGGAAG
                CCCTTC   CGGTTT
                                GCCAGGGA
                ACAAGGGGAG
PK4:  -22.815000(kcal/mol): PK_start=1523 sp=7 s1=9 s2=4 l1=6 l2=5 L3=0 PK_end=1559
(fs_start=1508)
                CCCACA
AGGCAGGCTAATTTTTTAGGGAAGATTTGGCCTT

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GGACCGGAG GGGA
 TCCTAC
 GAATT

PK4B: -26.865000(kcal/mol): PK_start=1523 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1586
 (fs_start=1508)

TCCCACAA
 AGGCAGGCTAATTTTTTAGGGAAGATTGGCCT

GGACCGGA GGGG
 CCCCAC
 GAATTTCTACAGAGCAGACCAGAGCCATCAG

=====
 (1288) DQ275652
 =====

PK1: -14.985000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
 (fs_start=1504)

A
 GAAAAGAAGGACACCCAATGAAAGACTGT

GACG GAGAGTC
 TTTTTAGGG
 GCTAAT

PK2: -18.720000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
 (fs_start=1504)

C
 GAAGGACACCCAATGAAAGACTGTACTGAGAGG

GATTTTTT A ATCGGA
 TGGCCTTC
 GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
 (fs_start=1504)

AAA
 TACTGAGAGGCAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT
 AGGCCAGGGA
 ACAAGGGG

PK4: -28.540000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
 (fs_start=1504)

CCAC
 AGGCAGGCTAATTTTTTAGGAAAATCTGGCCTTC

GGACCGGAGG GGAA
 CCTTCA
 GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1519 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1582
 (fs_start=1504)

TCCCACAA
 AGGCAGGCTAATTTTTTAGGAAAATCTGGCCT

GGACCGGA GGG
CCCCAC
GAATTCCTTCAGAACAGACCAGCCAACAG

=====
(1289) DQ275653
=====

PK1: -15.585000(kcal/mol): PK_start=1486 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1514
(fs_start=1506)

A
GAAGGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCCAAT

PK2: -22.720000(kcal/mol): PK_start=1491 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1527
(fs_start=1506)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT A ACCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1514 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1548
(fs_start=1506)

AAA
TACTGAGAGACAGGCCAATTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -28.540000(kcal/mol): PK_start=1521 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1558
(fs_start=1506)

CCAC
AGACAGGCCAATTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1521 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1584
(fs_start=1506)

TCCCACAA
AGACAGGCCAATTTTTAGGGAAAATCTGGCCT
GGACCGGA GGG
CCCCAC
GAATTCCTTCAGAACAGACCAGGCCAACAG

=====
(1290) DQ275654
=====

PK1: -15.025000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GACAGGAAGGACATCAAATGAAAGACTGT
GACG GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.370000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1526
(fs_start=1504)

C
GAAGGACATCAAATGAAAGACTGTACTGAAAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -22.025000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAAAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCGGGGA
ACAAGGGG

PK4: -23.290000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGGCCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -25.145000(kcal/mol): PK_start=1519 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1582
(fs_start=1504)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA GGGG
CCCCAC
GAATTTCTTCAGAGCAGGCCAGCCAACAG

=====
(1291) DQ275655
=====

PK1: -15.625000(kcal/mol): PK_start=1486 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1514
(fs_start=1506)

A
GACAGGAAGGACATCAAATGAAAGACTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -21.98000(kcal/mol): PK_start=1491 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1528 (fs_start=1506)

C
GAAGGACATCAAATGAAAGACTGTACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1514 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1548 (fs_start=1506)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -26.865000(kcal/mol): PK_start=1521 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1584 (fs_start=1506)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCATTCAGAACAGACTAGAGCCAACAG

=====
(1292) DQ275656
=====

PK1: -14.355000(kcal/mol): PK_start=1485 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1513 (fs_start=1505)

T
GAAGAGAAGGACACCAAATGAAAGACTGT
GGCG GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -21.220000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=7 l1=2 l2=6 L3=1 PK_end=1526 (fs_start=1505)

GC
AGAAGGACACCAAATGAAAGACTGTTCTGAAAG
GGATTTTT T AATCGGG
TTGGCCTTC
GAAAAT

PK3: -26.210000(kcal/mol): PK_start=1513 sp=0 s1=3 s2=10 l1=5 l2=3 L3=0 PK_end=1546 (fs_start=1505)

AAAAT
TTCTGAAAGGCGGGCTAATTTTTTAGGG
CTC CCTTCCGGTT
GGGAGGCCAGGG
AAG

PK4: -25.010000(kcal/mol): PK_start=1520 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1557
(fs_start=1505)

CCTC
AGGCGGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1520 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=1583
(fs_start=1505)

TCCCTCAA
AGGCGGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCCCTCAGAGCAGACCAGAGCCAACAG

=====
(1293) DQ275657
=====

PK1: -12.445000(kcal/mol): PK_start=1489 sp=0 s1=4 s2=6 l1=2 l2=6 l3=0 PK_end=1516
(fs_start=1509)

AA
GAAAAGAAGGACACCAGATGAAAGACTGT
GACG GAAAGT
TTTTTAGG
GCTAAT

PK2: -18.090000(kcal/mol): PK_start=1495 sp=0 s1=7 s2=7 l1=1 l2=8 l3=0 PK_end=1531
(fs_start=1509)

C
AAGGACACCAGATGAAAGACTGTAATGAAAGG
ATTTTTT AATCGGA
TTGGCCTCC
GGGAAAAT

PK3: -24.910000(kcal/mol): PK_start=1517 sp=0 s1=3 s2=9 l1=4 l2=7 l3=0 PK_end=1551
(fs_start=1509)

AAAA
TAATGAAAGGCAGGCTAATTTTTTAGGG
CCC CTCCGGTTT
GAGGCCAGGGA
ACAAGGG

PK4: -24.585000(kcal/mol): PK_start=1524 sp=7 s1=9 s2=4 l1=6 l2=5 l3=0 PK_end=1560
(fs_start=1509)

CCCACA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTC
GGACCGGAG GGGG
TCCTCC
GAATT

PK4B: -26.865000(kcal/mol): PK_start=1524 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1587
(fs_start=1509)

CCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCCTCCAGAACAGACCAGAGCCAACGG

=====
(1294) DQ275658
=====

PK1: -15.585000(kcal/mol): PK_start=1499 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1527
(fs_start=1519)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1504 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1540
(fs_start=1519)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -23.815000(kcal/mol): PK_start=1528 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1561
(fs_start=1519)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTCT
AGGCCAGGAA
AACAAGGGG

PK4: -28.540000(kcal/mol): PK_start=1534 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1571
(fs_start=1519)

CAAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
AAACTT

PK4B: -30.395000(kcal/mol): PK_start=1534 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1597
(fs_start=1519)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
AAACTTCCTTCAGAACAGACCAGAGCCAACAG

=====
(1295) DQ275659
=====

PK1: -15.585000(kcal/mol): PK_start=1496 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1524
(fs_start=1516)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -21.600000(kcal/mol): PK_start=1501 sp=0 s1=7 s2=7 l1=1 l2=8 l3=2 PK_end=1537
(fs_start=1516)

A
GAAGGACACCAAATGAAAGACTGTACTGAGAG
GATTTTT TA ATCGGAC
TGGCCTGCC
GGAAAATC

PK3: -24.230000(kcal/mol): PK_start=1524 sp=0 s1=3 s2=7 l1=5 l2=8 l3=1 PK_end=1556
(fs_start=1516)

AAAAAT
TACTGAGAGACAGGCTAATTTTTTAGGG
CCC G TCCGGTC
AGGCCAGGG
ACAAGGGG

PK4: -25.925000(kcal/mol): PK_start=1531 sp=7 s1=8 s2=5 l1=7 l2=5 l3=0 PK_end=1568
(fs_start=1516)

GCCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGGA
TCCTTCA
GAATT

PK4B: -30.395000(kcal/mol): PK_start=1531 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=1594
(fs_start=1516)

GCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTCCTTCAGAACAGACCAGAGCCAACGG

=====
(1296) DQ275660
=====

PK1: -15.585000(kcal/mol): PK_start=1477 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1505
(fs_start=1497)

A
GACAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC

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                TTTT TAGGG
      GCTAAT
PK2:  -22.065000(kcal/mol): PK_start=1482 sp=0 s1=6 s2=9 l1=3 l2=5 L3=0 PK_end=1519
(fs_start=1497)
                GAC
GAAGGACACCAAATGAAAGACTGTACTGAGA
                GATTTT   TTAATCGGA
                AATTGCCTTC
      GGAAA
PK3:  -14.190000(kcal/mol): PK_start=1505 sp=0 s1=5 s2=4 l1=3 l2=25 L3=2 PK_end=1550
(fs_start=1497)
                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGAA
                CCCTT  CC  GGT
                TCAGGG
      GTGCGGAAGCCGGGAATTTCCC
PK4:  -23.495000(kcal/mol): PK_start=1513 sp=8 s1=7 s2=4 l1=8 l2=6 L3=0 PK_end=1548
(fs_start=1497)
                TCCCGTGC
GACAGGCTAATTTTTTAGGGAAAAATTGGCCT
                GGCCGGA   AGGG
                TCCCTC
      GGAATT

=====
(1297) DQ275661
=====
PK1:  -15.625000(kcal/mol): PK_start=1486 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1514
(fs_start=1506)
                A
GAAAGGAAGGACACCAAATGAAAGACTGT
                GACA   GAAAGTC
                TTTT TAGGG
      GCTAAT
PK2:  -21.980000(kcal/mol): PK_start=1491 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1528
(fs_start=1506)
                C
GAAGGACACCAAATGAAAGACTGTACTGAAAGA
                GATTTTTT   AATCGGA
                TTGGCCTTC
      GGAAAAT
PK3:  -23.745000(kcal/mol): PK_start=1514 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1548
(fs_start=1506)
                AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTTT

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                                AGGCCAGGAA
                AGAAGGGG
PK4:  -28.960000(kcal/mol): PK_start=1521 sp=7 s1=11 s2=4 l1=2 l2=7 l3=0 PK_end=1559
(fs_start=1506)
                                CA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTTCC
                GGACCGGAGGG    GAAG
                                CTCAG
                AAATTTTC

PK4B:  -26.865000(kcal/mol): PK_start=1521 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=1584
(fs_start=1506)
                                TCCCAGAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
                GGACCGGA    GGGG
                                CCCCAC
                AAATTTCTTCAGAACAGACCAGAGCCAACAG

=====
(1298) DQ295192
=====
PK1:  -13.595000(kcal/mol): PK_start=1754 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1782
(fs_start=1774)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                GACA    GAAAGTC
                                TTTTTAGGG
                GCTAAT

PK2:  -20.500000(kcal/mol): PK_start=1759 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1795
(fs_start=1774)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
                GATTTTTT A  ATCGGA
                                TGGCCTTC
                GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1782 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=1816
(fs_start=1774)
                                AAA
TACTGAAAGACAGGCTAATTTTTTTAGGGA
                CCCT    TCCGGTCT
                                AGGCCAGGGA
                ACAAGGGA

PK4:  -29.020000(kcal/mol): PK_start=1789 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1826
(fs_start=1774)
                                CCAC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
                GGACCGGAAG    GGAA

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                                CCTTCA
                                GAATTT
=====
(1299) DQ295193
=====
PK1:  -15.585000(kcal/mol): PK_start=2042 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2070
(fs_start=2062)
                                A
GAAAGGAAGGACACCAAATGAAAGACTGT
                                GACA    GAGAGTC
                                TTTTtaggg
                                GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=2047 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2083
(fs_start=2062)
                                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
                                GATTTTTT A  ATCGGA
                                TGGCCTTC
                                GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=2070 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2104
(fs_start=2062)
                                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCCT    TCCGGTCT
                                AGGCCAGGGA
                                ACAAGGGA
PK4:  -26.715000(kcal/mol): PK_start=2077 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2114
(fs_start=2062)
                                CCAC
AGACAGGCTAATTTTTTAGGAAAATCTGGCCTTC
                                GGACCGGAAG    GGAA
                                TCTTCA
                                GAATTT
=====
(1300) DQ295194
=====
PK1:  -10.640000(kcal/mol): PK_start=2035 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=2073
(fs_start=2066)
                                A
TTGGAATGTGGAAAGGAAGGACACCAA
                                GTT    AGAAAGT
                                TTTTTTtagg
                                CACTGAGAGACAGGCTAA
PK2:  -20.460000(kcal/mol): PK_start=2051 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2087
(fs_start=2066)
                                C
GAAGGACACCAAATGAAAGATTGCACTGAGAGA

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GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=2074 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=2108
(fs_start=2066)

A
CACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -29.020000(kcal/mol): PK_start=2081 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2118
(fs_start=2066)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(1301) DQ295195
=====

PK1: -10.795000(kcal/mol): PK_start=2023 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2051
(fs_start=2043)

A
GACAGGAAGGACACCAAATGAAAGATTGT
GACA GAGGGTC
TTTTTAGGG
GCTAAT

PK2: -17.700000(kcal/mol): PK_start=2028 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2064
(fs_start=2043)

C
GAAGGACACCAAATGAAAGATTGTACTGGGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=2051 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2085
(fs_start=2043)

AAA
TACTGGGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=2058 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2095
(fs_start=2043)

CCAC
AGACAGGCTAATTTTTTAGGAAAATCTGGCCTTC

```

                GGACCGGAAG    GGAA
                                TCTTCA
          GAATTT

=====
(1302) DQ295196
=====
PK1:  -13.555000(kcal/mol): PK_start=1766 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1794
(fs_start=1786)
                A
GAAAGGAAGGACACCAAATGAAAGATTGT

                GACA    GAGAGTC
                                TTTTTAGGG
          GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1771 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1807
(fs_start=1786)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA

                GATTTTTT    A    ATCGGA
                                TGGCCTTC
          GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1794 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1828
(fs_start=1786)
                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA

                CCCT    TCCGGTCT
                                AGGCCAGGGA
          ACAAGGGA

PK4:  -26.715000(kcal/mol): PK_start=1801 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1838
(fs_start=1786)
                CCAC
AGACAGGCTAATTTTTTAGGAAAATCTGGCCTTC

                GGACCGGAAG    GGAA
                                TCTTCA
          GAATTT

=====
(1303) DQ314731
=====
PK1:  -10.440000(kcal/mol): PK_start=2042 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=2080
(fs_start=2073)
                A
TTGGAAATGTGGGAAGGAAGGACATCAA

                GTT    AGAAAGT
                                TTTTTTAGG
          CACTGAGAGACAGGCTAA

```

PK2: -21.940000(kcal/mol): PK_start=2058 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2095
(fs_start=2073)

C
GAAGGACATCAAATGAAAGATTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=2082 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2115
(fs_start=2073)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AACAAAGGGA

PK4: -22.915000(kcal/mol): PK_start=2088 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2125
(fs_start=2073)

TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(1304) DQ314732
=====

PK1: -15.100000(kcal/mol): PK_start=2019 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2047
(fs_start=2039)

CA
GGAAGGAAGGACATCAAATAAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=2024 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2061
(fs_start=2039)

C
GAAGGACATCAAATAAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=2048 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2081
(fs_start=2039)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AACAAAGGA

PK4: -22.465000(kcal/mol): PK_start=2054 sp=7 s1=8 s2=4 l1=8 l2=6 l3=0 PK_end=2091
(fs_start=2039)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA AGGA
TCCTCA
GAATTT

=====
(1305) DQ322223
=====

PK1: -10.440000(kcal/mol): PK_start=1267 sp=0 s1=3 s2=7 l1=1 l2=21 l3=0 PK_end=1308
(fs_start=1301)

A
TTGGAAATGTGGAAAGGAAGGACATCAA
GTT AGAAAGT
TTTTTTAGG
CACTAATGAGAGACAGGCTAA

PK2: -18.180000(kcal/mol): PK_start=1287 sp=0 s1=7 s2=6 l1=1 l2=9 l3=1 PK_end=1322
(fs_start=1301)

C
GACATCAAATGAAAGATTGCACTAATGAGAGA
ATTTTTT A ATCGGA
TGGCCTTC
GGGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1309 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=1343
(fs_start=1301)

AAA
TAATGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1316 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1353
(fs_start=1301)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(1306) DQ322224
=====

PK1: -10.440000(kcal/mol): PK_start=1267 sp=0 s1=3 s2=7 l1=1 l2=21 l3=0 PK_end=1308
(fs_start=1301)

A
TTGGAAATGTGGAAAGGAAGGACATCAA
GTT AGAAAGT

TTTTTTAGG
CACTAATGAGAGACAGGCTAA

PK2: -18.180000(kcal/mol): PK_start=1287 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1322
(fs_start=1301)

C
GACATCAAATGAAAGATTGCACTAATGAGAGA

ATTTTTT A ATCGGA
TGGCCTTC
GGRAAAATC

PK3: -16.890000(kcal/mol): PK_start=1308 sp=0 s1=3 s2=6 l1=5 l2=13 L3=0 PK_end=1343
(fs_start=1301)

RAAAA
CTAATGAGAGACAGGCTAATTTTTTAGG

TTC CGGTCT
GCCAGGGA
CCCACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1316 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1353
(fs_start=1301)

CCAC
AGACAGGCTAATTTTTTAGGRAAAATCTGGCCTTC

GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(1307) DQ322225
=====

PK1: -8.215000(kcal/mol): PK_start=1275 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=1302
(fs_start=1295)

CA
GAGAGGAAGGACACCAAATGAAAGATTGT

GACA GAGGGT
TTTTTAGG
GCTAAT

PK2: -15.420000(kcal/mol): PK_start=1281 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1316
(fs_start=1295)

C
AAGGACACCAAATGAAAGATTGTCATGGGAGA

ATTTTTT A ATCGGA
TGGCCTTC
GGGAAAATC

PK3: -26.605000(kcal/mol): PK_start=1303 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1337
(fs_start=1295)

AAA
TCATGGGAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT

AGGCCGGGGA

ACAAGGGA

PK4: -28.350000(kcal/mol): PK_start=1310 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1347
(fs_start=1295)

CCAC

AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC

GGGCCGGAAG GGAA

CCTTCA

GAATTT

=====
(1308) DQ322226
=====

PK1: -8.215000(kcal/mol): PK_start=1275 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=1302
(fs_start=1295)

CA

GAGAGGAAGGACACCAAATGAAAGATTGT

GACA GAGGGT

TTTTTAGG

GCTAAT

PK2: -15.420000(kcal/mol): PK_start=1281 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1316
(fs_start=1295)

C

AAGGACACCAAATGAAAGATTGTCATGGGAGA

ATTTTTT A ATCGGA

TGGCCTTC

GGRAAAATC

PK3: -16.220000(kcal/mol): PK_start=1302 sp=0 s1=3 s2=6 l1=5 l2=13 L3=0 PK_end=1337
(fs_start=1295)

RAAAA

GTCATGGGAGACAGGCTAATTTTTTTAGG

TTC CGGTCT

GCCGGGGA

CCCACAAGGGAAG

PK4: -28.350000(kcal/mol): PK_start=1310 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1347
(fs_start=1295)

CCAC

AGACAGGCTAATTTTTTTAGGRAAAATCTGGCCTTC

GGGCCGGAAG GGAA

CCTTCA

GAATTT

=====
(1309) DQ322227
=====

PK1: -10.975000(kcal/mol): PK_start=1315 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=1342
(fs_start=1335)

AA

GAAAGGAGGGACACCAAATGAAAGATTGT

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          GACA   GAGAGT
                TTTTTAGG
    GCTAAT
PK2:  -18.180000(kcal/mol): PK_start=1321 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1356
(fs_start=1335)
          C
    AGGGACACCAAATGAAAGATTGTAATGAGAGA
                A   ATCGGA
                TGGCCTTC
    GGGAGAATC
PK3:  -22.370000(kcal/mol): PK_start=1343 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1377
(fs_start=1335)
          AA
    TAATGAGAGACAGGCTAATTTTTTAGGGAG
                CCTTC   CGGTCT
                GCCAGGGA
    CACAAGGGGAG
PK4:  -26.235000(kcal/mol): PK_start=1350 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1387
(fs_start=1335)
                CCAC
    AGACAGGCTAATTTTTTAGGGAGAATCTGGCCTTC
                GGACCGGAGG   GGAA
                TCTTCA
    GAATTT
PK4B:  -30.395000(kcal/mol): PK_start=1350 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1413
(fs_start=1335)
                TCCCACAA
    AGACAGGCTAATTTTTTAGGGAGAATCTGGCCT
                GGACCGGA   GGGG
                CCCAC
    GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(1310) DQ322228
=====
PK1:  -10.975000(kcal/mol): PK_start=1275 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=1302
(fs_start=1295)
          AA
    GAAAGGAGGGACACCAAATGAAAGATTGT
                GACA   GAGAGT
                TTTTTAGG
    GCTAAT
PK2:  -18.180000(kcal/mol): PK_start=1281 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1316
(fs_start=1295)
          C
    AGGGACACCAAATGAAAGATTGTAATGAGAGA

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          ATTTTTT A ATCGGA
                    TGGCCTTC
GGGAGAATC

PK3:  -22.370000(kcal/mol): PK_start=1303 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1337
(fs_start=1295)
          AA
TAATGAGAGACAGGCTAATTTTTTTAGGGAG
          CCTTC   CGGTCT
                    GCCAGGGA
          CACAAGGGGAG

PK4:  -26.235000(kcal/mol): PK_start=1310 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1347
(fs_start=1295)
                    CCAC
AGACAGGCTAATTTTTTTAGGGAGAATCTGGCCTTC
          GGACCGGAGG   GGAA
                    TCTTCA
          GAATTT

PK4B:  -30.395000(kcal/mol): PK_start=1310 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1373
(fs_start=1295)
                    TCCCACAA
AGACAGGCTAATTTTTTTAGGGAGAATCTGGCCT
          GGACCGGA   GGGG
                    CCCCAC
          GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(1311) DQ322229
=====
PK1:  -10.975000(kcal/mol): PK_start=1276 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=1303
(fs_start=1296)
          AA
GAAAGGAGGGACACCAAATGAAAGATTGT
          GACA   GAGAGT
                    TTTTTTAGG
          GCTAAT

PK2:  -18.180000(kcal/mol): PK_start=1282 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1317
(fs_start=1296)
          C
AGGGACACCAAATGAAAGATTGTAATGAGAGA
          ATTTTTT A ATCGGA
                    TGGCCTTC
          GGGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1304 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1338
(fs_start=1296)
          AAA
TAATGAGAGACAGGCTAATTTTTTTAGGGA

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          CCCT   TCCGGTCT
                AGGCCAGGGA
ACAAGGGG

PK4:  -26.235000(kcal/mol): PK_start=1311 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1348
(fs_start=1296)
                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                GGACCGGAGG   GGAA
                                TCTTCA
                GAATTT

PK4B:  -30.395000(kcal/mol): PK_start=1311 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1374
(fs_start=1296)
                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                GGACCGGA   GGGG
                                CCCCAC
                GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(1312) DQ322230
=====
PK1:  -10.975000(kcal/mol): PK_start=1276 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=1303
(fs_start=1296)
                AA
GAAAGGAGGGACACCAAATGAAAGATTGT
                GACA   GAGAGT
                                TTTTTAGG
                GCTAAT

PK2:  -18.180000(kcal/mol): PK_start=1282 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1317
(fs_start=1296)
                C
AGGGACACCAAATGAAAGATTGTAATGAGAGA
                ATTTTTT   A   ATCGGA
                                TGGCCTTC
                GGGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1304 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1338
(fs_start=1296)
                AAA
TAATGAGAGACAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTCT
                                AGGCCAGGGA
                ACAAGGGG

PK4:  -26.235000(kcal/mol): PK_start=1311 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1348
(fs_start=1296)
                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

```

```

                GGACCGGAGG    GGAA
                                TCTTCA
          GAATTT
PK4B:  -30.395000(kcal/mol): PK_start=1311 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1374
(fs_start=1296)
                                TCCCACAA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT
                GGACCGGA    GGGG
                                CCCCAC
          GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

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=====
(1313) DQ322239
=====

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PK1:  -14.275000(kcal/mol): PK_start=1272 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1300
(fs_start=1292)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                AACA    GAAAGTC
                                TTTTTAGGG
          GCTAAT

```

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PK2:  -15.860000(kcal/mol): PK_start=1277 sp=0 s1=8 s2=4 l1=3 l2=8 L3=1 PK_end=1311
(fs_start=1292)
                                CAA
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
                GATTTTTT    A    ATCG
                                TGGCCT
          GGAAGATC

```

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PK3:  -26.110000(kcal/mol): PK_start=1300 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1334
(fs_start=1292)
                                A
TACTGAAAGACAAGCTAATTTTTTTAGGGAAG
                CCCTTC    CGGTCT
                                GCCAGGGA
          ACAAGGGAAG

```

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PK4:  -29.020000(kcal/mol): PK_start=1307 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1344
(fs_start=1292)
                                CCAC
AGACAAGCTAATTTTTTTAGGGAAGATCTGGCCTTC
                GGACCGGAAG    GGAA
                                CCTTCA
          GAATTT

```

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=====
(1314) DQ351216
=====

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PK1: -10.640000(kcal/mol): PK_start=1475 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1513
(fs_start=1506)

A
TTGGAATGTGGAAAGGAAGGTCACCAA
GTT AGAAAGT
TTTTTTAGG
CACTGAGAGACAGGCTAA

PK2: -21.940000(kcal/mol): PK_start=1491 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1528
(fs_start=1506)

C
GAAGGTCACCAAATGAAAGATTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1515 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1548
(fs_start=1506)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1521 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1558
(fs_start=1506)

CAAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1521 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1584
(fs_start=1506)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCCTTCAGAGCAGACCAGAGCCAACAG

=====
(1315) DQ351217
=====

PK1: -14.985000(kcal/mol): PK_start=1499 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1527
(fs_start=1519)

A
GGAGAGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1504 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1541
(fs_start=1519)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1527 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1561
(fs_start=1519)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1534 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1571
(fs_start=1519)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -27.345000(kcal/mol): PK_start=1534 sp=7 s1=8 s2=5 l1=7 l2=32 L3=0 PK_end=1598
(fs_start=1519)

TCCCACA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGGA
CCCCTCA
GAATTTCCCTCAGAACAGACCAGAGCCAATAG

=====
(1316) DQ351218
=====

PK1: -12.405000(kcal/mol): PK_start=1498 sp=0 s1=4 s2=6 l1=5 l2=6 L3=0 PK_end=1528
(fs_start=1521)

ACTAA
GGAAAGAGGGACACCAAATGAAGGACTGT
GACG GAGAGT
TTTTTAGG
GCTAAT

PK2: -18.050000(kcal/mol): PK_start=1507 sp=0 s1=7 s2=7 l1=1 l2=8 L3=0 PK_end=1543
(fs_start=1521)

C
GACACCAAATGAAGGACTGTACTAATGAGAGG
ATTTTTT AATCGGA
TTGGCCTTC
GGGAAACT

PK3: -26.955000(kcal/mol): PK_start=1529 sp=0 s1=4 s2=9 l1=2 l2=8 L3=0 PK_end=1564
(fs_start=1521)

AA
TAATGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTTC
AGGCCAGGGAA
ACAAGGGG

PK4: -22.865000(kcal/mol): PK_start=1535 sp=6 s1=9 s2=4 l1=8 l2=6 L3=0 PK_end=1574
(fs_start=1521)

TCCCACAA
GAGGCAGGCTAATTTTTTAGGGAACTTTGGCCT
GGGACCGGA GGGG
CTTCAG
AATTTT

PK4B: -29.475000(kcal/mol): PK_start=1535 sp=6 s1=9 s2=4 l1=8 l2=31 L3=0 PK_end=1599
(fs_start=1521)

TCCCACAA
GAGGCAGGCTAATTTTTTAGGGAACTTTGGCCT
GGGACCGGA GGGG
CCCCAC
AATTTTCCTTCAGAACAGACCAGAGCCAACAG

=====
(1317) DQ351219
=====

PK1: -12.995000(kcal/mol): PK_start=1486 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1514
(fs_start=1506)

A
GGAAAGAAGGACACCAAATGAAAGATTGT
GACG GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.370000(kcal/mol): PK_start=1491 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1528
(fs_start=1506)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1514 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1548
(fs_start=1506)

AAA
TACTGAAAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGGA
ACAAGGGG

PK4: -23.985000(kcal/mol): PK_start=1521 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1559
(fs_start=1506)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CTCCAG
GAATTTTC

PK4B: -26.865000(kcal/mol): PK_start=1521 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1584
(fs_start=1506)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCCCTCCAGAACAGACCAGAGCCAACAG

=====
(1318) DQ351220
=====

PK1: -12.955000(kcal/mol): PK_start=1486 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1514
(fs_start=1506)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1491 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1528
(fs_start=1506)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1514 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1548
(fs_start=1506)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -23.985000(kcal/mol): PK_start=1521 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1559
(fs_start=1506)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CTCCAG
GAATTTTC

PK4B: -26.865000(kcal/mol): PK_start=1521 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1584
(fs_start=1506)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCCCTCCAGAACAGGCCAGAGCCAACGG

=====
(1319) DQ351221
=====

PK1: -12.405000(kcal/mol): PK_start=1487 sp=0 s1=4 s2=6 l1=5 l2=6 L3=0 PK_end=1517
(fs_start=1510)

ACTTA
GGAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGT
TTTTTAGG
GCTAAT

PK2: -18.050000(kcal/mol): PK_start=1496 sp=0 s1=7 s2=7 l1=1 l2=8 L3=0 PK_end=1532
(fs_start=1510)

C
GACACCAAATGAAAGACTGTACTTATGAGAGG
ATTTTTT AATCGGA
TTGGCCTTC
GGGAAGAT

PK3: -22.580000(kcal/mol): PK_start=1518 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1552
(fs_start=1510)

A
TTATGAGAGGCAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTTT
GCCAGGGA
ACAAGGGGAG

PK4: -25.010000(kcal/mol): PK_start=1525 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1562
(fs_start=1510)

CCAC
AGGCAGGCTAATTTTTTAGGGAAGATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1525 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1588
(fs_start=1510)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAGATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCCCTCAGGGCAGACCAGAGCCAACAG

=====
(1320) DQ351222
=====

PK1: -14.985000(kcal/mol): PK_start=1486 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1514
(fs_start=1506)

A
GAAAGGAAGGACACCAGATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1491 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1528
(fs_start=1506)

C
GAAGGACACCAGATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1514 sp=0 s1=4 s2=8 l1=3 l2=11 L3=0 PK_end=1551
(fs_start=1506)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAAGGGGGG

PK4: -31.530000(kcal/mol): PK_start=1521 sp=7 s1=12 s2=4 l1=3 l2=6 L3=0 PK_end=1561
(fs_start=1506)

ACA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTCCC
GGACCGGAGGGG GGAA
CCTTCA
GAATTT

PK4B: -30.120000(kcal/mol): PK_start=1521 sp=7 s1=10 s2=4 l1=7 l2=32 L3=0
PK_end=1587 (fs_start=1506)

CCACAAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGGG
CCCCAC
GAATTTCTTCAGAACAGACCAGAGCCAACAG

=====
(1321) DQ351223
=====

PK1: -14.985000(kcal/mol): PK_start=1486 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1514
(fs_start=1506)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC

TTTTTAGGA
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1491 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1528
(fs_start=1506)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG

GATTTTTT AATCGGA
TTGGCCTTC

GAAAAAT

PK3: -20.485000(kcal/mol): PK_start=1514 sp=0 s1=3 s2=8 l1=4 l2=9 L3=0 PK_end=1548
(fs_start=1506)

AAAA
TACTGAGAGGCAGGCTAATTTTTTAGGA

CCT TCCGGTTT
AGGCCAGGGA

CACAAAGGG

PK4: -22.745000(kcal/mol): PK_start=1521 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1558
(fs_start=1506)

TCCCACA
AGGCAGGCTAATTTTTTAGGAAAAATTTGGCCT

GGACCGGA GGGAA
TCCTTCA

GAACT

=====
(1322) DQ351224
=====

PK1: -14.985000(kcal/mol): PK_start=1487 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1515
(fs_start=1507)

A
GGAAAGAAGGACACCAAATGAAAGACTGT

GACG GAGAGTC
TTTTTAGGG

GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1492 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1529
(fs_start=1507)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG

GATTTTTT AATCGGA
TTGGCCTTC

GGAAAAAT

PK3: -23.745000(kcal/mol): PK_start=1515 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1549
(fs_start=1507)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT

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                                AGGCCAGGGA
                ACAAGGGG
PK4:  -24.945000(kcal/mol): PK_start=1522 sp=7 s1=9 s2=4 l1=6 l2=25 L3=0 PK_end=1578
(fs_start=1507)
                                CCCACA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTT
                                GGACCGGAG    GGGA
                                CCCTCA
                GAATTTCCCTCCAGAGCAGGCCAGAG

PK4B:  -26.865000(kcal/mol): PK_start=1522 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1585
(fs_start=1507)
                                TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTT
                                GGACCGGA    GGGG
                                CCCCAC
                GAATTTCCCTCCAGAGCAGGCCAGAGCCCTCAG

=====
(1323) DQ351225
=====
PK1:  -15.585000(kcal/mol): PK_start=1494 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1522
(fs_start=1514)
                                A
GAAAGGAAGGACACCAAATGAAAGACTGT
                                GACA    GAGAGTC
                                TTTTTAGGG
                GCTGAT

PK2:  -20.980000(kcal/mol): PK_start=1499 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1536
(fs_start=1514)
                                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
                                GATTTTTT    AGTCGGA
                                TTGGCCTTC
                GGAAAAT

PK3:  -23.745000(kcal/mol): PK_start=1522 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1556
(fs_start=1514)
                                AAA
TACTGAGAGACAGGCTGATTTTTTAGGGA
                                CCCT    TCCGGTTT
                                AGGCCAGGGA
                ACAAGGGG

PK4:  -22.815000(kcal/mol): PK_start=1529 sp=7 s1=9 s2=4 l1=6 l2=5 L3=0 PK_end=1565
(fs_start=1514)
                                CCCACA
AGACAGGCTGATTTTTTAGGGAAAATTTGGCCTT
                                GGACCGGAG    GGGA

```

TCCTGC

GAATT

PK4B: -26.865000(kcal/mol): PK_start=1529 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1592
(fs_start=1514)

TCCCACAA

AGACAGGCTGATTTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG

CCCCAC

GAATTTCTGCAAAACAGACCAGAGCCAACAG

=====

(1324) DQ351227

=====

PK1: -14.985000(kcal/mol): PK_start=1485 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1513
(fs_start=1505)

A

GAAAGGAAGGACACCAAATGAAAGACTGT

GACG GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1490 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1527
(fs_start=1505)

C

GAAGGACACCAAATGAAAGACTGTACTGAGAGG

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1513 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1547
(fs_start=1505)

AAA

TACTGAGAGGCAGGCTAATTTTTTTAGGGA

CCCT TCCGGTTT

AGGCCAGGGA

ACAAGGGG

PK4: -22.215000(kcal/mol): PK_start=1520 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1557
(fs_start=1505)

CCCACA

AGGCAGGCTAATTTTTTTAGGGAAAATTTGGCCTT

GGACCGGAG GGGG

TCCTCA

GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1520 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1583
(fs_start=1505)

TCCCACAA

AGGCAGGCTAATTTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG

CCCCAC
GAATTTTCCTCAGAACAGACTAGAGCCAACAG

=====
(1325) DQ351228
=====

PK1: -15.625000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAGGAAGGACATCAAATGAAAGACTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -21.980000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1526
(fs_start=1504)

C
GAAGGACATCAAATGAAAGACTGTACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1519 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1582
(fs_start=1504)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCCTCAGAACAGACCAGAGCCAACAG

=====
(1326) DQ351229
=====

PK1: -12.955000(kcal/mol): PK_start=1486 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1514
(fs_start=1506)

A
GAAAGGAAGGGCACCAAATGAAAGATTGT

GACG GAGAGTC
TTTTTAGGG
GCTAAT
PK2: -20.330000(kcal/mol): PK_start=1491 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1528
(fs_start=1506)

C
GAAGGGCACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAGT

PK3: -23.745000(kcal/mol): PK_start=1514 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1548
(fs_start=1506)

AAG
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1521 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1558
(fs_start=1506)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAGTTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1521 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1584
(fs_start=1506)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAGTTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(1327) DQ351230
=====

PK1: -15.625000(kcal/mol): PK_start=1487 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1515
(fs_start=1507)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -21.980000(kcal/mol): PK_start=1492 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1529
(fs_start=1507)

C
GAAGGACACCAAATGAAAGACTGTACTGAAAGA

```

                GATTTTTT   AATCGGA
                TTGGCCTTC
        GGAAAAT

PK3:  -23.745000(kcal/mol): PK_start=1515 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1549
(fs_start=1507)
                AAA
TACTGAAAGACAGGCTAATTTTTTTAGGGA
                CCCT   TCCGGTTT
                AGGCCAGGGA
        ACAAGGGG

PK4:  -23.985000(kcal/mol): PK_start=1522 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1560
(fs_start=1507)
                TCCCACAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
                GGACCGGA   GGGG
                CTCCAG
        GAATTTTC

PK4B:  -26.865000(kcal/mol): PK_start=1522 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1585
(fs_start=1507)
                TCCCACAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
                GGACCGGA   GGGG
                CCCCAC
        GAATTTCTCCAGAACAGACCAGAGCCAACAG

=====
(1328) DQ351231
=====
PK1:  -14.985000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)
                A
GAAAAGAAGGACACCAAATGAAAGACTGT
                GACG   GAGAGTC
                TTTTTAGGG
        GCTAAT

PK2:  -20.330000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1526
(fs_start=1504)
                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
                GATTTTTT   AATCGGA
                TTGGCCTTC
        GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1513 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1546
(fs_start=1504)
                AAA
ACTGAGAGGCAGGCTAATTTTTTTAGGGA

```

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          CCT      TCCGGTTT
                AGGCCAGGGA
AACAAAGGGG
PK4:  -26.985000(kcal/mol): PK_start=1521 sp=9 s1=6 s2=4 l1=8 l2=37 L3=0 PK_end=1585
(fs_start=1504)
                TCCAACAA
GCAGGCTAATTTTTTAGGGAAAATTTGGCCT
                ACCGGA      GGGG
                CCCCAG
                GGAATTTTCCTTCAGAACAGGCCAGAACCCCTCAGCTC

```

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=====
(1329) DQ351232
=====

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PK1:  -15.585000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)
                A
GAAAGGAAGGACACCAAATGAAAGACTGT
                GACA      GAGAGTC
                TTTTTAGGG
                GCTAAT

```

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PK2:  -21.940000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1525
(fs_start=1503)
                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
                GATTTTTT      AATCGGA
                TTGGCCTTC
                GGAAAAT

```

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PK3:  -23.745000(kcal/mol): PK_start=1511 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1545
(fs_start=1503)
                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                CCCT      TCCGGTTT
                AGGCCAGGGA
                ACAAGGGA

```

```

PK4:  -25.490000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)
                CCAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
                GGACCGGAAG      GGAA
                CCTTCA
                GAACTT

```

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=====
(1330) DQ351233
=====

```

PK1: -17.225000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511 (fs_start=1503)

A
GAAAGGAAGGACACCAAATGAAAGACTGC
GACG GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.370000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1525 (fs_start=1503)

C
GAAGGACACCAAATGAAAGACTGCACTGAAAGG
GATTTTTT AATCGGA
TTGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1512 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1545 (fs_start=1503)

AAA
ACTGAAAGGCAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AAGAATGGA

PK4: -18.310000(kcal/mol): PK_start=1519 sp=8 s1=6 s2=4 l1=9 l2=9 L3=1 PK_end=1556 (fs_start=1503)

TTCCAAGAA
GGCAGGCTAATTTTTTAGGGAAAATTTGGCC
GACCGG A AGGT
TTCAGA
GGAATTTCC

=====
(1331) DQ351234
=====

PK1: -14.985000(kcal/mol): PK_start=1487 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1515 (fs_start=1507)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -18.720000(kcal/mol): PK_start=1492 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1528 (fs_start=1507)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT A ATCGGA
TGCCTTC
GGAAAATC

PK3: -26.605000(kcal/mol): PK_start=1515 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1549
(fs_start=1507)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCGGGGA
GTCAGGGG

PK4: -25.255000(kcal/mol): PK_start=1522 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1559
(fs_start=1507)

TCCCGTC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGGCCGGA GGGGA
TCCTTCA
GAATT

PK4B: -26.845000(kcal/mol): PK_start=1522 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1585
(fs_start=1507)

TCCCGTCA
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGGCCGGA GGGG
CTCCAC
GAATTTTCCTTCAGAGCAGGCCAGAACCAACAG

=====
(1332) DQ351235
=====

PK1: -15.025000(kcal/mol): PK_start=1491 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1519
(fs_start=1511)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.370000(kcal/mol): PK_start=1496 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1533
(fs_start=1511)

C
GAAGGACACCAAATGAAAGACTGTACTGAAAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAGACT

PK3: -26.955000(kcal/mol): PK_start=1519 sp=0 s1=4 s2=9 l1=2 l2=8 L3=0 PK_end=1554
(fs_start=1511)

GA
TACTGAAAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTTC
AGGCCAGGGAA
ACAAGGGG

PK4: -22.865000(kcal/mol): PK_start=1525 sp=6 s1=9 s2=4 l1=8 l2=6 L3=0 PK_end=1564
(fs_start=1511)

```
TCCCACAA
AAGGCAGGCTAATTTTTTAGGGAGACTTTGGCCT
GGGACCGGA GGGG
CTTCAG
AATTTTC
```

PK4B: -29.475000(kcal/mol): PK_start=1525 sp=6 s1=9 s2=4 l1=8 l2=31 L3=0 PK_end=1589
(fs_start=1511)

```
TCCCACAA
AAGGCAGGCTAATTTTTTAGGGAGACTTTGGCCT
GGGACCGGA GGGG
CCCCAC
AATTTTCCTTCAGAGCAGACCAGAGCCAACAG
```

=====
(1333) DQ351237
=====

PK1: -15.025000(kcal/mol): PK_start=1491 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1519
(fs_start=1511)

```
A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAAAGTC
TTTTTAGGG
GCTAAT
```

PK2: -20.370000(kcal/mol): PK_start=1496 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1533
(fs_start=1511)

```
C
GAAGGACACCAAATGAAAGACTGTACTGAAAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAGC
```

PK3: -25.905000(kcal/mol): PK_start=1519 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1553
(fs_start=1511)

```
AAG
TACTGAAAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTC
AGGCCGGGGA
GCAAGGGG
```

PK4: -26.070000(kcal/mol): PK_start=1526 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1563
(fs_start=1511)

```
CCGC
AGGCAGGCTAATTTTTTAGGGAAAGCTTGGCCTTC
GGGCCGGAGG GGAA
CCTTCA
GAATTT
```

PK4B: -27.925000(kcal/mol): PK_start=1526 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1589
(fs_start=1511)

TCCCGCAA
AGGCAGGCTAATTTTTTAGGGAAAGCTTGGCCT
GGGCCGGA GGGG
CCCCAC
GAATTTCCCTTCAGAGCAGACCAGAGCCAACAG

=====
(1334) DQ354112
=====

PK1: -10.640000(kcal/mol): PK_start=1258 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1296
(fs_start=1289)

A
TTGGAAATGTGGAAAGGAAGGACACCAA
GTT AGAAAGT
TTTTTTAGG
CACTGAGAGACAGGCTAA

PK2: -20.460000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1310
(fs_start=1289)

C
GAAGGACACCAAATGAAAGATTGCACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -23.815000(kcal/mol): PK_start=1298 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1331
(fs_start=1289)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTCT
AGGCCAGGGA
AGCAAGGGA

PK4: -26.445000(kcal/mol): PK_start=1304 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1341
(fs_start=1289)

TCCAGCA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(1335) DQ354113
=====

PK1: -15.100000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
(fs_start=1283)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC

```

                TTTTTTAGGG
          GCTAA
PK2:  -21.940000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)
                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT   AATCGGA
                TTGGCCTTC
          GGAAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1292 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1325
(fs_start=1283)
                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                CCT   TCCGGTTT
                AGGCCAGGGA
          AACAAGGGG

PK4:  -22.215000(kcal/mol): PK_start=1298 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1335
(fs_start=1283)
                CCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
                GGACCGGAG   GGGA
                TCCTCA
          GAATTT

PK4B:  -26.865000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1361
(fs_start=1283)
                TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA   GGGG
                CCCCAC
          GAATTTTCCTCAGAGCAGACCGGAGCCAACAG

=====
(1336) DQ354114
=====
PK1:  -10.975000(kcal/mol): PK_start=1269 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=1296
(fs_start=1289)
                AA
GAAAGGAAGGACACCAAATGAAAGATTGT
                GACA   GAGAGT
                TTTTTAGG
          GCTAAT

PK2:  -16.800000(kcal/mol): PK_start=1275 sp=0 s1=7 s2=5 l1=2 l2=9 L3=1 PK_end=1309
(fs_start=1289)
                CA
AAGGACACCAAATGAAAGATTGTAATGAGAGA
                ATTTTTT   A   ATCGG

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                                TGGCCCT
                GGGAAAATC
PK3:  -24.730000(kcal/mol): PK_start=1297 sp=0 s1=4 s2=7 l1=3 l2=9 L3=1 PK_end=1330
(fs_start=1289)
                                AAA
TAATGAGAGACAGGCTAATTTTTTAGGGA
                                CCCT  C  CCGGTCT
                                GGCCAGGGA
                ACAAGGGAA
PK4:  -23.190000(kcal/mol): PK_start=1304 sp=7 s1=7 s2=6 l1=8 l2=4 L3=0 PK_end=1341
(fs_start=1289)
                                CTCCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCC
                                GGACCGG  AAGGGA
                                TTTCTTCA
                GAAT

=====
(1337) DQ354115
=====
PK1:  -15.100000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
(fs_start=1283)
                                CA
GGAAGGAAGGACATCAAATGAAAGACTG
                                GAC  AGAGAGTC
                                TTTTTTAGGG
                GCTAA
PK2:  -21.940000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)
                                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                                GATTTTTT  AATCGGA
                                TTGGCCTTC
                GGAAAAT
PK3:  -18.565000(kcal/mol): PK_start=1292 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1325
(fs_start=1283)
                                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCT  TCCGGTTT
                                AGGCCGGGGA
                AACAAGGGA
PK4:  -21.195000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1335
(fs_start=1283)
                                TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                                GGGCCGGA  AGGGA

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                                TTCCTCT
                                GAATT
=====
(1338) DQ354116
=====
PK1:  -13.555000(kcal/mol): PK_start=1269 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1297
(fs_start=1289)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                                GACA    GAGAGTC
                                TTTTtaggg
                                GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1310
(fs_start=1289)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                                GATTTTTT A  ATCGGA
                                TGGCCTTC
                                GGAAGATC

PK3:  -26.110000(kcal/mol): PK_start=1297 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1331
(fs_start=1289)
                                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                                CCCTTC    CGGTCT
                                GCCAGGGA
                                ACAAGGGAAG

PK4:  -26.715000(kcal/mol): PK_start=1304 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1341
(fs_start=1289)
                                CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
                                GGACCGGAAG    GGAA
                                TCTTCA
                                GAATTT

=====
(1339) DQ354117
=====
PK1:  -15.100000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
(fs_start=1283)
                                CA
GGAAGGAAGGACATCAAATGAAAGACTG
                                GAC    AGAGAGTC
                                TTTTTTtaggg
                                GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)
                                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA

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          GATTTTTT   AATCGGA
                    TTGGCCTTC
          GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1292 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1325
(fs_start=1283)
          AAA
ACTGAGAGACAGGCTAATTTTTTTAGGGA
          CCT   TCCGGTTT
                    AGGCCAGGGA
          AACAAGGGA

PK4:  -22.915000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1335
(fs_start=1283)
                    TCCAACA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
          GGACCGGA   AGGGA
                    TTCCTCA
          GAATT

=====
(1340) DQ354118
=====
PK1:  -15.585000(kcal/mol): PK_start=1272 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1300
(fs_start=1292)
          A
GAAAGGAGGGACACCAAATGAAAGACTGT
          GACA   GAGAGTC
                    TTTTTAGGG
          GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1277 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1313
(fs_start=1292)
          C
GAGGGACACCAAATGAAAGACTGTACTGAGAGA
          GATTTTTT   A   ATCGGA
                    TTGGCCTTC
          GGAAGATC

PK3:  -26.110000(kcal/mol): PK_start=1300 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1334
(fs_start=1292)
          A
TACTGAGAGACAGGCTAATTTTTTTAGGGAAG
          CCCTTC   CGGTCT
                    GCCAGGGA
          ACAAGGGGAG

PK4:  -26.235000(kcal/mol): PK_start=1307 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1344
(fs_start=1292)
                    CCAC
AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCTTC

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                GGACCGGAGG    GGAA
                                TCTTCA
          GAATTT
PK4B:  -30.395000(kcal/mol): PK_start=1307 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1370
(fs_start=1292)
                                TCCCACAA
AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCT
                GGACCGGA    GGGG
                                CCCCAC
          GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

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=====
(1341) DQ354119
=====

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PK1:  -13.555000(kcal/mol): PK_start=1269 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1297
(fs_start=1289)
                A
GAAAGGAAGGGCACCAAATGAAAGATTGT
                GACA    GAGAGTC
                                TTTTTAGGG
          GCTAAT

```

```

PK2:  -19.080000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=5 l1=2 l2=8 L3=1 PK_end=1309
(fs_start=1289)
                CA
GAAGGGCACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT    A    ATCGG
                                TGGCCCT
          GGAAAATC

```

```

PK3:  -24.060000(kcal/mol): PK_start=1297 sp=0 s1=4 s2=7 l1=3 l2=9 L3=1 PK_end=1330
(fs_start=1289)
                AAA
TACTGAGAGACAGGCTAATTTTTTTAGGGA
                CCCT    C    CCGGTCT
                                GGCCGGGGA
          ACAAGGGAA

```

```

PK4:  -22.520000(kcal/mol): PK_start=1304 sp=7 s1=7 s2=6 l1=8 l2=4 L3=0 PK_end=1341
(fs_start=1289)
                                CTCCCACA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCC
                GGGCCGG    AAGGGA
                                TTTCTTCA
          GAAC

```

```

=====
(1342) DQ354120
=====

```


PK1: -10.440000(kcal/mol): PK_start=1252 sp=0 s1=3 s2=7 l1=1 l2=21 l3=0 PK_end=1293
(fs_start=1286)

A
TTGGAAATGTGGAAAGGAAGGACATCAA
GTT AGAAAGT
TTTTTTAGG
CAATGAGAGTAGACAGGCTAA

PK2: -17.840000(kcal/mol): PK_start=1269 sp=0 s1=6 s2=7 l1=5 l2=8 l3=1 PK_end=1307
(fs_start=1286)

TAGAC
AAGGACATCAAATGAAAGATTGCAATGAGAG
ATTTTT T AATCGGA
TTGGCCTTC
GGGAAAAT

PK3: -22.025000(kcal/mol): PK_start=1294 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=1328
(fs_start=1286)

AAA
TGAGAGTAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCGGGGA
ACAAGGGA

PK4: -21.195000(kcal/mol): PK_start=1301 sp=7 s1=8 s2=5 l1=7 l2=5 l3=0 PK_end=1338
(fs_start=1286)

TCCCACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA AGGGA
TTCCTCA
GAATT

=====
(1343) DQ354121
=====

PK1: -10.725000(kcal/mol): PK_start=1287 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1315
(fs_start=1307)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTT
TTTTTAGGG
GCTAAT

PK2: -17.050000(kcal/mol): PK_start=1292 sp=0 s1=8 s2=5 l1=2 l2=8 l3=1 PK_end=1327
(fs_start=1307)

CA
GAAGGACACCAAATGAAAGATTGTATTGAGAGA
GATTTTTT A ATCGG
TGGCCCT
GGAAGATC

PK3: -24.730000(kcal/mol): PK_start=1315 sp=0 s1=4 s2=7 l1=3 l2=9 L3=1 PK_end=1348
(fs_start=1307)

AGA
TATTGAGAGACAGGCTAATTTTTTAGGGA
CCCT C CCGGTCT
GGCCAGGGA
ACAAGGGAA

PK4: -23.190000(kcal/mol): PK_start=1322 sp=7 s1=7 s2=6 l1=8 l2=4 L3=0 PK_end=1359
(fs_start=1307)

CTCCCACA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCC
GGACCGG AAGGGA
TTTCTTCA
GAAC

=====
(1344) DQ354122
=====

PK1: -13.555000(kcal/mol): PK_start=1269 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1297
(fs_start=1289)

A
GAAAGGAAGGGCACCTAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1310
(fs_start=1289)

C
GAAGGGCACCTAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1297 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1331
(fs_start=1289)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CCGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1304 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1341
(fs_start=1289)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(1345) DQ354123
=====

PK1: -10.975000(kcal/mol): PK_start=1271 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=1298
(fs_start=1291)

AA
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGT
TTTTTAGG
GCTAAT

PK2: -18.180000(kcal/mol): PK_start=1277 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1312
(fs_start=1291)

C
AAGGACACCAAATGAAAGATTGTAATGAGAGA
ATTTTTT A ATCGGA
TGGCCTTC
GGGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1299 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1333
(fs_start=1291)

AAA
TAATGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGAA
ACAAGGAA

PK4: -25.045000(kcal/mol): PK_start=1306 sp=7 s1=9 s2=5 l1=5 l2=5 L3=0 PK_end=1343
(fs_start=1291)

CCCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT
GGACCGGAA AGGAA
TTCTTCA
AAATT

=====
(1346) DQ358799
=====

PK1: -10.640000(kcal/mol): PK_start=1459 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1497
(fs_start=1490)

A
TTGGAAATGTGGAAGAGAAGGACACCAA
GTT AGAAAGT
TTTTTTTAGG
CACTGAAAGACAGGCTAA

PK2: -20.500000(kcal/mol): PK_start=1475 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1511
(fs_start=1490)

C
GAAGGACACCAAATGAAAGATTGCACTGAAAGA
GATTTTTT A ATCGGA

TGGCCTTC

GGAAACTC

PK3: -29.815000(kcal/mol): PK_start=1498 sp=0 s1=4 s2=9 l1=2 l2=8 L3=0 PK_end=1533
(fs_start=1490)

AA

CACTGAAAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCTC

AGGCCGGGGAA

AGAAGGGG

PK4: -34.430000(kcal/mol): PK_start=1504 sp=6 s1=12 s2=4 l1=2 l2=6 L3=0 PK_end=1543
(fs_start=1490)

CA

AAGACAGGCTAATTTTTTAGGGAAACTCTGGCCTTCC

GGGGCCGGAGGG GAAG

CTTCAG

AATTTC

PK4B: -32.335000(kcal/mol): PK_start=1504 sp=6 s1=9 s2=4 l1=8 l2=31 L3=0 PK_end=1568
(fs_start=1490)

TCCCAGAA

AAGACAGGCTAATTTTTTAGGGAAACTCTGGCCT

GGGGCCGGA GGGG

CCCCAC

AATTTCTTCAGAACAGGCCAGAGCCAACAG

=====
(1347) DQ358800
=====

PK1: -10.640000(kcal/mol): PK_start=1481 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1519
(fs_start=1512)

A

TTGGAAATGTGGAAAAGAAGGACACCAA

GTT AGAAAGT

TTTTTTAGG

CACTGAAAGACAGGCTAA

PK2: -21.980000(kcal/mol): PK_start=1497 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1534
(fs_start=1512)

C

GAAGGACACCAAATGAAAGATTGCACTGAAAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -22.180000(kcal/mol): PK_start=1520 sp=0 s1=5 s2=4 l1=5 l2=9 L3=0 PK_end=1551
(fs_start=1512)

AATTT

CACTGAAAGACAGGCTAATTTTTTAGGGAA

CCCTT CCGG

GGCCTG
 ACAAGGGGA
 PK4: -22.820000(kcal/mol): PK_start=1530 sp=10 s1=7 s2=4 l1=4 l2=9 L3=0 PK_end=1564
 (fs_start=1512)
 CCAC
 CAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
 CCGGAGG GGAA
 CCTTCA
 TGGAAATTT
 PK4B: -24.675000(kcal/mol): PK_start=1530 sp=10 s1=5 s2=4 l1=8 l2=35 L3=0
 PK_end=1590 (fs_start=1512)
 TCCCACAA
 CAGGCTAATTTTTTAGGGAAAATTTGGCCT
 CCGGA GGGG
 CCCCAC
 TGGAAATTTCTTCAGAACAGGCCAGAGCCAACAG
 =====
 (1348) DQ358801
 =====
 PK1: -15.140000(kcal/mol): PK_start=1511 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1539
 (fs_start=1531)
 CA
 GAAGAGAAGGTCACCAAATGAAAGACTG
 GAC AGAAAGTC
 TTTTTTAGGG
 GCTAA
 PK2: -21.980000(kcal/mol): PK_start=1516 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1553
 (fs_start=1531)
 C
 GAAGGTCACCAAATGAAAGACTGCACTGAAAGA
 GATTTTTT AATCGGA
 TTGGCCTTC
 GGAAAAT
 PK3: -20.285000(kcal/mol): PK_start=1540 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1573
 (fs_start=1531)
 AAA
 ACTGAAAGACAGGCTAATTTTTTAGGGA
 CCT TCCGGTTT
 AGGCCAGGAA
 GACAAGGGG
 PK4: -25.010000(kcal/mol): PK_start=1546 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1583
 (fs_start=1531)
 CGAC
 AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
 GGACCGGAGG GGAA

CCTTCA

AAATTT

PK4B: -26.865000(kcal/mol): PK_start=1546 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1609
(fs_start=1531)

TCCGACAA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG

CCCCGC

AAATTTCCCTTCAGAACAGGACAGCACCAACAG

=====

(1349) DQ358802

=====

PK1: -15.140000(kcal/mol): PK_start=1509 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1537
(fs_start=1529)

CA

GAAGAGAAGGACACCAAATGAAAGACTG

GAC AGAAAGTC

TTTTTTAGGG

GCTAA

PK2: -21.980000(kcal/mol): PK_start=1514 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1551
(fs_start=1529)

C

GAAGGACACCAAATGAAAGACTGCACTGAAAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -21.780000(kcal/mol): PK_start=1537 sp=0 s1=5 s2=4 l1=5 l2=9 L3=0 PK_end=1568
(fs_start=1529)

AATTT

CACTGAAAGACAGGCTAATTTTTTAGGGAA

CCCTT CCGG

GGCCCG

ACAAGGGGA

PK4: -22.820000(kcal/mol): PK_start=1547 sp=10 s1=7 s2=4 l1=4 l2=9 L3=0 PK_end=1581
(fs_start=1529)

CCAC

CAGGCTAATTTTTTAGGGAAAATTTGGCCTTC

CCGGAGG GGAA

CCTTCA

CGGGAATTT

PK4B: -24.675000(kcal/mol): PK_start=1547 sp=10 s1=5 s2=4 l1=8 l2=35 L3=0
PK_end=1607 (fs_start=1529)

TCCCACAA

CAGGCTAATTTTTTAGGGAAAATTTGGCCT

CCGGA GGGG

CCCCAC
CGGGAATTTTCCTTCAGAACAGGCCAGAACCAACAG

=====
(1350) DQ358803
=====

PK1: -15.140000(kcal/mol): PK_start=1550 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1578
(fs_start=1570)

CA
GAAGAGAAGGACACCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -21.980000(kcal/mol): PK_start=1555 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1592
(fs_start=1570)

C
GAAGGACACCAAATGAAAGACTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -22.025000(kcal/mol): PK_start=1578 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1612
(fs_start=1570)

AAA
CACTGAAAGACAGGCTAATTTTTTTAGGGA
CCCT TCCGGTTT
AGGCCGGGAA
ACAAGGGG

PK4: -23.290000(kcal/mol): PK_start=1585 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1622
(fs_start=1570)

CCAC
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTTC
GGGCCGAGG GGAA
CCTTCA
AAATTT

PK4B: -25.145000(kcal/mol): PK_start=1585 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1648
(fs_start=1570)

TCCCACAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
GGGCCGGA GGGG
CCCCGC
AAATTTTCCTTCAGAACAGGCCAGAGCCAACAG

=====
(1351) DQ358804
=====

PK1: -15.140000(kcal/mol): PK_start=1518 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1546
(fs_start=1538)

CA
GAAGTGAGGAACACCAAATGAAAGACTG

```

                GAC   AGAAAGTC
                TTTTTTAGGG
        GCTAA
PK2:  -21.980000(kcal/mol): PK_start=1523 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1560
(fs_start=1538)
                C
GAGGAACACCAAATGAAAGACTGCACTGAAAGA
                GATTTTTT   AATCGGA
                TTGGCCTTC
        GGAAAAT

PK3:  -18.720000(kcal/mol): PK_start=1547 sp=0 s1=4 s2=4 l1=5 l2=10 L3=0 PK_end=1577
(fs_start=1538)
                AATTT
ACTGAAAGACAGGCTAATTTTTTAGGGAA
                CCTT   CCGG
                GCCTG
        AACAAGGGGA

PK4:  -22.820000(kcal/mol): PK_start=1556 sp=10 s1=7 s2=4 l1=4 l2=9 L3=0 PK_end=1590
(fs_start=1538)
                CAAC
CAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
                CCGGAGG   GGAA
                CCTTCA
        TGGAACTT

PK4B:  -24.675000(kcal/mol): PK_start=1556 sp=10 s1=5 s2=4 l1=8 l2=35 L3=0
PK_end=1616 (fs_start=1538)
                TCCAACAA
CAGGCTAATTTTTTAGGGAAAATTTGGCCT
                CCGGA   GGGG
                CCCCAC
        TGGAACTTCCTTCAGAACAAGACAGAGCCAACAG

=====
(1352) DQ358805
=====
PK1:  -13.555000(kcal/mol): PK_start=1293 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1321
(fs_start=1313)
                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                GACA   GAGAGTC
                TTTTTTAGGG
        GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1298 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1334
(fs_start=1313)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA

```


GATTTTTT A ATCGGA
 TGGCCTTC
 GGAGACTC
 PK3: -30.485000(kcal/mol): PK_start=1321 sp=0 s1=4 s2=9 l1=2 l2=8 L3=0 PK_end=1356
 (fs_start=1313)
 GA
 TACTGAGAGACAGGCTAATTTTTTAGGGA
 CCCT TCCGGTCTC
 AGGCCAGGGAA
 ACAAGGAA
 PK4: -27.655000(kcal/mol): PK_start=1327 sp=6 s1=10 s2=5 l1=5 l2=4 L3=0 PK_end=1365
 (fs_start=1313)
 CCCAC
 GAGACAGGCTAATTTTTTAGGGAGACTCTGGCCTT
 GGGACCGGAA AGGAA
 TTCTTCA
 AATT
 =====
 (1353) DQ358806
 =====
 PK1: -13.555000(kcal/mol): PK_start=1518 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1546
 (fs_start=1538)
 T
 GAAAGGAGGGACACCAAATGAAAGATTGT
 GACA GAGAGTC
 TTTTTAGGG
 GCTAAT
 PK2: -21.020000(kcal/mol): PK_start=1521 sp=0 s1=10 s2=6 l1=1 l2=6 L3=1 PK_end=1559
 (fs_start=1538)
 C
 AGGAGGGACACCAAATGAAAGATTGTTCTGAGAGA
 GGGATTTTTT A ATCGGA
 TGGCCTTC
 AAAATC
 PK3: -27.275000(kcal/mol): PK_start=1546 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1580
 (fs_start=1538)
 AAA
 TTCTGAGAGACAGGCTAATTTTTTAGGGA
 CCCT TCCGGTCT
 AGGCCAGGGA
 ACAAGGGA
 PK4: -26.445000(kcal/mol): PK_start=1553 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1590
 (fs_start=1538)
 TCCCACA
 AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT

```

                GGACCGGA    AGGGA
                    TTCCTCA
        GAATT
=====
(1354) DQ358807
=====
PK1:  -13.595000(kcal/mol): PK_start=1969 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1997
(fs_start=1989)
                A
        GAAAAGAAGGACACCAAATGAAAGATTGT
                    GACA    GAAAGTC
                            TTTTTAGGG
                GTTAAT

PK2:  -17.010000(kcal/mol): PK_start=1974 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2010
(fs_start=1989)
                C
        GAAGGACACCAAATGAAAGATTGTACTGAAAGA
                    GATTTTTT  A  ATTGGA
                            TGGCCTTC
                GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1997 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2031
(fs_start=1989)
                AAA
        TACTGAAAGACAGGTTAATTTTTTAGGGA
                    CCCT    TCCGGTCT
                            AGGCCAGGGA
                ACAAGGGA

PK4:  -26.715000(kcal/mol): PK_start=2004 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2041
(fs_start=1989)
                CCAC
        AGACAGGTTAATTTTTTAGGGAAAATCTGGCCTTC
                    GGACCGGAAG    GGAA
                            TCTTCA
                GAACTT

=====
(1355) DQ358808
=====
PK1:  -10.640000(kcal/mol): PK_start=1434 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1472
(fs_start=1465)
                A
        TTGGAAATGTGGAAGGGAAGGACACCAA
                    GTT    AGAAAGT
                            TTTTTTAGG
                CACTGAGAGACAGGCTAA

```

PK2: -20.460000(kcal/mol): PK_start=1450 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1486
(fs_start=1465)

C
GAAGGACACCAAATGAAAGATTGCACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1473 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1507
(fs_start=1465)

AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGAA
ACAAGGGA

PK4: -26.445000(kcal/mol): PK_start=1480 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1517
(fs_start=1465)

TCCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA AGGGA
TTCCTCA
AAACT

=====
(1356) DQ358809
=====

PK1: -13.555000(kcal/mol): PK_start=1966 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1994
(fs_start=1986)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1971 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2007
(fs_start=1986)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1994 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2028
(fs_start=1986)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGAA
ACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=2001 sp=7 s1=10 s2=4 l1=4 l2=5 l3=0 PK_end=2037
(fs_start=1986)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
TCTTTC
AAATT

PK4B: -30.395000(kcal/mol): PK_start=2001 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=2064
(fs_start=1986)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTCTTTCAGAGCAGACCAGAGCCAACAG

=====
(1357) DQ358810
=====

PK1: -13.555000(kcal/mol): PK_start=1531 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1559
(fs_start=1551)

A
GAAGGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1536 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1572
(fs_start=1551)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1559 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1593
(fs_start=1551)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1566 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1603
(fs_start=1551)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(1358) DQ358811
=====

PK1: -15.625000(kcal/mol): PK_start=1404 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1432
(fs_start=1424)

A
GAAAAGAAGGACACCTAATGAAAGACTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -21.980000(kcal/mol): PK_start=1409 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1446
(fs_start=1424)

C
GAAGGACACCTAATGAAAGACTGTACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAAT

PK3: -23.745000(kcal/mol): PK_start=1432 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=1466
(fs_start=1424)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1439 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1476
(fs_start=1424)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1439 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=1502
(fs_start=1424)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCCTTCAGAACAGACCAGAGCCAACAG

=====
(1359) DQ358812
=====

PK1: -15.140000(kcal/mol): PK_start=1521 sp=0 s1=3 s2=8 l1=2 l2=5 l3=0 PK_end=1549
(fs_start=1541)

CA
GAAGAGAAGGACACCAAATGAAAGACTG
GAC AGAAAGTC

```

                TTTTTTAGGG
            GCTAA
PK2:  -20.500000(kcal/mol): PK_start=1526 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1562
(fs_start=1541)
                C
GAAGGACACCAAATGAAAGACTGCACTGAAAGA
                GATTTTTT A  ATCGGA
                TGGCCTTC
            GGAGAATG
PK3:  -22.965000(kcal/mol): PK_start=1549 sp=0 s1=4 s2=6 l1=5 l2=8 L3=0 PK_end=1581
(fs_start=1541)
                GAATG
CACTGAAAGACAGGCTAATTTTTTAGGGA
                CCCT   TCCGGT
                AGGCCGGG
            ACAAGGGG
PK4:  -24.230000(kcal/mol): PK_start=1558 sp=9 s1=8 s2=4 l1=4 l2=8 L3=0 PK_end=1593
(fs_start=1541)
                CCAC
ACAGGCTAATTTTTTAGGGAGAATGTGGCCTTC
                GCCGGAGG   GGAA
                CCTTCA
            GGAAATTT
PK4B:  -26.085000(kcal/mol): PK_start=1558 sp=9 s1=6 s2=4 l1=8 l2=34 L3=0 PK_end=1619
(fs_start=1541)
                TCCCACAA
ACAGGCTAATTTTTTAGGGAGAATGTGGCCT
                GCCGGA   GGGG
                CCCCAC
            GGAAATTTCTTCAGAACAGCCAGCCAACAG
=====
(1360) DQ366659
=====
PK1:  -13.555000(kcal/mol): PK_start=1443 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1471
(fs_start=1463)
                A
GGAAGGAAGGACATCAAATGAAAGATTGT
                GACA   GAGAGTC
                TTTTTTAGGG
            GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1448 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1484
(fs_start=1463)
                C
GAAGGACATCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT A  ATCGGA

```

GGAAGCTC TGGCCTTC
PK3: -25.440000(kcal/mol): PK_start=1471 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1505
(fs_start=1463)

C
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCGGGA
ACAAGGGAAG

PK4: -30.660000(kcal/mol): PK_start=1477 sp=6 s1=11 s2=4 l1=4 l2=5 l3=0 PK_end=1515
(fs_start=1463)

CCAC
GAGACAGGCTAATTTTTTAGGGAAGCTCTGGCCTTC
GGGCCCGGAAG GGAA
CCTTCA
AACTT

=====
(1361) DQ366660
=====

PK1: -13.595000(kcal/mol): PK_start=1442 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1470
(fs_start=1462)

A
GGAAGGAAGGACATCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1447 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1483
(fs_start=1462)

C
GAAGGACATCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGCTC

PK3: -25.440000(kcal/mol): PK_start=1470 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1504
(fs_start=1462)

C
TACTGAAAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCGGGA
ACAAAGGAAG

PK4: -24.515000(kcal/mol): PK_start=1477 sp=7 s1=10 s2=4 l1=4 l2=3 l3=0 PK_end=1511
(fs_start=1462)

CCAC
AGACAGGCTAATTTTTTAGGGAAGCTCTGGCCTTC
GGGCCCGGAAG GAAA

```

                                TTTTAT
                                GAA

=====
(1362) DQ366661
=====
PK1:  -13.555000(kcal/mol): PK_start=1444 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1472
(fs_start=1464)
                                A
GAAAGGAAGGACATCAAATGAAAGATTGT
                                GACA    GAGAGTC
                                TTTTTAGGG
                                GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1449 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1485
(fs_start=1464)
                                C
GAAGGACATCAAATGAAAGATTGTACTGAGAGA
                                GATTTTTT  A  ATCGGA
                                TGGCCTTC
                                GGAAGCTC

PK3:  -26.110000(kcal/mol): PK_start=1472 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1506
(fs_start=1464)
                                C
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                                CCCTTC    CGGTCT
                                GCCAGGGA
                                ACAGCGGGAG

PK4:  -26.830000(kcal/mol): PK_start=1478 sp=6 s1=8 s2=4 l1=10 l2=4 L3=0 PK_end=1515
(fs_start=1464)
                                TTCCCACAGC
GAGACAGGCTAATTTTTTAGGGAAGCTCTGGCC
                                GGGACCGG    AGGG
                                TCCTTC
                                AACT

=====
(1363) DQ366662
=====
PK1:  -13.065000(kcal/mol): PK_start=1428 sp=0 s1=3 s2=8 l1=5 l2=16 L3=0 PK_end=1470
(fs_start=1463)
                                TCAAA
GTTGTTGGAAATGTGGGCAGGAAGGACA
                                TGT    TAGAAAGT
                                ATTTTTTAGG
                                ACCGAGAGACAGGCTA

PK2:  -17.180000(kcal/mol): PK_start=1450 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=1484
(fs_start=1463)
                                C
AGGACATCAAATGAAAGATTGTACCGAGAGA

```



```

TTTTTT A ATCGGA
                TGGCCTTC
AGGGAAGCTC

PK3:  -26.110000(kcal/mol): PK_start=1471 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1505
(fs_start=1463)
                C
TACCGAGAGACAGGCTAATTTTTTAGGGAAG
                CCCTTC   CGGTCT
                GCCAGGGA
ACAAGGGGAG

PK4:  -26.095000(kcal/mol): PK_start=1477 sp=6 s1=9 s2=4 l1=8 l2=6 L3=0 PK_end=1516
(fs_start=1463)
                TCCCACAA
GAGACAGGCTAATTTTTTAGGGAAGCTCTGGCCT
                GGGACCGGA   GGGG
                CTCAG
AATTC

PK4B:  -32.705000(kcal/mol): PK_start=1477 sp=6 s1=9 s2=4 l1=8 l2=31 L3=0 PK_end=1541
(fs_start=1463)
                TCCCACAA
GAGACAGGCTAATTTTTTAGGGAAGCTCTGGCCT
                GGGACCGGA   GGGG
                CCCCAC
AATTCCTTCAGAGCCGACCAGAGCCAACAG

=====
(1364) DQ366664
=====
PK1:  -11.420000(kcal/mol): PK_start=1378 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=1404
(fs_start=1398)
                CACG
GGCAGGAAGGACATCAAATGAAAGACTG
                GAC   AGAGAG
                TTTTTTAG
GCTAA

PK2:  -18.760000(kcal/mol): PK_start=1385 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1420
(fs_start=1398)
                C
AGGACATCAAATGAAAGACTGCACGGAGAGA
                TTTTTT   AATCGGA
                TTGGCCTTC
AGGGAAAAT

PK3:  -18.565000(kcal/mol): PK_start=1407 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1440
(fs_start=1398)
                AAA
ACGGAGAGACAGGCTAATTTTTTAGGGA

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          CCT      TCCGGTTT
                    AGGCCGGGGA
AACAAAGGA

PK4:  -20.745000(kcal/mol): PK_start=1413 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1450
(fs_start=1398)
                    TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                    GGGCCGGA      AGGA
                    TCCTCA
          GAATTT

=====
(1365) DQ366665
=====
PK1:  -13.205000(kcal/mol): PK_start=1381 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1408
(fs_start=1400)
                    A
AAAGGAAGGACACCAAATGAAAGAGTGT
                    ACA      GAGAGTC
                    TTTTTAGGG
          GGCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1385 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1421
(fs_start=1400)
                    C
GAAGGACACCAAATGAAAGAGTGTACTGAGAGA
                    GATTTTTT  A  ATCGGA
                    TGGCCTTC
          GGAAGCTA

PK3:  -24.465000(kcal/mol): PK_start=1408 sp=0 s1=4 s2=6 l1=5 l2=8 L3=0 PK_end=1440
(fs_start=1400)
                    AGCTA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                    CCCT      TCCGGT
                    AGGCCAGG
          ACAAGGGG

PK4:  -22.435000(kcal/mol): PK_start=1417 sp=9 s1=7 s2=4 l1=6 l2=8 L3=0 PK_end=1452
(fs_start=1400)
                    CCCACA
ACAGGCTAATTTTTTAGGGAAGCTATGGCCTT
                    ACCGGAG      GGGA
                    TCCTCA
          GGAATTT

PK4B:  -27.085000(kcal/mol): PK_start=1417 sp=9 s1=6 s2=4 l1=8 l2=34 L3=0 PK_end=1478
(fs_start=1400)
                    TCCCACAA
ACAGGCTAATTTTTTAGGGAAGCTATGGCCT

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ACCGGA GGGG
CCCCAC
GGGAATTTTCCTCAGAGCAGACCAGAACCAACAG

=====
(1366) DQ366666
=====

PK1: -13.555000(kcal/mol): PK_start=1446 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1474
(fs_start=1466)

A
GGCAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGA
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1451 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1487
(fs_start=1466)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GAAAGCTC

PK3: -17.340000(kcal/mol): PK_start=1477 sp=0 s1=3 s2=6 l1=1 l2=13 L3=0 PK_end=1508
(fs_start=1466)

C
TGAGAGACAGGCTAATTTTTTAGGAAAG
TTC CGGTCT
GCCAGGGA
CCCACAAGGGAAG

PK4: -29.025000(kcal/mol): PK_start=1480 sp=6 s1=11 s2=4 l1=4 l2=5 L3=0 PK_end=1518
(fs_start=1466)

CCAC
GAGACAGGCTAATTTTTTAGGAAAGCTCTGGCCTTC
GGGACCGGAAG GGAA
TCTTCA
AACTT

=====
(1367) DQ369976
=====

PK1: -12.955000(kcal/mol): PK_start=1466 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1494
(fs_start=1486)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.33000(kcal/mol): PK_start=1471 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1508
(fs_start=1486)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1494 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1528
(fs_start=1486)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGA

PK4: -22.915000(kcal/mol): PK_start=1501 sp=7 s1=8 s2=5 l1=7 l2=4 L3=0 PK_end=1537
(fs_start=1486)

TCCCACA
AGGCAGGCTAATTTTTTAGGAAAATTTGGCCT
GGACCGGA AGGGA
TTCCTCC
GAAT

=====
(1368) DQ369977
=====

PK1: -15.025000(kcal/mol): PK_start=1487 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1515
(fs_start=1507)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.370000(kcal/mol): PK_start=1492 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1529
(fs_start=1507)

C
GAAGGACACCAAATGAAAGACTGTACTGAAAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1515 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1549
(fs_start=1507)

AAA
TACTGAAAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1522 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1559
(fs_start=1507)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1522 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1585
(fs_start=1507)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCTTCAGAACAGACCAGAGCCAACAG

=====
(1369) DQ369978
=====

PK1: -12.955000(kcal/mol): PK_start=1485 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1513
(fs_start=1505)

A
GAAAAGAAGGACACCAAATGAAGGATTGT
GACG GAGAGTC
TTTTTAGGG
GCAAAT

PK2: -14.225000(kcal/mol): PK_start=1490 sp=0 s1=7 s2=5 l1=5 l2=5 L3=0 PK_end=1523
(fs_start=1505)

GCAGG
GAAGGACACCAAATGAAGGATTGTACTGAGAG
GATTTTT TAAAC
ATTTGGC
GGAAA

PK3: -23.745000(kcal/mol): PK_start=1513 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1547
(fs_start=1505)

AAA
TACTGAGAGGCAGGCAAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1520 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1557
(fs_start=1505)

CCAC
AGGCAGGCAAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

=====
(1370) DQ369979
=====

PK1: -11.235000(kcal/mol): PK_start=1487 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1515
(fs_start=1507)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GGCG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.360000(kcal/mol): PK_start=1492 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1529
(fs_start=1507)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT AATCGGG
TTGGCCTTC
GGAAGAT

PK3: -22.580000(kcal/mol): PK_start=1515 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1549
(fs_start=1507)

A
TACTGAGAGGCGGGCTAATTTTTTAGGGAAG
CCCTTC CGGTTT
GCCAGGGA
ACAAGGGGAG

PK4: -25.010000(kcal/mol): PK_start=1522 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1559
(fs_start=1507)

CCAC
AGGCGGGCTAATTTTTTAGGGAAGATTGGCCTTC
GGACCGGAG GGAA
CCTTCA
GAATTT

PK4B: -25.545000(kcal/mol): PK_start=1522 sp=7 s1=9 s2=4 l1=6 l2=32 L3=0 PK_end=1585
(fs_start=1507)

CCCACA
AGGCGGGCTAATTTTTTAGGGAAGATTGGCCTTC
GGACCGGAG GGGA
CCCTAC
GAATTTCCCTTCAGAACAGGCCAGAGCCAACAG

=====
(1371) DQ369980
=====

PK1: -12.745000(kcal/mol): PK_start=1487 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1514
(fs_start=1506)

A
AAAGGAAGGACACCAAATGAAAGAATGT
ACG GAAAGTC

TTTTTAGGG
GGCTAAT
PK2: -18.760000(kcal/mol): PK_start=1491 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1527
(fs_start=1506)

C
GAAGGACACCAAATGAAAGAATGTACTGAAAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATG

PK3: -25.045000(kcal/mol): PK_start=1513 sp=0 s1=5 s2=6 l1=5 l2=7 L3=0 PK_end=1546
(fs_start=1506)

AAATG
GTACTGAAAGGCAGGCTAATTTTTTAGGGA
TCCCT TCCGGT
AGGCCGGG
CAAGGGG

PK4: -24.230000(kcal/mol): PK_start=1523 sp=9 s1=8 s2=4 l1=4 l2=8 L3=0 PK_end=1558
(fs_start=1506)

CCTC
GCAGGCTAATTTTTTAGGGAAAATGTGGCCTTC
GCCGGAGG GGAA
CCTTCA
GGAAATTT

PK4B: -26.085000(kcal/mol): PK_start=1523 sp=9 s1=6 s2=4 l1=8 l2=34 L3=0 PK_end=1584
(fs_start=1506)

TCCCTCAA
GCAGGCTAATTTTTTAGGGAAAATGTGGCCT
GCCGGA GGGG
CCCCAC
GGAAATTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(1372) DQ369981
=====

PK1: -14.985000(kcal/mol): PK_start=1487 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1515
(fs_start=1507)

A
GAAAGGAAGGACATCAGATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1492 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1529
(fs_start=1507)

C
GAAGGACATCAGATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAAT

PK3: -23.745000(kcal/mol): PK_start=1515 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1549
(fs_start=1507)

AAA

TACTGAGAGGCAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT

AGGCCAGGGA

ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1522 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1559
(fs_start=1507)

CCAC

AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC

GGACCGGAGG GGAA

CCTTCA

GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1522 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1585
(fs_start=1507)

TCCCACAA

AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG

CCCCAC

GAATTTCTTCAGAACAGACCAACCAACAG

=====
(1373) DQ369982
=====

PK1: -17.185000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A

GAAAAGAAGGCCACCAAATGAAAGACTGC

GACG GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1526
(fs_start=1504)

C

GAAGGCCACCAAATGAAAGACTGCACTGAGAGG

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAAT

PK3: -23.745000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA

CACTGAGAGGCAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT


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                                AGGCCAGGGA
ACAAGGGG
PK4:  -25.010000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)
                                CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
                                GGACCGGAGG    GGAA
                                CCTTCA
GAATTT
PK4B:  -26.865000(kcal/mol): PK_start=1519 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1582
(fs_start=1504)
                                TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
                                GGACCGGA    GGGG
                                CCCCAC
GAATTTCTTCAGAACAGACCAGAGCCGACAG
=====
(1374) DQ369983
=====
PK1:  -14.985000(kcal/mol): PK_start=1487 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1515
(fs_start=1507)
                                A
GAAAGGAAGGACACCAGATGAAAGACTGT
                                GACG    GAGAGTC
                                TTTTTAGGG
GCTAAT
PK2:  -20.330000(kcal/mol): PK_start=1492 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1529
(fs_start=1507)
                                C
GAAGGACACCAGATGAAAGACTGTACTGAGAGG
                                GATTTTTT    AATCGGA
                                TTGGCCTTC
GGAAAAT
PK3:  -23.745000(kcal/mol): PK_start=1515 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1549
(fs_start=1507)
                                AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
                                CCCT    TCCGGTTT
                                AGGCCAGGGA
AGAAGGGG
PK4:  -28.960000(kcal/mol): PK_start=1522 sp=7 s1=11 s2=4 l1=2 l2=7 L3=0 PK_end=1560
(fs_start=1507)
                                CA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTCC
                                GGACCGGAGGG    GAAG

```

CTTCAG

GAATTTTC

PK4B: -26.865000(kcal/mol): PK_start=1522 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1585
(fs_start=1507)

TCCCAGAA

AGGCAGGCTAATTTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG

CCCCAC

GAATTTCCCTCAGAACAGACCAGAGCCAACAG

=====

(1375) DQ369984

=====

PK1: -14.985000(kcal/mol): PK_start=1488 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1516
(fs_start=1508)

A

GAAAGGAAGGACACCAAATGAAGGACTGT

GACG GAGAGTC

TTTTTAGGG

GCCAAT

PK2: -22.590000(kcal/mol): PK_start=1493 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1530
(fs_start=1508)

C

GAAGGACACCAAATGAAGGACTGTACTGAGAGG

GATTTTTT AACCGGA

TTGGCCTTC

GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1516 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1550
(fs_start=1508)

AAA

TACTGAGAGGCAGGCCAATTTTTTTAGGGA

CCCT TCCGGTTT

AGGCCAGGGA

AGAAGGGG

PK4: -28.960000(kcal/mol): PK_start=1523 sp=7 s1=11 s2=4 l1=2 l2=7 L3=0 PK_end=1561
(fs_start=1508)

CA

AGGCAGGCCAATTTTTTTAGGGAAAATTTGGCCTTCC

GGACCGGAGGG GAAG

CTTCAG

GAATTTTC

PK4B: -26.865000(kcal/mol): PK_start=1523 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1586
(fs_start=1508)

TCCCAGAA

AGGCAGGCCAATTTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG

CCCCAC
GAATTTCCCTTCAGAACAGGCCAGAACCAACAG

=====
(1376) DQ369985
=====

PK1: -10.835000(kcal/mol): PK_start=1490 sp=0 s1=4 s2=6 l1=2 l2=5 L3=0 PK_end=1516
(fs_start=1510)

AC
GGAAAGAAGGACACCAAATGAAAGACTGT
GACG GAGAGG
TTTTTTAG
GCTAA

PK2: -17.150000(kcal/mol): PK_start=1497 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1532
(fs_start=1510)

C
AGGACACCAAATGAAAGACTGTACGGAGAGG
TTTTTT AATCGGA
TTGGCCTTC
AGGGAAGAT

PK3: -22.580000(kcal/mol): PK_start=1518 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1552
(fs_start=1510)

A
TACGGAGAGGCAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTTT
GCCAGGGA
ACAAGGGGAG

PK4: -25.010000(kcal/mol): PK_start=1525 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1562
(fs_start=1510)

CCAC
AGGCAGGCTAATTTTTTAGGGAAGATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1525 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1588
(fs_start=1510)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAGATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCCCTTCAGAGCAGGCCAGAGCCAACAG

=====
(1377) DQ369986
=====

PK1: -15.025000(kcal/mol): PK_start=1486 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1514
(fs_start=1506)

A
GAAAGGAAGGACACCAAATGAAAGACTGT

```

                GACG    GAAAGTC
                TTTT TAGGG
    GCTAAT
PK2:  -20.370000(kcal/mol): PK_start=1491 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1528
(fs_start=1506)
                C
    GAAGGACACCAAATGAAAGACTGTACTGAAAGG
                GATTTTTT    AATCGGA
                TTGGCCTTC
    GGAGAAT
PK3:  -17.120000(kcal/mol): PK_start=1514 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1548
(fs_start=1506)
                AA
    TACTGAAAGGCAGGCTAATTTTTTAGGGAG
                CCTTC    CGGTTT
                GCCGGGGA
    CACAAGGGAAG
PK4:  -23.770000(kcal/mol): PK_start=1521 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1558
(fs_start=1506)
                CCAC
    AGGCAGGCTAATTTTTTAGGGAGAATTTGGCCTTC
                GGGCCGGAAG    GGAA
                CCTTCA
    GAATTT
=====
(1378) DQ369987
=====
PK1:  -11.420000(kcal/mol): PK_start=1483 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=1509
(fs_start=1503)
                CACA
    GAAAAGAAGGACACCAAATGAAAGACTG
                GAC    AGAGAG
                TTTTTTAG
    GCTAA
PK2:  -18.660000(kcal/mol): PK_start=1490 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1525
(fs_start=1503)
                C
    AGGACACCAAATGAAAGACTGCACAGAGAGA
                TTTTTT    AATCGGA
                TTGGCCTTC
    AGGGAAAAT
PK3:  -23.745000(kcal/mol): PK_start=1511 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1545
(fs_start=1503)
                AAA
    CACAGAGAGACAGGCTAATTTTTTAGGGA

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          CCCT   TCCGGTTT
                AGGCCAGGGA
ACAAGGGG

PK4:  -25.01000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)
                CCAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
                GGACCGGAGG   GGAA
                                CCTTCA
                GAATTT

PK4B:  -26.865000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1581
(fs_start=1503)
                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA   GGGG
                                CCCCAC
                GAATTTCCCTTCAGAACAGACCAGAGCCAACAG

=====
(1379) DQ369988
=====
PK1:  -14.985000(kcal/mol): PK_start=1485 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1513
(fs_start=1505)
                A
GGAAAGAAGGACACCAAATGAAAGACTGT
                GACG   GAGAGTC
                                TTTTTAGGG
                GCTAAT

PK2:  -20.330000(kcal/mol): PK_start=1490 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1527
(fs_start=1505)
                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
                GATTTTTT   AATCGGA
                                TTGGCCTTC
                GGAAAAT

PK3:  -23.745000(kcal/mol): PK_start=1513 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1547
(fs_start=1505)
                AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTTT
                                AGGCCAGGGA
                ACAAGGGG

PK4:  -26.865000(kcal/mol): PK_start=1520 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1583
(fs_start=1505)
                TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT

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GGACCGGA GGGG
CCCCAC
GAATTTTCATTCAGAGCAGGCCAGAGCCGACAG

=====
(1380) DQ369989
=====

PK1: -14.985000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1526
(fs_start=1504)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGAA
ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
AAATTT

PK4B: -26.865000(kcal/mol): PK_start=1519 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1582
(fs_start=1504)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTCTTCAGAGCAGACCAGACCAACAG

=====
(1381) DQ369991
=====

PK1: -15.585000(kcal/mol): PK_start=1480 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1508
(fs_start=1500)

A
GACAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -21.940000(kcal/mol): PK_start=1485 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1522
(fs_start=1500)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT AATCGGA
TTGCGCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1508 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1542
(fs_start=1500)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -18.485000(kcal/mol): PK_start=1515 sp=7 s1=9 s2=4 l1=6 l2=5 L3=0 PK_end=1551
(fs_start=1500)

CCCACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGAG GGGA
TTCTCC
GAACT

PK4B: -26.865000(kcal/mol): PK_start=1515 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1578
(fs_start=1500)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCGC
GAACTTTCTCCAGAACAGGCCAGAGCCAACAG

=====
(1382) DQ369992
=====

PK1: -15.585000(kcal/mol): PK_start=1482 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1510
(fs_start=1502)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.46000(kcal/mol): PK_start=1487 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1523
(fs_start=1502)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -23.81500(kcal/mol): PK_start=1511 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1544
(fs_start=1502)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTCT
AGGCCAGGGA
AACAAGGGA

PK4: -25.96500(kcal/mol): PK_start=1517 sp=7 s1=8 s2=4 l1=8 l2=4 L3=0 PK_end=1552
(fs_start=1502)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA AGGG
TTCCAT
GAAT

=====
(1383) DQ369993
=====

PK1: -14.98500(kcal/mol): PK_start=1486 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1514
(fs_start=1506)

A
GAAAAGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.33000(kcal/mol): PK_start=1491 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1528
(fs_start=1506)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.74500(kcal/mol): PK_start=1514 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1548
(fs_start=1506)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1521 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1558
(fs_start=1506)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1521 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=1584
(fs_start=1506)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCCTTCAGAACAGGCCAGAGCCAACAG

=====
(1384) DQ369994
=====

PK1: -15.585000(kcal/mol): PK_start=1486 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1514
(fs_start=1506)

A
GAAGGGATGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -21.940000(kcal/mol): PK_start=1491 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1528
(fs_start=1506)

C
GATGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1514 sp=0 s1=4 s2=8 l1=3 l2=11 l3=0 PK_end=1551
(fs_start=1506)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGGGGG

PK4: -33.500000(kcal/mol): PK_start=1523 sp=9 s1=9 s2=4 l1=5 l2=34 l3=0 PK_end=1587
(fs_start=1506)

CACAA
ACAGGCTAATTTTTTAGGGAAAATTTGGCCTTCC
ACCGGAGGG GGGG
CCCCAC
GGGAATTTTCCTTCAGAGCAGACCAGAGCCAACAG

=====
(1385) DQ369995
=====

PK1: -14.985000(kcal/mol): PK_start=1487 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1515
(fs_start=1507)

A
GAAGGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1492 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1529
(fs_start=1507)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAAT

PK3: -23.745000(kcal/mol): PK_start=1515 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=1549
(fs_start=1507)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -22.705000(kcal/mol): PK_start=1522 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1559
(fs_start=1507)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1522 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=1585
(fs_start=1507)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCTTCAGAACAGGCCAGTACCAACAG

=====
(1386) DQ369996
=====

PK1: -12.995000(kcal/mol): PK_start=1488 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1516
(fs_start=1508)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACG GAAAGTC

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                TTTTtaggg
      GCTAAT
PK2:  -20.370000(kcal/mol): PK_start=1493 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1530
(fs_start=1508)
                C
GAAGGACACCAAATGAAAGATTGTACTGAAAGG
                GATTTTTT   AATCGGA
                TTGGCCTTC
      GGAAAAT
PK3:  -22.025000(kcal/mol): PK_start=1516 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1550
(fs_start=1508)
                AAA
TACTGAAAGGCAGGCTAATTTTTTtaggga
                CCCT   TCCGGTTT
                AGGCCGGGGA
      ACAAGGGG
PK4:  -23.290000(kcal/mol): PK_start=1523 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1560
(fs_start=1508)
                CCAC
AGGCAGGCTAATTTTTTtaggaaaatttggccttc
                GGGCCGGAGG   GGAA
                CCTTCA
      GAATTT
PK4B: -25.145000(kcal/mol): PK_start=1523 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1586
(fs_start=1508)
                TCCCACAA
AGGCAGGCTAATTTTTTtaggaaaatttggcct
                GGGCCGGA   GGGG
                CCCCAC
      GAATTTccttcagagcagaccagaaccgacag
=====
(1387) DQ369997
=====
PK1:  -14.985000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)
                A
GAAAGGAAGGACATCAAATGAAAGACTGT
                GACG   GAGAGTC
                TTTTtaggg
      GCTAAT
PK2:  -20.330000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1526
(fs_start=1504)
                C
GAAGGACATCAAATGAAAGACTGTACTGAGAGG
                GATTTTTT   AATCGGA

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                                TTGGCCTTC
                GGAAAAAT
PK3:  -23.745000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=11 L3=0 PK_end=1549
(fs_start=1504)
                                AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTTT
                                AGGCCAGGGA
                AGAACAAGGGG
PK4:  -22.215000(kcal/mol): PK_start=1519 sp=7 s1=9 s2=4 l1=9 l2=5 L3=0 PK_end=1558
(fs_start=1504)
                                CCCAGAACA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTT
                                GGACCGGAG   GGGA
                                TCCTCC
                GAATT
=====
(1388) DQ383746
=====
PK1:  -13.555000(kcal/mol): PK_start=1271 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1299
(fs_start=1291)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                                GACA   GAGAGTC
                                TTTTTAGGG
                GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1276 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1312
(fs_start=1291)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                                GATTTTTT   A   ATCGGA
                                TGGCCTTC
                GGAAGGTC
PK3:  -26.110000(kcal/mol): PK_start=1299 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1333
(fs_start=1291)
                                G
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                                CCCTTC   CGGTCT
                                GCCAGGGA
                ACAAAGGAAG
PK4:  -24.115000(kcal/mol): PK_start=1306 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1343
(fs_start=1291)
                                TCCCACA
AGACAGGCTAATTTTTTAGGGAAGGTCTGGCCT
                                GGACCGGA   AGGAA

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                                TTCTTCA
                                GAATT
=====
(1389) DQ383747
=====
PK1:  -15.140000(kcal/mol): PK_start=1256 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1284
(fs_start=1276)
                                CA
GAAGAGAGGGACACCAAATGAAAGACTG
                                GAC   AGAAAGTC
                                TTTTTTAGGG
                                GCTAA

PK2:  -21.980000(kcal/mol): PK_start=1261 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1298
(fs_start=1276)
                                C
GAGGGACACCAAATGAAAGACTGCACTGAAAGA
                                GATTTTTT   AATCGGA
                                TTGGCCTTC
                                GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1285 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1318
(fs_start=1276)
                                AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
                                CCT   TCCGGTTT
                                AGGCCAGGAA
                                AACAAGGGG

PK4:  -25.010000(kcal/mol): PK_start=1291 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1328
(fs_start=1276)
                                CAAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
                                GGACCGGAGG   GGAA
                                CCTTCA
                                AAATTT

PK4B: -26.865000(kcal/mol): PK_start=1291 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1354
(fs_start=1276)
                                TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                                GGACCGGA   GGGG
                                CCCCCG
                                AAATTTCTTCAGAACAGGCCAGAGCCAACAG

=====
(1390) DQ383748
=====
PK1:  -14.985000(kcal/mol): PK_start=1271 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1299
(fs_start=1291)
                                A
GAAAGGAAGGACATCAGATGAAAGACTGT

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          GACG      GAGAGTC
                TTTT TAGGG
    GCTAAT
PK2:  -18.720000(kcal/mol): PK_start=1276 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1312
(fs_start=1291)
                C
GAAGGACATCAGATGAAAGACTGTACTGAGAGG
                GATTTTTT A  ATCGGA
                                TGGCCTTC
          GGAGGATC
PK3:  -25.760000(kcal/mol): PK_start=1299 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1333
(fs_start=1291)
                A
TACTGAGAGGCAGGCTAATTTTTTAGGGAGG
                CCCTTC      CGGTCT
                                GCCAGGGA
          ACAAGGGAAG
PK4:  -26.715000(kcal/mol): PK_start=1306 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1343
(fs_start=1291)
                CCAC
AGGCAGGCTAATTTTTTAGGGAGGATCTGGCCTTC
                GGACCGGAAG      GGAA
                                TCTTCA
          GAATTT
=====
(1391) DQ383749
=====
PK1:  -13.555000(kcal/mol): PK_start=1271 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1299
(fs_start=1291)
                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                GACA      GAGAGTC
                                TTTT TAGGG
          GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1276 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1312
(fs_start=1291)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT A  ATCGGA
                                TGGCCTTC
          GGAAGATC
PK3:  -26.110000(kcal/mol): PK_start=1299 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1333
(fs_start=1291)
                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG

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          CCCTTC   CGGTCT
                    GCCAGGGA
          ACAAGGGAAG

PK4:  -29.020000(kcal/mol): PK_start=1306 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1343
(fs_start=1291)
                    CCAC
AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCTTC
                    GGACCGGAAG   GGAA
                    CCTTCA
          GAATTT

PK4B:  -28.775000(kcal/mol): PK_start=1306 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1369
(fs_start=1291)
                    TCCCACAA
AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCT
                    GGACCGGA   AGGG
                    TCCCAA
          GAATTTCCCTTCAGAACAGACCAGAGCCAACAG

=====
(1392) DQ383750
=====
PK1:  -10.975000(kcal/mol): PK_start=1265 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=1292
(fs_start=1285)
                    AA
GAAAGGAAGGACACCAAATGAAAGATTGT
                    GACA   GAGAGT
                    TTTTTAGG
          GCTAAT

PK2:  -18.180000(kcal/mol): PK_start=1271 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1306
(fs_start=1285)
                    C
AAGGACACCAAATGAAAGATTGTAATGAGAGA
                    ATTTTTT   A   ATCGGA
                    TGGCCTTC
          GGGAAACTC

PK3:  -30.485000(kcal/mol): PK_start=1293 sp=0 s1=4 s2=9 l1=2 l2=8 L3=0 PK_end=1328
(fs_start=1285)
                    AA
TAATGAGAGACAGGCTAATTTTTTTAGGGA
                    CCCT   TCCGGTCTC
                    AGGCCAGGGAA
          ACAAAGGA

PK4:  -26.725000(kcal/mol): PK_start=1299 sp=6 s1=9 s2=5 l1=7 l2=4 L3=0 PK_end=1337
(fs_start=1285)
                    TCCCACA
GAGACAGGCTAATTTTTTTAGGGAAACTCTGGCCT

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GGGACCGGA    AGGAA
                TTCTTCA
AATT
=====
(1393) DQ383751
=====
PK1:  -13.555000(kcal/mol): PK_start=1268 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1296
(fs_start=1288)
                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                GACA    GAGAGTC
                TTTTATAGGG
GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1273 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1309
(fs_start=1288)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT  A  ATCGGA
                TGGCCTTC
GAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1296 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1330
(fs_start=1288)
                AAA
TACTGAGAGACAGGCTAATTTTTATAGGGA
                CCCT    TCCGGTCT
                AGGCCAGGGA
ACAAGGGG

PK4:  -26.235000(kcal/mol): PK_start=1303 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1340
(fs_start=1288)
                CCAC
AGACAGGCTAATTTTTATAGGAAAATCTGGCCTTC
                GGACCGGAGG    GGAA
                TCTTCA
GAATTT

=====
(1394) DQ383752
=====
PK1:  -13.595000(kcal/mol): PK_start=1271 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1299
(fs_start=1291)
                A
GAAAGGAAGGACATCAAATGAAAGATTGT
                GACA    GAAAGTC
                TTTTATAGGG
GCTAAT

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PK2: -20.50000(kcal/mol): PK_start=1276 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1312 (fs_start=1291)

C
GAAGGACATCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAGACTC

PK3: -22.37000(kcal/mol): PK_start=1299 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1333 (fs_start=1291)

AC
TACTGAAAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTCT
GCCAGGAA
CACAAAGGGGAG

PK4: -28.54000(kcal/mol): PK_start=1306 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1343 (fs_start=1291)

CCAC
AGACAGGCTAATTTTTTAGGGAGACTCTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
AAATTT

PK4B: -30.39500(kcal/mol): PK_start=1306 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1369 (fs_start=1291)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAGACTCTGGCCT
GGACCGGA GGGG
CCCCAG
AAATTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(1395) DQ383753
=====

PK1: -15.14000(kcal/mol): PK_start=1265 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1293 (fs_start=1285)

CA
GGAAAGAAGGACACCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -21.98000(kcal/mol): PK_start=1270 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1307 (fs_start=1285)

C
GAAGGACACCAAATGAAAGACTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1294 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1327
(fs_start=1285)

AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AACAAGGGG

PK4: -26.865000(kcal/mol): PK_start=1300 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1363
(fs_start=1285)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCGC
AAATTTTGTTCAGAACAGGCCAGAGCCAACAG

=====
(1396) DQ383754
=====

PK1: -15.625000(kcal/mol): PK_start=1282 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1310
(fs_start=1302)

A
GAAGAGAAGGACACCAAATGAAGGACTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -21.980000(kcal/mol): PK_start=1287 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1324
(fs_start=1302)

C
GAAGGACACCAAATGAAGGACTGTACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAGAAT

PK3: -21.415000(kcal/mol): PK_start=1310 sp=0 s1=5 s2=4 l1=5 l2=12 L3=0 PK_end=1344
(fs_start=1302)

AATTT
TACTGAAAGACAGGCTAATTTTTTAGGGAG
CCCTT CCGG
GGCCCG
ACAAAGGGGGGA

PK4: -29.340000(kcal/mol): PK_start=1320 sp=10 s1=9 s2=4 l1=3 l2=9 L3=0 PK_end=1357
(fs_start=1302)

ACA
CAGGCTAATTTTTTAGGGAGAATTTGGCCTTCCC
CCGAGGGG GGAA
CCTTCA
CGGAAATTT

=====
(1397) DQ383755
=====

PK1: -13.555000(kcal/mol): PK_start=1271 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1299
(fs_start=1291)

A
GGAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1276 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1312
(fs_start=1291)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -26.605000(kcal/mol): PK_start=1299 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1333
(fs_start=1291)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCGGGGA
ACAAGGGA

PK4: -28.350000(kcal/mol): PK_start=1306 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1343
(fs_start=1291)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGCCGGAAG GGAA
CCTTCA
GAATTT

=====
(1398) DQ396364
=====

PK1: -12.455000(kcal/mol): PK_start=1486 sp=0 s1=4 s2=6 l1=2 l2=5 L3=0 PK_end=1512
(fs_start=1506)

AC
GAAAAGAAGGACATCAAATGAAAGACTGT
GACA GAGAGA
TTTTTTAG
GCTAA

PK2: -17.180000(kcal/mol): PK_start=1493 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=1527
(fs_start=1506)

C
AGGACATCAAATGAAAGACTGTACAGAGAGA
TTTTTT A ATCGGA

TGGCCTTC

AGGGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1514 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1548
(fs_start=1506)

AAA

TACAGAGAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT

AGGCCAGGAA

ACAAGGGA

PK4: -26.445000(kcal/mol): PK_start=1521 sp=7 s1=8 s2=5 l1=7 l2=4 L3=0 PK_end=1557
(fs_start=1506)

TCCCACA

AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT

GGACCGGA AGGGA

TTCCTCC

AAAC

=====
(1399) DQ396365
=====

PK1: -14.985000(kcal/mol): PK_start=1511 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1539
(fs_start=1531)

C

GAAAGGAAGGACACCAAATGAAAGACTGT

GACG GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -24.620000(kcal/mol): PK_start=1514 sp=0 s1=10 s2=7 l1=1 l2=5 L3=0 PK_end=1553
(fs_start=1531)

C

AGGAAGGACACCAAATGAAAGACTGTCTGAGAGG

GGGATTTTTT AATCGGA

TTGGCCTTC

AAGAT

PK3: -22.580000(kcal/mol): PK_start=1539 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1573
(fs_start=1531)

A

TCCTGAGAGGCAGGCTAATTTTTTAGGGAAG

CCCTTC CGGTTT

GCCAGGGA

ACAAGGGAAG

PK4: -25.490000(kcal/mol): PK_start=1546 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1583
(fs_start=1531)

CCAC

AGGCAGGCTAATTTTTTAGGGAAGATTGGCCTTC

GGACCGGAAG GGAA

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                                CCTTCA
                                GAATTT
=====
(1400) DQ396366
=====
PK1:  -15.025000(kcal/mol): PK_start=1490 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1518
(fs_start=1510)
                                A
GAAAGGAAGGACACCAAATGAAAGACTGT
                                GACG   GAAAGTC
                                TTTTtaggg
                                GCTAAT
PK2:  -20.370000(kcal/mol): PK_start=1495 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1532
(fs_start=1510)
                                C
GAAGGACACCAAATGAAAGACTGTACTGAAAGG
                                GATTTTTT   AATCGGA
                                TTGGCCTTC
                                GGAAAAT
PK3:  -22.025000(kcal/mol): PK_start=1518 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1552
(fs_start=1510)
                                AAA
TACTGAAAGGCAGGCTAATTTTTTTAGGGA
                                CCCT   TCCGGTTT
                                AGGCCGGGAA
                                ACAAGGGG
PK4:  -23.355000(kcal/mol): PK_start=1525 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1562
(fs_start=1510)
                                TCCCACA
AGGCAGGCTAATTTTTTTAGGGAAAATTTGGCCT
                                GGGCCGGA   GGGGA
                                TCCCTCA
                                AAATT
PK4B: -25.145000(kcal/mol): PK_start=1525 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1588
(fs_start=1510)
                                TCCCACAA
AGGCAGGCTAATTTTTTTAGGGAAAATTTGGCCT
                                GGGCCGGA   GGGG
                                CCCCAC
                                AAATTTCCCTCAGAGCAGACTAGAGCCAACAG
=====
(1401) DQ396367
=====
PK1:  -15.585000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)
                                A
GAAAGGAAGGACACCGAATGAAAGACTGT

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          GACA   GAGAGTC
                TTTTATAGGG
      GCTAAT
PK2:  -21.94000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1525
(fs_start=1503)
                C
GAAGGACACCGAATGAAAGACTGTACTGAGAGA
                GATTTTTT   AATCGGA
                        TTGGCCTTC
      GGAAAAT
PK3:  -23.74500(kcal/mol): PK_start=1511 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1545
(fs_start=1503)
                AAA
TACTGAGAGACAGGCTAATTTTTATAGGGA
                CCCT   TCCGGTTT
                        AGGCCAGGGA
      ACAAGGGG
PK4:  -18.48500(kcal/mol): PK_start=1518 sp=7 s1=9 s2=4 l1=6 l2=5 L3=0 PK_end=1554
(fs_start=1503)
                CCCACA
AGACAGGCTAATTTTTATAGGAAAATTTGGCCTT
                GGACCGGAG   GGGA
                        TTCTCC
      GAATT
PK4B: -26.86500(kcal/mol): PK_start=1518 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1581
(fs_start=1503)
                TCCCACAA
AGACAGGCTAATTTTTATAGGAAAATTTGGCCT
                GGACCGGA   GGGG
                        CCCAC
      GAATTTTCTCCAAAACAGACCAGCCAACAG

=====
(1402) DQ396368
=====
PK1:  -14.98500(kcal/mol): PK_start=1493 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1521
(fs_start=1513)
                A
GAAAGGAAGGACACCAAATGAAAGACTGT
                GACG   GAGAGTC
                        TTTTATAGGG
      GCTAAT
PK2:  -20.33000(kcal/mol): PK_start=1498 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1535
(fs_start=1513)
                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG

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                GATTTTTT   AATCGGA
                    TTGGCCTTC
    GGAAAAT
PK3:  -23.745000(kcal/mol): PK_start=1521 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1555
(fs_start=1513)
                AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTTT
                    AGGCCAGGGA
    ACAAGGGG
PK4:  -25.010000(kcal/mol): PK_start=1528 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1565
(fs_start=1513)
                    CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
                GGACCGGAGG   GGAA
                    CCTTCA
    GAATTT
PK4B: -26.865000(kcal/mol): PK_start=1528 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1591
(fs_start=1513)
                    TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA   GGGG
                    CCCCAC
    GAATTTCTTCAAAACAGACCAGAGCCAACAG

=====
(1403) DQ396369
=====
PK1:  -12.955000(kcal/mol): PK_start=1487 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1515
(fs_start=1507)
                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                GACG   GAGAGTC
                    TTTTTAGGG
    GCGAAT
PK2:  -13.865000(kcal/mol): PK_start=1492 sp=0 s1=7 s2=5 l1=5 l2=5 L3=0 PK_end=1525
(fs_start=1507)
                    GCAGG
GAAGGACACCAAATGAAAGATTGTACTGAGAG
                GATTTTT   TAAGC
                    ATTTGGC
    GGAAA
PK3:  -22.025000(kcal/mol): PK_start=1515 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1549
(fs_start=1507)
                AAA
TACTGAGAGGCAGGCGAATTTTTTAGGGA

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          CCCT   TCCGGTTT
                AGGCCGGGGA
ACAAGGGG
PK4:  -20.985000(kcal/mol): PK_start=1522 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1559
(fs_start=1507)
                CCAC
AGGCAGGCGAATTTTTTAGGGAAAATTTGGCCTTC
                GGGCCGGAGG   GGAA
                                TCTTCA
          GAATTT

PK4B:  -25.145000(kcal/mol): PK_start=1522 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1585
(fs_start=1507)
                TCCCACAA
AGGCAGGCGAATTTTTTAGGGAAAATTTGGCCT
                GGGCCGGA   GGGG
                                CCCCAC
          GAATTTTCTTCAGAACAGACCAGAGCCAACAG

=====
(1404) DQ396370
=====
PK1:  -14.985000(kcal/mol): PK_start=1487 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1515
(fs_start=1507)
                A
GAAAGGAAGGACACCAAATGAAAGACTGT
                GACG   GAGAGTC
                                TTTTTAGGG
          GCTAAT

PK2:  -20.330000(kcal/mol): PK_start=1492 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1529
(fs_start=1507)
                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
                GATTTTTT   AATCGGA
                                TTGGCCTTC
          GGAAAAT

PK3:  -23.745000(kcal/mol): PK_start=1515 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1549
(fs_start=1507)
                AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTTT
                                AGGCCAGGGA
          ACAAGGGA

PK4:  -22.915000(kcal/mol): PK_start=1522 sp=7 s1=8 s2=5 l1=7 l2=4 L3=0 PK_end=1558
(fs_start=1507)
                TCCCACA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT

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                GGACCGGA    AGGGA
                    TTCCTCC
    GAAT

=====
(1405) DQ396371
=====
PK1:  -12.955000(kcal/mol): PK_start=1486 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1514
(fs_start=1506)
                    A
GAAAAGAAGGACACCAAATGAAAGATTGT
                GACG    GAGAGTC
                    TTTTATAGGG
    GCTAAT

PK2:  -20.330000(kcal/mol): PK_start=1491 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1528
(fs_start=1506)
                    C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
                GATTTTTT    AATCGGA
                    TTGGCCTTC
    GGAAAAT

PK3:  -23.745000(kcal/mol): PK_start=1514 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1548
(fs_start=1506)
                    AAA
TACTGAGAGGCAGGCTAATTTTTATAGGGA
                CCCT    TCCGGTTT
                    AGGCCAGGGA
    ACAAGGGG

PK4:  -23.985000(kcal/mol): PK_start=1521 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1559
(fs_start=1506)
                    TCCCACAA
AGGCAGGCTAATTTTTATAGGAAAATTTGGCCT
                GGACCGGA    GGGG
                    CTCCAG
    GAATTTC

PK4B:  -26.865000(kcal/mol): PK_start=1521 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1584
(fs_start=1506)
                    TCCCACAA
AGGCAGGCTAATTTTTATAGGAAAATTTGGCCT
                GGACCGGA    GGGG
                    CCCCAC
    GAATTTCTCCAGAGCAGACCAGACCAACAG

=====
(1406) DQ396372
=====

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PK1: -12.955000(kcal/mol): PK_start=1486 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1514
(fs_start=1506)

A
GAAAAGAAGGTCACCAAATGAAAGATTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1491 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1528
(fs_start=1506)

C
GAAGGTCACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT AATCGGA
TTGCGCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1514 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1548
(fs_start=1506)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -22.705000(kcal/mol): PK_start=1521 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1558
(fs_start=1506)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTC
GGACCGGAGG GGAA
TCTTCA
GAACTT

PK4B: -26.865000(kcal/mol): PK_start=1521 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1584
(fs_start=1506)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAACTTTCTTCAGAACAGACCAGAGCCAACAG

=====
(1407) DQ396373
=====

PK1: -17.185000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAAGAAGGACACCAAATGAAAGACTGC
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -18.720000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGACTGCACTGAGAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAGAATC

PK3: -22.370000(kcal/mol): PK_start=1512 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1546
(fs_start=1504)

AA
CACTGAGAGGCAGGCTAATTTTTTAGGGAG
CCTTC CGGTCT
GCCAGGGA
CACAAAGGGGAG

PK4: -28.540000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGGCAGGCTAATTTTTTAGGGAGAATCTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1519 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1582
(fs_start=1504)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAGAATCTGGCCT
GGACCGGA GGGG
CCCCAT
GAATTTCCCTCAGAACAGACCAGAGCCAACAG

=====
(1408) DQ396375
=====

PK1: -15.585000(kcal/mol): PK_start=1480 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1508
(fs_start=1500)

A
GAAGGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -21.940000(kcal/mol): PK_start=1485 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1522
(fs_start=1500)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1508 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1542
(fs_start=1500)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1515 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1552
(fs_start=1500)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1515 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1578
(fs_start=1500)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCCTTCAGAACAGACCAGAGCCAACAG

=====
(1409) DQ396376
=====

PK1: -14.985000(kcal/mol): PK_start=1487 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1515
(fs_start=1507)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1492 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1529
(fs_start=1507)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAGAT

PK3: -22.580000(kcal/mol): PK_start=1515 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1549
(fs_start=1507)

A
TACTGAGAGGCAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTTT
GCCAGGGA
ACAAGGGGAG

PK4: -25.010000(kcal/mol): PK_start=1522 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1559
(fs_start=1507)

CCAC
AGGCAGGCTAATTTTTTAGGGAAGATTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAACTT

PK4B: -26.865000(kcal/mol): PK_start=1522 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1585
(fs_start=1507)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAGATTGGCCT
GGACCGGA GGGG
CCCCAC
GAACTTCCTTCAGAGCAGACCAGAGCCAACGG

=====
(1410) DQ396377
=====

PK1: -10.960000(kcal/mol): PK_start=1473 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1511
(fs_start=1504)

A
TTGGAAGTGTGGACAAGAAGGACACCAG
GTC AGGAAGT
TTTTTTAGG
CACTGAGAGACAGGCTAA

PK2: -21.940000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1526
(fs_start=1504)

C
GAAGGACACCAGATGAAGGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1519 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1582
(fs_start=1504)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCCTTCAGAGCAGACCAGAGCCAACAG

=====
(1411) DQ396378
=====

PK1: -15.025000(kcal/mol): PK_start=1486 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1514
(fs_start=1506)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.370000(kcal/mol): PK_start=1491 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1528
(fs_start=1506)

C
GAAGGACACCAAATGAAAGACTGTACTGAAAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1514 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1548
(fs_start=1506)

AAA
TACTGAAAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1521 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1558
(fs_start=1506)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1521 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1584
(fs_start=1506)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCCTTCAGAACAGACCAGAGCCAACAG

=====
(1412) DQ396380
=====

PK1: -12.995000(kcal/mol): PK_start=1490 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1518
(fs_start=1510)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACG GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.370000(kcal/mol): PK_start=1495 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1532
(fs_start=1510)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAGAAT

PK3: -17.120000(kcal/mol): PK_start=1518 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1552
(fs_start=1510)

AA
TACTGAAAGGCAGGCTAATTTTTTAGGGAG
CCTTC CGGTTT
GCCGGGGA
CACAAGGGGAG

PK4: -23.290000(kcal/mol): PK_start=1525 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1562
(fs_start=1510)

CCAC
AGGCAGGCTAATTTTTTAGGGAGAATTTGGCCTTC
GGCCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -25.145000(kcal/mol): PK_start=1525 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1588
(fs_start=1510)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAGAATTTGGCCT
GGCCGGA GGGG
CCCCAC
GAATTTCTTCAGAACAGACCGGAGCCAACAG

=====
(1413) DQ396381
=====

PK1: -15.025000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAAGAAGGACACCAAATGAAAGACTGT
GACG GAAAGTC

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          TTTTAGGG
    GCTAAT
PK2:  -20.37000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1526
(fs_start=1504)
          C
    GAAGGACACCAAATGAAAGACTGTACTGAAAGG
          GATTTTTT   AATCGGA
          TTGCCTTC
    GGAAAAT
PK3:  -23.74500(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)
          AAA
    TACTGAAAGGCAGGCTAATTTTTTAGGGA
          CCCT   TCCGGTTT
          AGGCCAGGGA
    AGAAGGGG
PK4:  -27.34500(kcal/mol): PK_start=1519 sp=7 s1=8 s2=5 l1=7 l2=32 L3=0 PK_end=1583
(fs_start=1504)
          TCCCAGA
    AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
          GGACCGGA   GGGGA
          CCCCTCC
    GAATTTTCATTCAGAGCAGGCCAGAGCCGACAG
=====
(1414) DQ396382
=====
PK1:  -13.06500(kcal/mol): PK_start=1470 sp=0 s1=3 s2=8 l1=5 l2=19 L3=0 PK_end=1515
(fs_start=1508)
          CCAAA
    GCTGTTGGAAATGTGGAAAGGAAGGACA
          TGT   TAGAAAGT
          ATTTTTTAGG
    ACTACTGAGAGGCAGGCTA
PK2:  -20.33000(kcal/mol): PK_start=1493 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1530
(fs_start=1508)
          C
    GGACACCAAATGAAAGATTGTACTACTGAGAGG
          GATTTTTT   AATCGGA
          TTGCCTTC
    GGAAAAT
PK3:  -23.74500(kcal/mol): PK_start=1516 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1550
(fs_start=1508)
          AAA
    TACTGAGAGGCAGGCTAATTTTTTAGGGA
          CCCT   TCCGGTTT

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                                AGGCCAGGGA
                ACAAGGGG
PK4:  -18.485000(kcal/mol): PK_start=1523 sp=7 s1=9 s2=4 l1=6 l2=5 L3=0 PK_end=1559
(fs_start=1508)
                                CCCACA
AGGCAGGCTAATTTTTTTAGGGAAAATTTGGCCTT
                GGACCGGAG      GGGA
                                TTCTCC
                GAATT

PK4B:  -26.865000(kcal/mol): PK_start=1523 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1586
(fs_start=1508)
                                TCCCACAA
AGGCAGGCTAATTTTTTTAGGGAAAATTTGGCCTT
                GGACCGGA      GGGG
                                CCCCAC
                GAATTTTCTCCAGAACAGACCAGAGCCAACAG

=====
(1415) DQ396383
=====
PK1:  -15.585000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)
                                A
GAAAGGAAGGACACCAAATGAAAGACTGT
                GACA      GAGAGTC
                                TTTTtaggg
                GCTAAT

PK2:  -21.940000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1526
(fs_start=1504)
                                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
                GATTTTTT      AATCGGA
                                TTGGCCTTC
                GGAAGAT

PK3:  -22.580000(kcal/mol): PK_start=1512 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1546
(fs_start=1504)
                                A
TACTGAGAGACAGGCTAATTTTTTTAGGGAAG
                CCCTTC      CGGTTT
                                GCCAGGGA
                ACAAGGGGAG

PK4:  -25.010000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)
                                CCAC
AGACAGGCTAATTTTTTTAGGGAAGATTTGGCCTTC
                GGACCGGAGG      GGAA

```

CCTTCA

GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1519 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1582
(fs_start=1504)

TCCCACAA

AGACAGGCTAATTTTTTTAGGGAAGATTTGGCCT

GGACCGGA GGGG

CCCCAC

GAATTTCCCTCAGAACAGACCAGAGCCAACAG

=====

(1416) DQ396384

=====

PK1: -15.025000(kcal/mol): PK_start=1481 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1509
(fs_start=1501)

A

GGAAGGAAGGACACCAAATGAAAGACTGT

GACG GAAAGTC

TTTTTAGGG

GCTAAT

PK2: -20.370000(kcal/mol): PK_start=1486 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1523
(fs_start=1501)

C

GAAGGACACCAAATGAAAGACTGTACTGAAAGG

GATTTTTT AATCGGA

TTGGCCTTC

GGAAATT

PK3: -23.275000(kcal/mol): PK_start=1509 sp=0 s1=4 s2=9 l1=2 l2=8 L3=0 PK_end=1544
(fs_start=1501)

AA

TACTGAAAGGCAGGCTAATTTTTTTAGGGA

CCCT TCCGGTTTT

AGGCCAGGGAA

ACAAGGGG

PK4: -19.785000(kcal/mol): PK_start=1515 sp=6 s1=9 s2=4 l1=8 l2=6 L3=0 PK_end=1554
(fs_start=1501)

TCCCACAA

AAGGCAGGCTAATTTTTTTAGGGAATTTTGGCCT

GGGACCGGA GGGG

CTTCAG

AATTTC

PK4B: -26.395000(kcal/mol): PK_start=1515 sp=6 s1=9 s2=4 l1=8 l2=31 L3=0 PK_end=1579
(fs_start=1501)

TCCCACAA

AAGGCAGGCTAATTTTTTTAGGGAATTTTGGCCT

GGGACCGGA GGGG

CCCCAC
AATTTTCCTTCAGAACAGGCCAGAGCCAACAG

=====
(1417) DQ396385
=====

PK1: -15.025000(kcal/mol): PK_start=1485 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1513
(fs_start=1505)

A
GGAAGGAAGGACACCAAATGAAAGACTGT
GACG GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -18.760000(kcal/mol): PK_start=1490 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1526
(fs_start=1505)

C
GAAGGACACCAAATGAAAGACTGTACTGAAAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -23.815000(kcal/mol): PK_start=1514 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1547
(fs_start=1505)

AAA
ACTGAAAGGCAGGCTAATTTTTTAGGGA
CCT TCCGGTCT
AGGCCAGGGA
AGCAAGGGA

PK4: -29.020000(kcal/mol): PK_start=1520 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1557
(fs_start=1505)

CAGC
AGGCAGGCTAATTTTTTAGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(1418) DQ396386
=====

PK1: -17.225000(kcal/mol): PK_start=1498 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1526
(fs_start=1518)

A
GAAGTGAAGGACATCAAATGAAAGACTGC
GACG GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -18.760000(kcal/mol): PK_start=1503 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1539
(fs_start=1518)

C
GAAGGACATCAAATGAAAGACTGCACTGAAAGG

GATTTTTT A ATCGGA
 TGGCCTTC
 GGAGATTC
 PK3: -26.805000(kcal/mol): PK_start=1526 sp=0 s1=4 s2=9 l1=2 l2=8 L3=0 PK_end=1561
 (fs_start=1518)
 GA
 CACTGAAAGGCAGGCTAATTTTTTAGGGA
 CCCT TCCGGTCTT
 AGGCCAGGGAA
 AGAAGGGG
 PK4: -27.140000(kcal/mol): PK_start=1533 sp=7 s1=7 s2=4 l1=9 l2=32 L3=1 PK_end=1595
 (fs_start=1518)
 TTCCCAGAA
 AGGCAGGCTAATTTTTTAGGGAGATTCTGGCC
 GGACCGG A GGGG
 CCCCCG
 GAACTTCATCCAGAGCAGACTAGAGCCAACGG
 =====
 (1419) DQ396387
 =====
 PK1: -11.905000(kcal/mol): PK_start=1486 sp=0 s1=4 s2=5 l1=3 l2=6 L3=0 PK_end=1512
 (fs_start=1506)
 ATC
 GAAAGGAAGGACACCAAATGAAAGACTGT
 GACA GAGAG
 TTTTTAG
 GCTAAT
 PK2: -17.180000(kcal/mol): PK_start=1493 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=1527
 (fs_start=1506)
 C
 AGGACACCAAATGAAAGACTGTATCGAGAGA
 TTTTTT A ATCGGA
 TGGCCTTC
 AGGGAAAATC
 PK3: -27.275000(kcal/mol): PK_start=1514 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1548
 (fs_start=1506)
 AAA
 TATCGAGAGACAGGCTAATTTTTTAGGGA
 CCCT TCCGGTCTT
 AGGCCAGGGA
 ACAAGGGG
 PK4: -26.345000(kcal/mol): PK_start=1521 sp=7 s1=9 s2=4 l1=6 l2=5 L3=0 PK_end=1557
 (fs_start=1506)
 CCCACA
 AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT

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                GGACCGGAG    GGGA
                                TCCTGC
          GAATT
PK4B:  -30.395000(kcal/mol): PK_start=1521 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1584
(fs_start=1506)
                                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                GGACCGGA    GGGG
                                CCCCAC
          GAATTTCTGCAGAACAGGCCAGAGCCAACAG

=====
(1420) DQ396388
=====
PK1:  -14.985000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)
                                A
GAAAAGAAGGACACCAAATGAAAGACTGT
                GACG    GAGAGTC
                                TTTTTAGGG
          GCTAAT
PK2:  -20.330000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1526
(fs_start=1504)
                                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
                GATTTTTT    AATCGGA
                                TTGGCCTTC
          GGAAAAT
PK3:  -23.745000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)
                                AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
                CCCT    TCCGGTTT
                                AGGCCAGGGA
          ACAAGGGG
PK4:  -23.985000(kcal/mol): PK_start=1519 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1557
(fs_start=1504)
                                TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA    GGGG
                                CTCCAG
          GAATTTT
PK4B:  -26.865000(kcal/mol): PK_start=1519 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1582
(fs_start=1504)
                                TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT

```

GGACCGGA GGGG
CCCCAC
GAATTTCTCCAGAACAGGCCAGAGCCAACAG

=====
(1421) DQ396389
=====

PK1: -15.585000(kcal/mol): PK_start=1490 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1518
(fs_start=1510)

A
GCAAAGAAGGACACCAAATGAAAGACTGT

GACA GAGAGTC
TTTTTAGGG
GCGAAT

PK2: -13.950000(kcal/mol): PK_start=1495 sp=0 s1=8 s2=4 l1=4 l2=5 L3=0 PK_end=1527
(fs_start=1510)

CAGG
GAAGGACACCAAATGAAAGACTGTACTGAGAGA

GATTTTTT AAGC
TTTGCC
GGAGA

PK3: -17.120000(kcal/mol): PK_start=1518 sp=0 s1=5 s2=6 l1=1 l2=11 L3=0 PK_end=1551
(fs_start=1510)

A
TACTGAGAGACAGGCGAATTTTTTAGGGAG

CCTTC CGGTTT
GCCGGGGA
CACAAAGGGGAG

PK4: -23.290000(kcal/mol): PK_start=1524 sp=6 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1561
(fs_start=1510)

CCAC
GAGACAGGCGAATTTTTTAGGGAGATTGGCCTTC

GGCCCGAGG GGAA
CCTTCA
GAATTT

PK4B: -25.625000(kcal/mol): PK_start=1524 sp=6 s1=8 s2=5 l1=7 l2=34 L3=0 PK_end=1590
(fs_start=1510)

TCCCACA
GAGACAGGCGAATTTTTTAGGGAGATTGGCCT

GGCCCGGA GGGGA
CCCCTCC
GAATTTCTTCAGAGCAGACCAGAGCCAACAGCC

=====
(1422) DQ396390
=====

PK1: -15.585000(kcal/mol): PK_start=1485 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1513
(fs_start=1505)

A
GAAAAGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1490 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1526
(fs_start=1505)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1513 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1547
(fs_start=1505)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -27.515000(kcal/mol): PK_start=1520 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1558
(fs_start=1505)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CTCCAG
GAATTTTC

PK4B: -27.515000(kcal/mol): PK_start=1520 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1583
(fs_start=1505)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CTCCAC
GAATTTCTCCAGAGCAGGCCAGAGCCGTCAG

=====
(1423) DQ396391
=====

PK1: -12.270000(kcal/mol): PK_start=1484 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1512
(fs_start=1504)

CA
GAAAGGAAGGACACCAAATGAAAGACTG
GAC AGAGAGTT
TTTTTAGGG
GCTAA

PK2: -19.910000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1526
(fs_start=1504)

C
GAAGGACACCAAATGAAAGACTGCATTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
CATTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGA

PK4: -25.490000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(1424) DQ396392
=====

PK1: -12.955000(kcal/mol): PK_start=1476 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1504
(fs_start=1496)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1481 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1518
(fs_start=1496)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1504 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1538
(fs_start=1496)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -22.815000(kcal/mol): PK_start=1511 sp=7 s1=9 s2=4 l1=6 l2=5 L3=0 PK_end=1547
(fs_start=1496)

CCCACA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGAG GGGA
TCCTAC
GAATT

PK4B: -26.865000(kcal/mol): PK_start=1511 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1574
(fs_start=1496)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGA GGGG
CCCCAC
GAATTTCTACAGAGCAGACCAGAACCCACAG

=====
(1425) DQ396393
=====

PK1: -11.500000(kcal/mol): PK_start=1468 sp=0 s1=3 s2=7 l1=5 l2=20 L3=1 PK_end=1512
(fs_start=1506)

CCAAA
GCTGTTGGAAATGTGGAAAGGAAGGACA
TGT A AGAAAGT
TTTTTTAGG
ACTAATGAAAGGCAGGCTAA

PK2: -18.090000(kcal/mol): PK_start=1492 sp=0 s1=7 s2=7 l1=1 l2=8 L3=0 PK_end=1528
(fs_start=1506)

C
GACACCAAATGAAAGAATGTACTAATGAAAGG
ATTTTTT AATCGGA
TTGGCCTTC
GGGAAAAT

PK3: -22.025000(kcal/mol): PK_start=1514 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1548
(fs_start=1506)

AAA
TAATGAAAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCGGGAA
ACAAGGGG

PK4: -23.290000(kcal/mol): PK_start=1521 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1558
(fs_start=1506)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGGCCGGAGG GGAA
CCTTCA
AAATTT

PK4B: -25.145000(kcal/mol): PK_start=1521 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1584
(fs_start=1506)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA GGGG
CCCCAC
AAATTTTCCTTCAGAGCAGGCCAGAGCCAACAG

=====
(1426) DQ396394
=====

PK1: -14.985000(kcal/mol): PK_start=1487 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1515
(fs_start=1507)

A
GAAGGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -18.720000(kcal/mol): PK_start=1492 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1528
(fs_start=1507)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1515 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1549
(fs_start=1507)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -26.345000(kcal/mol): PK_start=1522 sp=7 s1=9 s2=4 l1=6 l2=5 L3=0 PK_end=1558
(fs_start=1507)

CCCACA
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTT
GGACCGGAG GGGG
TCCTAC
GAATT

PK4B: -30.395000(kcal/mol): PK_start=1522 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1585
(fs_start=1507)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCCTACAGAGCAGACCAGAGCCAACAG

=====
(1427) DQ396395
=====

PK1: -15.625000(kcal/mol): PK_start=1486 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1514
(fs_start=1506)

A
GACAGGAAGGGCACCAAATGAAAGACTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -21.980000(kcal/mol): PK_start=1491 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1528
(fs_start=1506)

C
GAAGGGCACCAAATGAAAGACTGTACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAAT

PK3: -22.180000(kcal/mol): PK_start=1514 sp=0 s1=5 s2=4 l1=5 l2=9 L3=0 PK_end=1545
(fs_start=1506)

AATTT
TACTGAAAGACAGGCTAATTTTTTAGGGAA
CCCTT CCGG
GGCCTG
ACAAGGGGA

PK4: -22.820000(kcal/mol): PK_start=1524 sp=10 s1=7 s2=4 l1=4 l2=9 L3=0 PK_end=1558
(fs_start=1506)

CCAC
CAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
CCGGAGG GGAA
CCTTCA
TGGAAATTT

PK4B: -24.675000(kcal/mol): PK_start=1524 sp=10 s1=5 s2=4 l1=8 l2=35 L3=0
PK_end=1584 (fs_start=1506)

TCCCACAA
CAGGCTAATTTTTTAGGGAAAATTTGGCCT
CCGGA GGGG
CCCCAC
TGGAAATTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(1428) DQ396396
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PK1: -15.585000(kcal/mol): PK_start=1485 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1513
(fs_start=1505)

A
GAAAGGAAGGACCAAATGAAAGACTGT
GACA GAGAGTC

TTTTTAGGG
GCTAAT
PK2: -20.460000(kcal/mol): PK_start=1490 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1526
(fs_start=1505)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1513 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1547
(fs_start=1505)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -28.540000(kcal/mol): PK_start=1520 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1557
(fs_start=1505)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -30.875000(kcal/mol): PK_start=1520 sp=7 s1=8 s2=5 l1=7 l2=32 L3=0 PK_end=1584
(fs_start=1505)

TCCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGGA
CCCCTCA
GAATTTCTTCAGAACAGACCAGAGCCAACAG

=====
(1429) DQ396397
=====

PK1: -14.985000(kcal/mol): PK_start=1474 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1502
(fs_start=1494)

A
GAAAAGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1479 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1516
(fs_start=1494)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA

TTGGCCTTC

GGAGAAT

PK3: -18.840000(kcal/mol): PK_start=1502 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1536
(fs_start=1494)

AA

TACTGAGAGGCAGGCTAATTTTTTAGGGAG

CCTTC CGGTTT

GCCAGGGA

CACAAAGGGGAG

PK4: -25.010000(kcal/mol): PK_start=1509 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1546
(fs_start=1494)

CCAC

AGGCAGGCTAATTTTTTAGGGAGAATTTGGCCTTC

GGACCGGAGG GGAA

CCTTCA

GAATTT

PK4B: -27.345000(kcal/mol): PK_start=1509 sp=7 s1=8 s2=5 l1=7 l2=32 L3=0 PK_end=1573
(fs_start=1494)

TCCCACA

AGGCAGGCTAATTTTTTAGGGAGAATTTGGCCT

GGACCGGA GGGGA

CCCCTCA

GAATTTCCCTCAGAACAGGCCAGAGCCAACAG

=====
(1430) DQ396398
=====

PK1: -13.005000(kcal/mol): PK_start=1496 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=1523
(fs_start=1516)

AA

GACAGGAAGGACGCCAAATGAAAGACTGT

GACA GAGAGT

TTTTTAGG

GCTAAT

PK2: -19.660000(kcal/mol): PK_start=1502 sp=0 s1=7 s2=7 l1=1 l2=8 L3=0 PK_end=1538
(fs_start=1516)

C

AAGGACGCCAAATGAAAGACTGTAATGAGAGA

ATTTTTT AATCGGA

TTGGCCTTC

GGGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1524 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1558
(fs_start=1516)

AAA

TAATGAGAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT

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                                AGGCCAGGGA
                ACAAGGGG
PK4:  -22.705000(kcal/mol): PK_start=1531 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1568
(fs_start=1516)
                                CCAC
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTTC
                                GGACCGGAGG    GGAA
                                TCTTCA
                GAACTT

PK4B:  -26.865000(kcal/mol): PK_start=1531 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1594
(fs_start=1516)
                                TCCCACAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
                                GGACCGGA    GGGG
                                CCCCAC
                GAACTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(1431) DQ396399
=====
PK1:  -15.025000(kcal/mol): PK_start=1486 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1514
(fs_start=1506)
                                A
GAAGGGAAGGACACCAAATGAAAGACTGT
                                GACG    GAAAGTC
                                TTTTTAGGG
                GCTAAT

PK2:  -20.370000(kcal/mol): PK_start=1491 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1528
(fs_start=1506)
                                C
GAAGGACACCAAATGAAAGACTGTACTGAAAGG
                                GATTTTTT    AATCGGA
                                TTGGCCTTC
                GGAAAAT

PK3:  -23.745000(kcal/mol): PK_start=1514 sp=0 s1=4 s2=8 l1=3 l2=11 L3=0 PK_end=1551
(fs_start=1506)
                                AAA
TACTGAAAGGCAGGCTAATTTTTTTAGGGA
                                CCCT    TCCGGTTT
                                AGGCCAGGGA
                ACAGCAAGGGG

PK4:  -22.705000(kcal/mol): PK_start=1521 sp=7 s1=10 s2=4 l1=7 l2=6 L3=0 PK_end=1561
(fs_start=1506)
                                CCACAGC
AGGCAGGCTAATTTTTTTAGGGAAAATTTGGCCTTC
                                GGACCGGAGG    GGAA

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                                TCTTCA
                                GAATTT

=====
(1432) DQ396400
=====
PK1:  -10.960000(kcal/mol): PK_start=1497 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1535
(fs_start=1528)
                                A
TTGGAAATGTGGGAAAGAAGGACACCAG
                                GTC   AGGAAGT
                                TTTTTTAGG
                                CACTGAGAGACAGGCTAA

PK2:  -20.460000(kcal/mol): PK_start=1513 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1549
(fs_start=1528)
                                C
GAAGGACACCAGATGAAGGACTGCACTGAGAGA
                                GATTTTTT A  ATCGGA
                                TGGCCTTC
                                GGAAAATC

PK3:  -23.815000(kcal/mol): PK_start=1537 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1570
(fs_start=1528)
                                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCT   TCCGGTCT
                                AGGCCAGGGA
                                AGCAAGGGG

PK4:  -25.745000(kcal/mol): PK_start=1543 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1580
(fs_start=1528)
                                CCAGCA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT
                                GGACCGGAG   GGGA
                                TCCTCA
                                GAATTT

PK4B:  -30.395000(kcal/mol): PK_start=1543 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1606
(fs_start=1528)
                                TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                                GGACCGGA   GGGG
                                CCCCAC
                                GAATTTTCCTCAGAACAGACTGGAGCCAACAG

=====
(1433) DQ400856
=====
PK1:  -11.420000(kcal/mol): PK_start=1719 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=1745
(fs_start=1739)
                                CACA
GAAAGGAGGGACATCAAATGAAAGACTG

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          GAC   AGAGAG
                TTTTTTAG
      GCTAA
PK2:  -15.800000(kcal/mol): PK_start=1726 sp=0 s1=6 s2=5 l1=2 l2=10 L3=1 PK_end=1759
(fs_start=1739)
                CA
GGGACATCAAATGAAAGACTGCACAGAGAGA
                TTTTTT A  ATCGG
                TGGCCCT
      AGGGAAAATC
PK3:  -24.060000(kcal/mol): PK_start=1745 sp=0 s1=5 s2=7 l1=4 l2=8 L3=1 PK_end=1780
(fs_start=1739)
                AAAA
TGACAGAGAGACAGGCTAATTTTTTAGGG
                ATCCT C  CCGGTCT
                GGCCAGGGA
      CAAGGGGA
PK4:  -23.920000(kcal/mol): PK_start=1754 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=1792
(fs_start=1739)
                CTCCTACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCC
                GGACCGG   AGGGG
                TCTTCAG
      GAACTT
PK4B: -27.140000(kcal/mol): PK_start=1754 sp=7 s1=7 s2=4 l1=9 l2=32 L3=1 PK_end=1816
(fs_start=1739)
                CTCCTACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCC
                GGACCGG A  GGGG
                CCCAC
      GAACTTCTTCAGAACAGGCCAGCCAACAG

=====
(1434) DQ445631
=====
PK1:  -11.420000(kcal/mol): PK_start=1485 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=1511
(fs_start=1505)
                CACA
GGAAAGAAGGACACCAAATGAAAGACTG
                GAC   AGAGAG
                TTTTTTAG
      GCTAA
PK2:  -18.660000(kcal/mol): PK_start=1492 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1527
(fs_start=1505)
                C
AGGACACCAAATGAAAGACTGCACAGAGAGA

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          TTTTTT   AATCGGA
                    TTGGCCTTC
AGGGAAAAT

PK3:  -23.745000(kcal/mol): PK_start=1513 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1547
(fs_start=1505)
                    AAA
CACAGAGAGACAGGCTAATTTTTTTAGGGA
                    CCCT   TCCGGTTT
                    AGGCCAGGGA
ACAAGGGG

PK4:  -22.705000(kcal/mol): PK_start=1520 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1557
(fs_start=1505)
                    CCAC
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTTC
                    GGACCGGAGG   GGAA
                    TCTTCA
GAACTT

PK4B: -26.865000(kcal/mol): PK_start=1520 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1583
(fs_start=1505)
                    TCCCACAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
                    GGACCGGA   GGGG
                    CCCCAC
GAACTTTCTTCAGAACAGGACAGAGCCAACAG

=====
(1435) DQ445632
=====
PK1:  -15.585000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)
                    A
GAAGGGAAGGACACCAAATGAAAGACTGT
                    GACA   GAGAGTC
                    TTTTTTAGGG
GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)
                    C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
                    GATTTTTT   A   ATCGGA
                    TGGCCTTC
GGAAAATC

PK3:  -23.815000(kcal/mol): PK_start=1513 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1546
(fs_start=1504)
                    AAA
ACTGAGAGACAGGCTAATTTTTTTAGGGA

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          CCT      TCCGGTCT
                AGGCCAGGGA
AACAAAGGG
PK4:  -26.275000(kcal/mol): PK_start=1519 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1556
(fs_start=1504)
                TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                GGACCGGA      GGGAA
                TCCTTCA
          GAATT
PK4B:  -27.270000(kcal/mol): PK_start=1519 sp=7 s1=7 s2=4 l1=10 l2=32 L3=0
PK_end=1582 (fs_start=1504)
                TTCCAACAAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCC
                GGACCGG      AGGG
                TCCCAT
          GAATTTCC TTCAGAGCAGGCCAGAGCCAACAG

=====
(1436) DQ445633
=====
PK1:  -15.585000(kcal/mol): PK_start=1488 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1516
(fs_start=1508)
                A
GAAGGGAAGGCCACCAAATGAAAGACTGT
                GACA      GAGAGTC
                TTTTTAGGG
          GCTAAT
PK2:  -21.940000(kcal/mol): PK_start=1493 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1530
(fs_start=1508)
                C
GAAGGCCACCAAATGAAAGACTGTACTGAGAGA
                GATTTTTT      AATCGGA
                TTGGCCTTC
          GGAAGCT
PK3:  -22.580000(kcal/mol): PK_start=1516 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1550
(fs_start=1508)
                C
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                CCCTTC      CGGTTT
                GCCAGGGA
          AGAAGGGAAG
PK4:  -31.750000(kcal/mol): PK_start=1522 sp=6 s1=12 s2=4 l1=2 l2=6 L3=0 PK_end=1561
(fs_start=1508)
                CA
GAGACAGGCTAATTTTTTAGGGAAGCTTTGGCCTTCC

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GGGACCGGAAGG    GAAG
                  CTTCAG
AATTTT

=====
(1437) DQ445634
=====
PK1:  -12.405000(kcal/mol): PK_start=1487 sp=0 s1=4 s2=6 l1=5 l2=6 L3=0 PK_end=1517
(fs_start=1510)
                  ACTGG
GGAAAGAAGGGCACCAAATGAAAGACTGT

                  GACG    GAGAGT
                  TTTT TAGG
GCTAAT

PK2:  -17.950000(kcal/mol): PK_start=1496 sp=0 s1=7 s2=7 l1=1 l2=8 L3=0 PK_end=1532
(fs_start=1510)
                  C
GGCACCAAATGAAAGACTGTACTGGTGAGAGG

                  ATTTTTT    AATCGGA
                  TTGGCCTTC
GGGAAAAT

PK3:  -23.745000(kcal/mol): PK_start=1518 sp=0 s1=4 s2=8 l1=3 l2=11 L3=0 PK_end=1555
(fs_start=1510)
                  AAA
TGGTGAGAGGCAGGCTAATTTTTTAGGGA

                  CCCT    TCCGGTTT
                  AGGCCAGGGA
AGAACAAGGGG

PK4:  -25.010000(kcal/mol): PK_start=1525 sp=7 s1=10 s2=4 l1=7 l2=6 L3=0 PK_end=1565
(fs_start=1510)
                  CCAGAAC
AGGCAGGCTAATTTTTTAGGAAAATTTGGCCTTC

                  GGACCGGAGG    GGAA
                  CCTTCA
GAATTT

=====
(1438) DQ445635
=====
PK1:  -14.985000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)
                  A
GAAAAGAAGGACACCAAATGAAAGACTGT

                  GACG    GAGAGTC
                  TTTT TAGGG
GCTAAT

```

PK2: -20.330000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1526
(fs_start=1504)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAGAT

PK3: -22.580000(kcal/mol): PK_start=1512 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1546
(fs_start=1504)

A
TACTGAGAGGCAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTTT
GCCAGGGA
ACAAGGGGAG

PK4: -23.985000(kcal/mol): PK_start=1519 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1557
(fs_start=1504)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAGATTGGCCT
GGACCGGA GGGG
CTCCAG
GAACTTC

PK4B: -26.865000(kcal/mol): PK_start=1519 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1582
(fs_start=1504)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAGATTGGCCT
GGACCGGA GGGG
CCCCAC
GAACTTCCTCCAGAGCAGAACGGAGCCAACAG

=====
(1439) DQ445637
=====

PK1: -10.975000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=1511
(fs_start=1504)

AA
GGAAAGAAGGACACCAAATGAAGGATTGT
GACA GAGAGT
TTTTTAGG
GCTAAT

PK2: -19.660000(kcal/mol): PK_start=1490 sp=0 s1=7 s2=7 l1=1 l2=8 L3=0 PK_end=1526
(fs_start=1504)

C
AAGGACACCAAATGAAGGATTGTAATGAGAGA
ATTTTTT AATCGGA
TTGGCCTTC
GGGAGAAT

PK3: -18.840000(kcal/mol): PK_start=1512 sp=0 s1=5 s2=6 l1=2 l2=14 l3=0 PK_end=1549
(fs_start=1504)

AA
TAATGAGAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTTT
GCCAGGGA
CACAAAGGGGGGAG

PK4: -33.500000(kcal/mol): PK_start=1521 sp=9 s1=9 s2=4 l1=5 l2=34 l3=0 PK_end=1585
(fs_start=1504)

CACAA
ACAGGCTAATTTTTTAGGGAGAATTTGGCCTTC
ACCGGAGGG GGGG
CCCCAC
GGGAACTTCCTTCAGAGCAGGCCAGAGCCAACAG

=====
(1440) DQ487188
=====

PK1: -13.595000(kcal/mol): PK_start=1608 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1636
(fs_start=1628)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1613 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1649
(fs_start=1628)

C
GAAGGACACCAAATGAAAGATTGTTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1636 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1670
(fs_start=1628)

A
TACTGAAAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
CCAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1643 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1680
(fs_start=1628)

CTCC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(1441) DQ487189
=====

PK1: -15.625000(kcal/mol): PK_start=1609 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1637
(fs_start=1629)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1614 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1650
(fs_start=1629)

C
GAAGGACACCAAATGAAAGACTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1637 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1671
(fs_start=1629)

A
TACTGAAAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
CCAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1644 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1681
(fs_start=1629)

CTCC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(1442) DQ487190
=====

PK1: -13.555000(kcal/mol): PK_start=1606 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1634
(fs_start=1626)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1611 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1647
(fs_start=1626)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA

TGGCCTTC

GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1634 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1668
(fs_start=1626)

A

TACTGAGAGACAGGCTAATTTTTTAGGGAAG

TCCTTC CGGTCT

GCCAGGGA

ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1641 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1678
(fs_start=1626)

CTAC

AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC

GGACCGGAAG GGAA

TCTTCA

GAATTT

=====
(1443) DQ487191
=====

PK1: -13.555000(kcal/mol): PK_start=1606 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1634
(fs_start=1626)

A

GAAAGGAAGGACACCAAATGAAAGATTGT

GACA GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1611 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1647
(fs_start=1626)

C

GAAGGACACCAAATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1634 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1668
(fs_start=1626)

A

TACTGAGAGACAGGCTAATTTTTTAGGGAAG

TCCTTC CGGTCT

GCCAGGGA

CCAGGGGAAG

PK4: -26.365000(kcal/mol): PK_start=1641 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1678
(fs_start=1626)

CTCC

AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC

GGACCGGAAG GGGA

TCTTCA

GAATTT

PK4B: -31.325000(kcal/mol): PK_start=1641 sp=7 s1=9 s2=4 l1=6 l2=32 L3=0 PK_end=1704
(fs_start=1626)

CCTCCA

AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCTT

GGACCGGAA GGGG

CCCCAC

GAATTTTCTTCAGAGCAGACCAGAGCCATCAG

=====
(1444) DQ672623
=====

PK1: -13.555000(kcal/mol): PK_start=1866 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1894
(fs_start=1886)

A

GAAAGGAAGGACACCAAATGAAAGATTGT

GACA GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1871 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1907
(fs_start=1886)

C

GAAGGACACCAAATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1894 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1928
(fs_start=1886)

A

TACTGAGAGACAGGCTAATTTTTTTAGGGAAG

TCCTTC CGGTCT

GCCAGGNA

CCAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1901 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1938
(fs_start=1886)

CTCC

AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCTTC

GGACCGGAAG GGAA

TCTTCA

NAATTT

=====
(1445) DQ676870
=====

PK1: -13.555000(kcal/mol): PK_start=1275 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1303
(fs_start=1295)

A

GAAAGGAAGGACACCAAATGAAAGATTGT

GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1280 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1316
(fs_start=1295)

C
GAAGGACACCAAATGAAAGATTGTTACTGAGAGA

GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -26.775000(kcal/mol): PK_start=1301 sp=0 s1=5 s2=8 l1=4 l2=7 L3=0 PK_end=1337
(fs_start=1295)

AAAA
TGTACTGAGAGACAGGCTAATTTTTTAGGG

ATCCT TCCGGTCT
AGGCCAGGGA
CAAGGCA

PK4: -23.310000(kcal/mol): PK_start=1310 sp=7 s1=9 s2=4 l1=5 l2=6 L3=1 PK_end=1346
(fs_start=1295)

CCTAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT

GGACCGGAA C GGAA
TCTTCA
GAATTT

=====
(1446) DQ676871
=====

PK1: -13.555000(kcal/mol): PK_start=1275 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1303
(fs_start=1295)

A
GAAAGGAAGGACACCAAATGAAAGATTGT

GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1280 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1316
(fs_start=1295)

C
GAAGGACACCAAATGAAAGATTGTTACTGAGAGA

GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -26.775000(kcal/mol): PK_start=1301 sp=0 s1=5 s2=8 l1=4 l2=7 L3=0 PK_end=1337
(fs_start=1295)

AAAA
TGTACTGAGAGACAGGCTAATTTTTTAGGG

```

                ATCCT    TCCGGTCT
                    AGGCCAGGGA
            CAAGGCA

PK4:  -23.31000(kcal/mol): PK_start=1310 sp=7 s1=9 s2=4 l1=5 l2=6 L3=1 PK_end=1346
(fs_start=1295)
                    CCTAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT
                    GGACCGGAA  C  GGAA
                                TCTTCA
                    GAATTT

=====
(1447) DQ676872
=====
PK1:  -15.14000(kcal/mol): PK_start=1272 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1300
(fs_start=1292)
                    CA
GGAAGGAGGGACACCAAATGAAAGACTG
                    GAC    AGAAAGTC
                                TTTTTTAGGG
                    GCTAA

PK2:  -21.98000(kcal/mol): PK_start=1277 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1314
(fs_start=1292)
                    C
GAGGGACACCAAATGAAAGACTGCACTGAAAGA
                    GATTTTTT    AATCGGA
                                TTGGCCTTC
                    GGAAAAT

PK3:  -20.28500(kcal/mol): PK_start=1301 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1334
(fs_start=1292)
                    AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
                    CCT    TCCGGTTT
                                AGGCCAGGAA
                    AGCAAGGGG

PK4:  -25.07500(kcal/mol): PK_start=1307 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1344
(fs_start=1292)
                                TCCAGCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                    GGACCGGA    GGGGA
                                TCCCTCA
                    AAATT

PK4B:  -26.86500(kcal/mol): PK_start=1307 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1370
(fs_start=1292)
                                TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

```

GGACCGGA GGGG
CCCCAC
AAATTTCCCTCAGAGCAGACCAGAGCCAACAG

=====
(1448) DQ676873
=====

PK1: -15.140000(kcal/mol): PK_start=1272 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1300
(fs_start=1292)

CA
GGAAGGAGGGACACCAAATGAAAGACTG

GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -21.980000(kcal/mol): PK_start=1277 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1314
(fs_start=1292)

C
GAGGGACACCAAATGAAAGACTGCACTGAAAGA

GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1301 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1334
(fs_start=1292)

AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT
AGGCCAGGAA
AGCAAGGGG

PK4: -25.075000(kcal/mol): PK_start=1307 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1344
(fs_start=1292)

TCCAGCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGGA
TCCCTCA
AAATT

PK4B: -26.865000(kcal/mol): PK_start=1307 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1370
(fs_start=1292)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG
CCCCAC
AAATTTCCCTCAGAGCAGACCAGAGCCAACAG

=====
(1449) DQ676874
=====

PK1: -13.595000(kcal/mol): PK_start=1272 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1300
(fs_start=1292)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1277 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1313
(fs_start=1292)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAGAATC

PK3: -21.700000(kcal/mol): PK_start=1300 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1334
(fs_start=1292)

AA
TACTGAAAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTCT
GCCGGGAA
CACAAAGGGGAG

PK4: -29.725000(kcal/mol): PK_start=1307 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1370
(fs_start=1292)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAGAATCTGGCCT
GGGCCGGA GGGG
CCCCAC
AAACTTTATACAAAGCAGAACAGAACCAACAG

=====
(1450) DQ676875
=====

PK1: -13.595000(kcal/mol): PK_start=1272 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1300
(fs_start=1292)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1277 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1313
(fs_start=1292)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAGAATC

PK3: -21.700000(kcal/mol): PK_start=1300 sp=0 s1=5 s2=6 l1=2 l2=11 l3=0 PK_end=1334
(fs_start=1292)

AA
TACTGAAAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTCT
GCCGGGAA
CACAAAGGGGAG

PK4: -29.725000(kcal/mol): PK_start=1307 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=1370
(fs_start=1292)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAGAATCTGGCCT
GGGCCGGA GGGG
CCCCAC
AAACTTTATACAAAGCAGAACAGAACCAACAG

=====
(1451) DQ676876
=====

PK1: -13.595000(kcal/mol): PK_start=1272 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1300
(fs_start=1292)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1277 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1313
(fs_start=1292)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAGAATC

PK3: -21.700000(kcal/mol): PK_start=1300 sp=0 s1=5 s2=6 l1=2 l2=11 l3=0 PK_end=1334
(fs_start=1292)

AA
TACTGAAAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTCT
GCCGGGAA
CACAAAGGGGAG

PK4: -28.025000(kcal/mol): PK_start=1307 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=1370
(fs_start=1292)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAGAATCTGGCCT
GGGCCGGA GGGG
CCCCMC
AAACTTTATACAAAGCAGAACAGAACCAACAG

=====
(1452) DQ676877
=====

PK1: -13.555000(kcal/mol): PK_start=1305 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1333
(fs_start=1325)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -17.820000(kcal/mol): PK_start=1310 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1346
(fs_start=1325)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGTCTTC
GGAAAATC

PK3: -24.635000(kcal/mol): PK_start=1333 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1367
(fs_start=1325)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCTGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -24.075000(kcal/mol): PK_start=1340 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1377
(fs_start=1325)

CCAC
AGACAGGCTAATTTTTTAGGAAAATCTGGTCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(1453) DQ676879
=====

PK1: -13.555000(kcal/mol): PK_start=1305 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1333
(fs_start=1325)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -17.820000(kcal/mol): PK_start=1310 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1346
(fs_start=1325)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA

```

                                TGGTCTTC
          GGAAAATC
PK3:  -24.635000(kcal/mol): PK_start=1333 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1367
(fs_start=1325)
                                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCCT   TCTGGTCT
                                AGGCCAGGGA
          ACAAGGGA
PK4:  -24.075000(kcal/mol): PK_start=1340 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1377
(fs_start=1325)
                                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGTCTTC
                                GGACCGGAAG   GGAA
                                TCTTCA
          GAATTT
=====
(1454) DQ676880
=====
PK1:  -15.585000(kcal/mol): PK_start=1284 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1312
(fs_start=1304)
                                A
GAAAGGAAGGACACCAAATGAAAGACTGT
                                GACA   GAGAGTC
                                TTTTTAGGG
          GCTAAT
PK2:  -17.820000(kcal/mol): PK_start=1289 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1325
(fs_start=1304)
                                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
                                GATTTTTT   A   ATCGGA
                                TGGTCTTC
          GGAAAATC
PK3:  -24.635000(kcal/mol): PK_start=1312 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1346
(fs_start=1304)
                                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCCT   TCTGGTCT
                                AGGCCAGGGG
          ACAAGGGA
PK4:  -24.075000(kcal/mol): PK_start=1319 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1356
(fs_start=1304)
                                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGTCTTC
                                GGACCGGAAG   GGAA

```

```

                                TCTTCA
                                GGATTT

=====
(1455) DQ676881
=====
PK1:  -15.585000(kcal/mol): PK_start=1284 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1312
(fs_start=1304)
                                A
GAAAGGAAGGACACCAAATGAAAGACTGT
                                GACA    GAGAGTC
                                TTTTtaggg
                                GCTAAT

PK2:  -17.820000(kcal/mol): PK_start=1289 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1325
(fs_start=1304)
                                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
                                GATTTTTT A  ATCGGA
                                TGGTCTTC
                                GGAAAATC

PK3:  -24.635000(kcal/mol): PK_start=1312 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1346
(fs_start=1304)
                                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCCT    TCTGGTCT
                                AGGCCAGGGA
                                ACAAGGGA

PK4:  -24.075000(kcal/mol): PK_start=1319 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1356
(fs_start=1304)
                                CCAC
AGACAGGCTAATTTTTTAGGAAAATCTGGTCTTC
                                GGACCGGAAG    GGAA
                                TCTTCA
                                GAATTT

=====
(1456) DQ676882
=====
PK1:  -15.585000(kcal/mol): PK_start=1284 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1312
(fs_start=1304)
                                A
GAAAGGAAGGACACCAAATGAAAGACTGT
                                GACA    GAGAGTC
                                TTTTtaggg
                                GCTAAT

PK2:  -17.820000(kcal/mol): PK_start=1289 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1325
(fs_start=1304)
                                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA

```


GATTTTTT A ATCGGA
TGGTCTTC
GGAAAATC

PK3: -24.635000(kcal/mol): PK_start=1312 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1346
(fs_start=1304)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCTGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -24.075000(kcal/mol): PK_start=1319 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1356
(fs_start=1304)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGTCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(1457) DQ676883
=====

PK1: -13.555000(kcal/mol): PK_start=1275 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1303
(fs_start=1295)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GTTAAT

PK2: -16.970000(kcal/mol): PK_start=1280 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1316
(fs_start=1295)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATTGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1303 sp=0 s1=6 s2=6 l1=1 l2=13 L3=0 PK_end=1340
(fs_start=1295)

A
TACTGAGAGACAGGTTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAACAAGGGAAG

PK4: -29.020000(kcal/mol): PK_start=1310 sp=7 s1=10 s2=4 l1=7 l2=6 L3=0 PK_end=1350
(fs_start=1295)

CCACAAC
AGACAGGTTAATTTTTTAGGGAAGATCTGGCCTTC

```

                GGACCGGAAG    GGAA
                                CCTTCA
        GAAYTT

=====
(1458) DQ676884
=====
PK1:  -13.555000(kcal/mol): PK_start=1275 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1303
(fs_start=1295)
                                A
        GAAAGGAAGGACACCAAATGAAAGATTGT
                GACA    GAGAGTC
                                TTTTtaggg
        GTTAAT

PK2:  -16.970000(kcal/mol): PK_start=1280 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1316
(fs_start=1295)
                                C
        GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT A  ATTGGA
                                TGGCCTTC
        GGAAGATC

PK3:  -26.110000(kcal/mol): PK_start=1303 sp=0 s1=6 s2=6 l1=1 l2=13 L3=0 PK_end=1340
(fs_start=1295)
                                A
        TACTGAGAGACAGGTTAATTTTTTAGGGAAG
                CCCTTC    CGGTCT
                                GCCAGGGA
        ACAACAAGGGAAG

PK4:  -29.020000(kcal/mol): PK_start=1310 sp=7 s1=10 s2=4 l1=7 l2=6 L3=0 PK_end=1350
(fs_start=1295)
                                CCACAAC
        AGACAGGTTAATTTTTTAGGGAAGATCTGGCCTTC
                GGACCGGAAG    GGAA
                                CCTTCA
        GAACTT

=====
(1459) DQ676885
=====
PK1:  -13.555000(kcal/mol): PK_start=1275 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1303
(fs_start=1295)
                                A
        GAAAGGAAGGACACCAAATGAAAGATTGT
                GACA    GAGAGTC
                                TTTTtaggg
        GTTAAT

```

PK2: -16.970000(kcal/mol): PK_start=1280 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1316
(fs_start=1295)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATTGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1303 sp=0 s1=6 s2=6 l1=1 l2=13 L3=0 PK_end=1340
(fs_start=1295)

A
TACTGAGAGACAGGTTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAACAAGGGAAG

PK4: -29.020000(kcal/mol): PK_start=1310 sp=7 s1=10 s2=4 l1=7 l2=6 L3=0 PK_end=1350
(fs_start=1295)

CCACAAC
AGACAGGTTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAACTT

=====
(1460) DQ676886
=====

PK1: -8.215000(kcal/mol): PK_start=1284 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=1311
(fs_start=1304)

GA
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGGGT
TTTTTAGG
GCTAAT

PK2: -15.420000(kcal/mol): PK_start=1290 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1325
(fs_start=1304)

C
AAGGACACCAAATGAAAGATTGTGATGGGAGA
ATTTTTT A ATCGGA
TGGCCTTC
GGGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1312 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1346
(fs_start=1304)

AAA
TGATGGGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGAA
AGAAGGGG

PK4: -32.490000(kcal/mol): PK_start=1319 sp=7 s1=11 s2=4 l1=2 l2=7 L3=0 PK_end=1357
(fs_start=1304)

CA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTCC
GGACCGGAGGG GAAG
CTTCAG
AAATTTTC

PK4B: -30.395000(kcal/mol): PK_start=1319 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1382
(fs_start=1304)

TCCCAGAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTTCCTTCAGAGCAGACCAGAGCCAACAG

=====
(1461) DQ676887
=====

PK1: -8.215000(kcal/mol): PK_start=1284 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=1311
(fs_start=1304)

GA
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGGGT
TTTTTAGG
GCTAAT

PK2: -15.420000(kcal/mol): PK_start=1290 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1325
(fs_start=1304)

C
AAGGACACCAAATGAAAGATTGTGATGGGAGA
ATTTTTT A ATCGGA
TGGCCTTC
GGGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1312 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1346
(fs_start=1304)

AAA
TGATGGGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGAA
AGAAGGGG

PK4: -32.490000(kcal/mol): PK_start=1319 sp=7 s1=11 s2=4 l1=2 l2=7 L3=0 PK_end=1357
(fs_start=1304)

CA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTCC
GGACCGGAGGG GAAG
CTTCAG
AAATTTTC

PK4B: -30.395000(kcal/mol): PK_start=1319 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1382
(fs_start=1304)

TCCCAGAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTTCCTTCAGAGCAGACCAGAGCCAACAG

=====
(1462) DQ789392
=====

PK1: -15.100000(kcal/mol): PK_start=1253 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1281
(fs_start=1273)

CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1258 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1295
(fs_start=1273)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAGCT

PK3: -20.860000(kcal/mol): PK_start=1281 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1315
(fs_start=1273)

C
CACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTTT
GCCGGGA
ACAAGGGAAG

PK4: -23.505000(kcal/mol): PK_start=1287 sp=6 s1=9 s2=5 l1=7 l2=4 L3=0 PK_end=1325
(fs_start=1273)

TCCCACA
GAGACAGGCTAATTTTTTAGGGAAGCTTTGGCCT
GGGGCCGGA AGGGA
TTCCTCA
AATT

=====
(1463) DQ823356
=====

PK1: -15.100000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
(fs_start=1283)

CA
GAAAGGAAGGCCATCAAATGAAAGACTG
GAC AGAGAGTC

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                TTTTTTAGGG
          GCTAA
PK2:  -21.940000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 11=1 12=7 L3=0 PK_end=1305
(fs_start=1283)
                C
GAAGGCCATCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT   AATCGGA
                TTGGCCTTC
          GGAAAAT
PK3:  -20.285000(kcal/mol): PK_start=1292 sp=0 s1=3 s2=8 11=3 12=9 L3=0 PK_end=1325
(fs_start=1283)
                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                CCT   TCCGGTTT
                AGGCCAGGAA
          AGCAAAGGG
PK4:  -21.815000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=4 11=8 12=6 L3=0 PK_end=1335
(fs_start=1283)
                TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA   GGG
                TCCTCA
          AAATTT

=====
(1464) DQ823357
=====
PK1:  -15.100000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 11=2 12=5 L3=0 PK_end=1291
(fs_start=1283)
                CA
GAAAGGAAGGCCATCAAATGAAAGACTG
                GAC   AGAGAGTC
                TTTTTTAGGG
          GCTAA
PK2:  -21.940000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 11=1 12=7 L3=0 PK_end=1305
(fs_start=1283)
                C
GAAGGCCATCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT   AATCGGA
                TTGGCCTTC
          GGAGAAT
PK3:  -18.840000(kcal/mol): PK_start=1291 sp=0 s1=5 s2=6 11=2 12=11 L3=0 PK_end=1325
(fs_start=1283)
                AA
CACTGAGAGACAGGCTAATTTTTTAGGGAG
                CCTTC   CGGTTT

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GCCAGGAA

AGCAAAGGGAG

PK4: -21.815000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1335
(fs_start=1283)

TCCAGCAA

AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT

GGACCGGA GGA

TCCTCA

AAATTT

=====
(1465) DQ823358
=====

PK1: -15.100000(kcal/mol): PK_start=1269 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1297
(fs_start=1289)

CA

GAAAGGAAGGCCATCAAATGAAAGACTG

GAC AGAGAGTC

TTTTTTAGGG

GCTAA

PK2: -21.940000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1311
(fs_start=1289)

C

GAAGGCCATCAAATGAAAGACTGCACTGAGAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAGAAT

PK3: -18.840000(kcal/mol): PK_start=1297 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1331
(fs_start=1289)

AA

CACTGAGAGACAGGCTAATTTTTTAGGGAG

CCTTC CGGTTT

GCCAGGAA

AGCAAAGGGAG

PK4: -21.815000(kcal/mol): PK_start=1304 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1341
(fs_start=1289)

TCCAGCAA

AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT

GGACCGGA GGA

TCCTCA

AAATTT

=====
(1466) DQ823359
=====

PK1: -15.100000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
(fs_start=1283)

CA

GAAAGGAAGGCCATCAAATGAAAGACTG

```

                GAC    AGAGAGTC
                TTTTTTAGGG
            GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)
                C
GAAGGCCATCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT    AATCGGA
                TTGGCCTTC
            GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1292 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1325
(fs_start=1283)
                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                CCT    TCCGGTTT
                AGGCCAGGAA
            AGCAAAGGG

PK4:  -22.840000(kcal/mol): PK_start=1298 sp=7 s1=7 s2=4 l1=10 l2=6 L3=0 PK_end=1335
(fs_start=1283)
                TTCCAGCAAA
AGACAGGCTAATTTTTTAGGAAAATTTGGCC
                GGACCGG    AGGG
                TCCCCA
            AAATTT

=====
(1467) DQ823360
=====
PK1:  -15.100000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
(fs_start=1283)
                CA
GAAAGGAAGGCCATCAAATGAAAGACTG
                GAC    AGAGAGTC
                TTTTTTAGGG
            GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)
                C
GAAGGCCATCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT    AATCGGA
                TTGGCCTTC
            GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1292 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1325
(fs_start=1283)
                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA

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          CCT      TCCGGTTT
                AGGCCAGGAA
          AGCAAAGGG

PK4:  -21.815000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1335
(fs_start=1283)
                TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA      GGGA
                TCCTCA
          AAATTT

=====
(1468) DQ823361
=====
PK1:  -15.100000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
(fs_start=1283)
                CA
GAAAGGAAGGCCATCAAATGAAAGACTG
                GAC      AGAGAGTC
                TTTTTTAGGG
          GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)
                C
GAAGGCCATCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT      AATCGGA
                TTGGCCTTC
          GGAGAAT

PK3:  -18.840000(kcal/mol): PK_start=1291 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1325
(fs_start=1283)
                AA
CACTGAGAGACAGGCTAATTTTTTAGGGAG
                CCTTC      CGGTTT
                GCCAGGGA
          AGCAAAGGGAG

PK4:  -21.815000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1335
(fs_start=1283)
                TCCAGCAA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
                GGACCGGA      GGGA
                TCCTCA
          GAATTT

=====
(1469) DQ823362
=====

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PK1: -13.555000(kcal/mol): PK_start=1269 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1297
(fs_start=1289)

A
GTAGGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1310
(fs_start=1289)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1297 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1331
(fs_start=1289)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -29.020000(kcal/mol): PK_start=1304 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1341
(fs_start=1289)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(1470) DQ823363
=====

PK1: -13.555000(kcal/mol): PK_start=1269 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1297
(fs_start=1289)

A
GTAGGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1310
(fs_start=1289)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1297 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1331
(fs_start=1289)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=1304 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1341
(fs_start=1289)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1304 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1367
(fs_start=1289)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCTTCAGAGCAGACCAGGCCATCAG

=====
(1471) DQ823364
=====

PK1: -13.555000(kcal/mol): PK_start=1269 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1297
(fs_start=1289)

A
GTAGGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1310
(fs_start=1289)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1297 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1331
(fs_start=1289)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGAA
ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1304 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1341
(fs_start=1289)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTC
GGACCGGAAG GGAA
TCTTCA
AAATTT

=====
(1472) DQ823365
=====

PK1: -15.100000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
(fs_start=1283)

CA
GAAAGGAAGGCCATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)

C
GAAGGCCATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAGAAT

PK3: -18.840000(kcal/mol): PK_start=1291 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1325
(fs_start=1283)

AA
CACTGAGAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTTT
GCCAGGGA
AGCAAAGGGAG

PK4: -21.815000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1335
(fs_start=1283)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
GGACCGGA GGGGA
TCCTCA
GAATTT

=====
(1473) DQ823366
=====

PK1: -15.100000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=5 l2=5 L3=0 PK_end=1294
(fs_start=1286)

CACTA
GAAAGGAAGGTCATCAAATGAAAGACTG
GAC AGAGAGTC

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                TTTTTTAGGG
          GCTAA
PK2:  -21.940000(kcal/mol): PK_start=1271 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1308
(fs_start=1286)
                C
GGTCATCAAATGAAAGACTGCACTACTGAGAGA
                GATTTTTT   AATCGGA
                TTGGCCTTC
          GGAGAAT
PK3:  -18.840000(kcal/mol): PK_start=1294 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1328
(fs_start=1286)
                AA
TACTGAGAGACAGGCTAATTTTTTAGGGAG
                CCTTC   CGGTTT
                GCCAGGGA
          AGCAAAGGGAG
PK4:  -21.815000(kcal/mol): PK_start=1301 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1338
(fs_start=1286)
                TCCAGCAA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
                GGACCGGA   GGG
                TCCTCA
          GAATTT

=====
(1474) DQ823367
=====
PK1:  -17.185000(kcal/mol): PK_start=1263 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1291
(fs_start=1283)
                A
GAAAGGAAGGCCATCAAATGAAAGACTGC
                GACG   GAGAGTC
                TTTTTAGGG
          GCTAAT
PK2:  -20.330000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)
                C
GAAGGCCATCAAATGAAAGACTGCACTGAGAGG
                GATTTTTT   AATCGGA
                TTGGCCTTC
          GGAGAAT
PK3:  -18.840000(kcal/mol): PK_start=1291 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1325
(fs_start=1283)
                AA
CACTGAGAGGCAGGCTAATTTTTTAGGGAG
                CCTTC   CGGTTT

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                                GCCAGGAA
          AGCAAGGGGAG
PK4:  -24.120000(kcal/mol): PK_start=1298 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=1336
(fs_start=1283)
                                TTCCAGCAA
AGGCAGGCTAATTTTTTTAGGGAGAATTTGGCC
                                GGACCGG   AGGGG
                                TCCTCAG
          AAATTT

PK4B:  -21.200000(kcal/mol): PK_start=1299 sp=8 s1=6 s2=4 l1=9 l2=33 L3=1 PK_end=1360
(fs_start=1283)
                                TTCCAGCAA
GGCAGGCTAATTTTTTTAGGGAGAATTTGGCC
                                GACCGG   A   GGGG
                                CTCCAC
          GAAATTTTCCTCAGAGCAGACCAGAGCCATCAG

=====
(1475) DQ826726
=====
PK1:  -11.420000(kcal/mol): PK_start=1275 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=1301
(fs_start=1295)
                                CACA
GAAAGGAGGGACATCAAATGAAAGACTG
                                GAC   AGAGAG
                                TTTTTTAG
          GCTAA

PK2:  -18.660000(kcal/mol): PK_start=1282 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1317
(fs_start=1295)
                                C
GGGACATCAAATGAAAGACTGCACAGAGAGA
                                TTTTTT   AATCGGA
                                TTGGCCTTC
          AGGGAAGAT

PK3:  -19.120000(kcal/mol): PK_start=1304 sp=0 s1=5 s2=6 l1=1 l2=11 L3=0 PK_end=1337
(fs_start=1295)
                                A
ACAGAGAGACAGGCTAATTTTTTTAGGGAAG
                                CCTTC   CGGTTT
                                GCCAGGAA
          AGCAAAGGGAG

PK4:  -19.885000(kcal/mol): PK_start=1310 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1347
(fs_start=1295)
                                CCAGCA
AGACAGGCTAATTTTTTTAGGGAAGATTTGGCCTT
                                GGACCGGAG   GGAA

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                                TCTTCA
                                AACTT

=====
(1476) DQ826727
=====
PK1:  -11.420000(kcal/mol): PK_start=1260 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=1286
(fs_start=1280)
                                CACG
GAAAAGAGGGACATCAAATGAAAGACTG
                                GAC   AGAGAG
                                TTTTTTAG
                                GCTAA

PK2:  -17.280000(kcal/mol): PK_start=1267 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=1301
(fs_start=1280)
                                C
GGGACATCAAATGAAAGACTGCACGGAGAGA
                                TTTTTT A  ATCGGA
                                TGGCCTTC
                                AGGGAAAATC

PK3:  -23.815000(kcal/mol): PK_start=1289 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1322
(fs_start=1280)
                                AAA
ACGGAGAGACAGGCTAATTTTTTAGGGA
                                CCT   TCCGGTCT
                                AGGCCAGGAA
                                AGCAAGGGG

PK4:  -30.530000(kcal/mol): PK_start=1295 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=1333
(fs_start=1280)
                                TTCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCC
                                GGACCGG   AGGGG
                                TCCCCAG
                                AAATTT

PK4B: -25.710000(kcal/mol): PK_start=1296 sp=8 s1=6 s2=4 l1=9 l2=33 L3=1 PK_end=1357
(fs_start=1280)
                                TTCCAGCAA
GACAGGCTAATTTTTTAGGGAAAATCTGGCC
                                GACCGG A  GGGG
                                CCCCAC
                                GAAATTTTCCCAGAGCAGACCGGAACCAACAG

=====
(1477) DQ837381
=====
PK1:  -13.595000(kcal/mol): PK_start=2089 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2117
(fs_start=2109)
                                A
GAAAGGAAGGACACCAAATGAAGGATTGT

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          GACA    GAAAGTC
                TTTTTAGGG
    GCTAAT
PK2:  -20.50000(kcal/mol): PK_start=2094 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2130
(fs_start=2109)
                C
    GAAGGACACCAAATGAAGGATTGTACTGAAAGA
                GATTTTTT  A  ATCGGA
                TGGCCTTC
    GGAAAATC
PK3:  -27.27500(kcal/mol): PK_start=2117 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2151
(fs_start=2109)
                AAA
    TACTGAAAGACAGGCTAATTTTTTAGGGA
                CCCT    TCCGGTCT
                AGGCCAGGGA
    ACAAGGGG
PK4:  -25.74500(kcal/mol): PK_start=2124 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=2161
(fs_start=2109)
                CCCACA
    AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT
                GGACCGGAG    GGGA
                TCCTCA
    GAACTT
PK4B:  -30.39500(kcal/mol): PK_start=2124 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2187
(fs_start=2109)
                TCCCACAA
    AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                GGACCGGA    GGGG
                CCCAC
    GAACTTTCCTCAGAGCAGACTAGAGCCAACAG

=====
(1478) DQ845386
=====
PK1:  -11.42000(kcal/mol): PK_start=1555 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=1581
(fs_start=1575)
                CACA
    GAAAGGAGGGACATCAAATGAAAGACTG
                GAC    AGAGAG
                TTTTTTAG
    GCTAA
PK2:  -17.18000(kcal/mol): PK_start=1562 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=1596
(fs_start=1575)
                C
    GGGACATCAAATGAAAGACTGCACAGAGAGA

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TTTTTT A ATCGGA
                TGGCCTTC
AGGGAAAATC

PK3:  -23.815000(kcal/mol): PK_start=1584 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1617
(fs_start=1575)
                AAA
ACAGAGAGACAGGCTAATTTTTTTAGGGA
                CCT   TCCGGTCT
                AGGCCAGGGA
AACAAAGGG

PK4:  -23.415000(kcal/mol): PK_start=1590 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1627
(fs_start=1575)
                CCAACA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTT
                GGACCGGAG   GGAA
                TCTTCA
GAATTT

=====
(1479) DQ845387
=====
PK1:  -11.460000(kcal/mol): PK_start=1546 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=1572
(fs_start=1566)
                CACG
GAAAGGAGGGACATCAAATGAAAGACTG
                GAC   AGAAAG
                TTTTTTAG
GCTAA

PK2:  -17.320000(kcal/mol): PK_start=1553 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=1587
(fs_start=1566)
                C
GGGACATCAAATGAAAGACTGCACGGAAAGA
                TTTTTT A ATCGGA
                TGGCCTTC
AGGAAAAGTC

PK3:  -24.015000(kcal/mol): PK_start=1574 sp=0 s1=3 s2=8 l1=4 l2=9 L3=0 PK_end=1608
(fs_start=1566)
                AAAG
CACGAAAGACAGGCTAATTTTTTTAGGA
                CCT   TCCGGTCT
                AGGCCAGGGA
AGCAAGGGG

PK4:  -26.235000(kcal/mol): PK_start=1581 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1618
(fs_start=1566)
                CAGC
AGACAGGCTAATTTTTTTAGGAAAAGTCTGGCCTTC

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                GGACCGGAGG    GGAA
                    TCTTCA
    GAACTT
PK4B:  -30.395000(kcal/mol): PK_start=1581 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1644
(fs_start=1566)
                    TCCAGCAA
AGACAGGCTAATTTTTTAGGAAAAGTCTGGCCT
                GGACCGGA    GGGG
                    CCCCAC
    GAACTTTCTTCAGAGCCAACCAGGACCAACAG

```

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=====
(1480) DQ845388
=====

```

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PK1:  -11.420000(kcal/mol): PK_start=1542 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=1568
(fs_start=1562)

```

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                    CACA
GAAGGGAGGGACATCAAATGAAAGACTG
                GAC    AGAGAG
                    TTTTTTAG
    GCTAA

```

```

PK2:  -17.180000(kcal/mol): PK_start=1549 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=1583
(fs_start=1562)

```

```

                    C
GGGACATCAAATGAAAGACTGCACAGAGAGA
                TTTTTT  A  ATCGGA
                    TGGCCTCC
    AGGGAAAATC

```

```

PK3:  -25.770000(kcal/mol): PK_start=1570 sp=0 s1=4 s2=7 l1=3 l2=7 L3=0 PK_end=1601
(fs_start=1562)

```

```

                    AAA
CACAGAGAGACAGGCTAATTTTTTAGGGA
                CCCT    CCGGTCT
                    GGCCAGGGA
    AGCGGGA

```

```

PK4:  -24.520000(kcal/mol): PK_start=1577 sp=7 s1=7 s2=4 l1=7 l2=5 L3=0 PK_end=1610
(fs_start=1562)

```

```

                    TCCCAGC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCC
                GGACCGG    AGGG
                    TCCTTC
    GAATT

```

```

=====
(1481) DQ853436
=====

```

PK1: -14.235000(kcal/mol): PK_start=1531 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1559
(fs_start=1551)

A
GAAGGGAAGGACACCAAATGAAAGATTGT
AACAA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -15.820000(kcal/mol): PK_start=1536 sp=0 s1=8 s2=4 l1=3 l2=8 L3=1 PK_end=1570
(fs_start=1551)

CAA
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCG
TGGCCT
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1559 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1593
(fs_start=1551)

AAA
TACTGAGAGACAAGCTAATTTTTTAGGGA
CCCT TCCGGTCT
ACGAGGGA
AGGCCAGGGA

PK4: -29.360000(kcal/mol): PK_start=1566 sp=7 s1=10 s2=4 l1=4 l2=7 L3=0 PK_end=1604
(fs_start=1551)

CCAC
AGACAAGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAG
CTTCAG
GAATTTTT

=====
(1482) DQ853438
=====

PK1: -14.235000(kcal/mol): PK_start=1531 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1559
(fs_start=1551)

A
GAAGGGAAGGACACCAAATGAAAGATTGT
AACAA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -15.820000(kcal/mol): PK_start=1536 sp=0 s1=8 s2=4 l1=3 l2=8 L3=1 PK_end=1570
(fs_start=1551)

CAA
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCG
TGGCCT
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1559 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=1593
(fs_start=1551)

AAA
TACTGAGAGACAAGCTAATTTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1566 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1603
(fs_start=1551)

CCAC
AGACAAGCTAATTTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(1483) DQ853439
=====

PK1: -13.555000(kcal/mol): PK_start=1280 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1308
(fs_start=1300)

A
GAAGGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1285 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1321
(fs_start=1300)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1308 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=1342
(fs_start=1300)

AAA
TACTGAGAGACAGGCTAATTTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1315 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1352
(fs_start=1300)

CCAC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(1484) DQ853440
=====

PK1: -14.235000(kcal/mol): PK_start=1272 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1300
(fs_start=1292)

A
GAAGGGAAGGACACCAAATGAAAGATTGT
ACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -15.820000(kcal/mol): PK_start=1277 sp=0 s1=8 s2=4 l1=3 l2=8 L3=1 PK_end=1311
(fs_start=1292)

CAA
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCG
TGGCCT
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1300 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1334
(fs_start=1292)

AAA
TACTGAGAGACAAGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1307 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1344
(fs_start=1292)

CCAC
AGACAAGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(1485) DQ853441
=====

PK1: -13.555000(kcal/mol): PK_start=1281 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1309
(fs_start=1301)

A
GAAGGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1286 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1322
(fs_start=1301)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA

```

                                TGGCCTTC
                GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1309 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1343
(fs_start=1301)
                                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                CCCT      TCCGGTCT
                                AGGCCAGGGA
                ACAAGGGA

PK4:  -26.715000(kcal/mol): PK_start=1316 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1353
(fs_start=1301)
                                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                GGACCGGAAG      GGAA
                                TCTTCA
                GAATTT

=====
(1486) DQ853442
=====
PK1:  -14.235000(kcal/mol): PK_start=1281 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1309
(fs_start=1301)
                                A
GAAGGGAAGGACACCAGATGAAAGATTGT
                AACA      GAGAGTC
                                TTTTTAGGG
                GCTAAT

PK2:  -15.820000(kcal/mol): PK_start=1286 sp=0 s1=8 s2=4 l1=3 l2=8 L3=1 PK_end=1320
(fs_start=1301)
                                CAA
GAAGGACACCAGATGAAAGATTGTACTGAGAGA
                GATTTTTT A ATCG
                                TGGCCT
                GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1309 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1343
(fs_start=1301)
                                AAA
TACTGAGAGACAAGCTAATTTTTTAGGGA
                CCCT      TCCGGTCT
                                AGGCCAGGGA
                ACAAGGGA

PK4:  -26.715000(kcal/mol): PK_start=1316 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1353
(fs_start=1301)
                                CCAC
AGACAAGCTAATTTTTTAGGGAAAATCTGGCCTTC
                GGACCGGAAG      GGAA

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                                TCTTCA
                                GAATTT
=====
(1487) DQ853443
=====
PK1:  -14.235000(kcal/mol): PK_start=1280 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1308
(fs_start=1300)
                                A
GAAGGGAAGGACACCAAATGAAAGATTGT
                                AACA    GAGAGTC
                                TTTTtaggg
                                GCTAAT

PK2:  -15.820000(kcal/mol): PK_start=1285 sp=0 s1=8 s2=4 l1=3 l2=8 L3=1 PK_end=1319
(fs_start=1300)
                                CAA
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                                GATTTTTT  A  ATCG
                                TGGCCT
                                GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1308 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1342
(fs_start=1300)
                                AAA
TACTGAGAGACAAGCTAATTTTTTtaggga
                                CCCT    TCCGGTCT
                                AGGCCAGGGA
                                ACAAGGGA

PK4:  -26.715000(kcal/mol): PK_start=1315 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1352
(fs_start=1300)
                                CCAC
AGACAAGCTAATTTTTTtaggaaaatctggccttc
                                GGACCGGAAG    GGAA
                                TCTTCA
                                GAATTT

=====
(1488) DQ853444
=====
PK1:  -14.235000(kcal/mol): PK_start=1281 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1309
(fs_start=1301)
                                A
GAAGGGAAGGACACCAAATGAAAGATTGT
                                AACA    GAGAGTC
                                TTTTtaggg
                                GCTAAT

PK2:  -15.820000(kcal/mol): PK_start=1286 sp=0 s1=8 s2=4 l1=3 l2=8 L3=1 PK_end=1320
(fs_start=1301)
                                CAA
GAAGGACACCAAATGAAAGATTGTACTGAGAGA

```

GATTTTTT A ATCG
TGGCCT
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1309 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1343
(fs_start=1301)

AAA
TACTGAGAGACAAGCTAATTTTTTAGGGA

CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1316 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1353
(fs_start=1301)

CCAC
AGACAAGCTAATTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(1489) DQ853445
=====

PK1: -14.235000(kcal/mol): PK_start=1272 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1300
(fs_start=1292)

A
GAAGGGAAGGACATCAAATGAAAGATTGT

AACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -15.820000(kcal/mol): PK_start=1277 sp=0 s1=8 s2=4 l1=3 l2=8 L3=1 PK_end=1311
(fs_start=1292)

CAA
GAAGGACATCAAATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCG
TGGCCT
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1300 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1334
(fs_start=1292)

AAA
TACTGAGAGACAAGCTAATTTTTTAGGGA

CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -29.020000(kcal/mol): PK_start=1307 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1344
(fs_start=1292)

CCAC
AGACAAGCTAATTTTTTAGGGAAAATCTGGCCTTC


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                GGACCGGAAG    GGAA
                                CCTTCA
          GAATTT

=====
(1490) DQ853446
=====
PK1:  -13.065000(kcal/mol): PK_start=1275 sp=0 s1=3 s2=8 l1=5 l2=16 L3=0 PK_end=1317
(fs_start=1310)
                CCAAA
GCTGTTGGAAATGTGGAAGGGAAGGACA

                TGT    TAGAAAGT

                ATTTTTTAGG
          ACCGAGAGACAGGCTA

PK2:  -17.180000(kcal/mol): PK_start=1297 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=1331
(fs_start=1310)
                C
AGGACACCAAATGAAAGATTGTACCGAGAGA

                TTTTTT  A  ATCGGA

                TGGCCTTC

          AGGGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1318 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1352
(fs_start=1310)
                AAA
TACCGAGAGACAGGCTAATTTTTTAGGGA

                CCCT    TCCGGTCT

                AGGCCAGGGA

          ACAAGGGA

PK4:  -26.715000(kcal/mol): PK_start=1325 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1362
(fs_start=1310)
                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

                GGACCGGAAG    GGAA

                                TCTTCA

          GAATTT

=====
(1491) DQ853447
=====
PK1:  -14.235000(kcal/mol): PK_start=1290 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1318
(fs_start=1310)
                A
GAAGGGAAGGACACCAAATGAAAGATTGT

                AACA    GAGAGTC

                TTTTTTAGGG

          GCTAAT

```

PK2: -15.82000(kcal/mol): PK_start=1295 sp=0 s1=8 s2=4 l1=3 l2=8 L3=1 PK_end=1329
(fs_start=1310)

CAA
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCG
TGGCCT
GGAAAATC

PK3: -27.27500(kcal/mol): PK_start=1318 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1352
(fs_start=1310)

AAA
TACTGAGAGACAAGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.71500(kcal/mol): PK_start=1325 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1362
(fs_start=1310)

CCAC
AGACAAGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(1492) DQ853448
=====

PK1: -14.23500(kcal/mol): PK_start=1272 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1300
(fs_start=1292)

A
GAAGGGAAGGACACCAAATGAAAGATTGT
AACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -15.82000(kcal/mol): PK_start=1277 sp=0 s1=8 s2=4 l1=3 l2=8 L3=1 PK_end=1311
(fs_start=1292)

CAA
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCG
TGGCCT
GGAAAATC

PK3: -27.27500(kcal/mol): PK_start=1300 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1334
(fs_start=1292)

AAA
TACTGAGAGACAAGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1307 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1344
(fs_start=1292)

CCAC
AGACAAGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(1493) DQ853449
=====

PK1: -14.235000(kcal/mol): PK_start=1531 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1559
(fs_start=1551)

A
GAAGGGAAGGACACCAAATGAAAGATTGT
AACAA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -15.820000(kcal/mol): PK_start=1536 sp=0 s1=8 s2=4 l1=3 l2=8 L3=1 PK_end=1570
(fs_start=1551)

CAA
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCG
TGGCCT
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1559 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1593
(fs_start=1551)

AAA
TACTGAGAGACAAGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1566 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1603
(fs_start=1551)

CCAC
AGACAAGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(1494) DQ853450
=====

PK1: -14.235000(kcal/mol): PK_start=1531 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1559
(fs_start=1551)

A
AAAGGGAAGGACACCAAATGAAAGATTGT
AACAA GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -15.820000(kcal/mol): PK_start=1536 sp=0 s1=8 s2=4 l1=3 l2=8 L3=1 PK_end=1570
(fs_start=1551)

CAA

GAAGGACACCAAATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCG

TGGCCT

GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1559 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1593
(fs_start=1551)

AAA

TACTGAGAGACAAGCTAATTTTTTAGGGA

CCCT TCCGGTCT

AGGCCAGGGA

ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1566 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1603
(fs_start=1551)

CCAC

AGACAAGCTAATTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAAG GGAA

TCTTCA

GAATTT

=====
(1495) DQ853451
=====

PK1: -13.205000(kcal/mol): PK_start=1523 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1550
(fs_start=1542)

A

AAGGGAAGGACACCAAATGAAAGAGTGT

ACA GAGAGTC

TTTTTAGGG

AGCTAAT

PK2: -15.820000(kcal/mol): PK_start=1527 sp=0 s1=8 s2=4 l1=3 l2=8 L3=1 PK_end=1561
(fs_start=1542)

CAA

GAAGGACACCAAATGAAAGAGTGTACTGAGAGA

GATTTTTT A ATCG

TGGCCT

GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1550 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1584
(fs_start=1542)

AAA

TACTGAGAGACAAGCTAATTTTTTAGGGA

CCCT TCCGGTCT

AGGCCAGGGA

ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1557 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1594
(fs_start=1542)

CCAC

AGACAAGCTAATTTTTTTAGGGAAAATCTGGCCTTC

GGACCGAAG GGAA

TCTTCA

GAATTT

=====
(1496) DQ853452
=====

PK1: -14.235000(kcal/mol): PK_start=1522 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1550
(fs_start=1542)

A

GAAGGGAAGGACACCAAATGAAAGATTGT

AACA GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -15.820000(kcal/mol): PK_start=1527 sp=0 s1=8 s2=4 l1=3 l2=8 L3=1 PK_end=1561
(fs_start=1542)

CAA

GAAGGACACCAAATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCG

TGGCCC

GGAAAATC

PK3: -24.730000(kcal/mol): PK_start=1550 sp=0 s1=4 s2=7 l1=3 l2=9 L3=1 PK_end=1583
(fs_start=1542)

AAA

TACTGAGAGACAAGCTAATTTTTTTAGGGA

CCCT C CCGGTCT

GGCCAGGGA

ACAAGGGAA

PK4: -23.190000(kcal/mol): PK_start=1557 sp=7 s1=7 s2=6 l1=8 l2=4 L3=0 PK_end=1594
(fs_start=1542)

CTCCCACA

AGACAAGCTAATTTTTTTAGGGAAAATCTGGCC

GGACCGG AAGGGA

TTTCTTCA

GAAT

=====
(1497) DQ853453
=====

PK1: -13.635000(kcal/mol): PK_start=1522 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1550
(fs_start=1542)

A

GAAGGGAAGGACACCAAATGAAAGATTGT

```

AACG      GAGAGTC
          TTTTtaggg
GCTAAT

PK2:  -14.08000(kcal/mol): PK_start=1527 sp=0 s1=8 s2=4 l1=3 l2=8 L3=1 PK_end=1561
(fs_start=1542)
          CAA
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
          GATTTTTT A  ATCG
          TGGCCT
          GGAAAATC

PK3:  -27.27500(kcal/mol): PK_start=1550 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1584
(fs_start=1542)
          AAA
TACTGAGAGGCAAGCTAATTTTTAGGGA
          CCCT      TCCGGTCT
          AGGCCAGGGA
          ACAAGGGA

PK4:  -26.71500(kcal/mol): PK_start=1557 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1594
(fs_start=1542)
          CCAC
AGGCAAGCTAATTTTTAGGGAAAATCTGGCCTTC
          GGACCGGAAG  GGAA
          TCTTCG
          GAATTT

=====
(1498) DQ853454
=====
PK1:  -13.63500(kcal/mol): PK_start=1522 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1550
(fs_start=1542)
          A
GAAGGGAAGGACACCAAATGAAAGATTGT
          AACG      GAGAGTC
          TTTTtaggg
GCTAAT

PK2:  -14.08000(kcal/mol): PK_start=1527 sp=0 s1=8 s2=4 l1=3 l2=8 L3=1 PK_end=1561
(fs_start=1542)
          CAA
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
          GATTTTTT A  ATCG
          TGGCCT
          GGAAAATC

PK3:  -27.27500(kcal/mol): PK_start=1550 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1584
(fs_start=1542)
          AAA
TACTGAGAGGCAAGCTAATTTTTAGGGA

```

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          CCCT   TCCGGTCT
                AGGCCAGGGA
ACAAGGGA

PK4:  -26.715000(kcal/mol): PK_start=1557 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1594
(fs_start=1542)
                CCAC
AGGCAAGCTAATTTTTTAGGGAAAATCTGGCCTTC
                GGACCGGAAG   GGAA
                                TCTTCA
                GAATTT

PK4B:  -28.775000(kcal/mol): PK_start=1557 sp=7 s1=8 s2=4 l1=8 l2=41 L3=0 PK_end=1629
(fs_start=1542)
                TCCCACAA
AGGCAAGCTAATTTTTTAGGGAAAATCTGGCCT
                GGACCGGA   AGGG
                                TCCCAC
                GAATTTTCTTCAGAGCAGACCAGAGCCAACAGCCCCACCAG

=====
(1499) DQ853455
=====
PK1:  -13.555000(kcal/mol): PK_start=1522 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1550
(fs_start=1542)
                A
GAAGGGAAGGACACCAGATGAAAGATTGT
                GACA   GAGAGTC
                                TTTTTAGGG
                GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1527 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1563
(fs_start=1542)
                C
GAAGGACACCAGATGAAAGATTGTACTGAGAGA
                GATTTTTT   A   ATCGGA
                                TGGCCTTC
                GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1550 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1584
(fs_start=1542)
                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTCT
                                AGGCCAGGGA
                ACAAGGGG

PK4:  -26.235000(kcal/mol): PK_start=1557 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1594
(fs_start=1542)
                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

```

GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1557 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1620
(fs_start=1542)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT

GGACCGGA GGGG
CCCCAC
GAATTTTCTTCAGAGCAGACCAGAACCAACAG

=====
(1500) DQ853456
=====

PK1: -13.555000(kcal/mol): PK_start=1522 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1550
(fs_start=1542)

A
GAAGGGAAGGACACCAGATGAAAGATTGT

GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1527 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1563
(fs_start=1542)

C
GAAGGACACCAGATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1550 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1584
(fs_start=1542)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=1557 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1594
(fs_start=1542)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1557 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1620
(fs_start=1542)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT

GGACCGGA GGG
CCCCAC
GAATTTTCTTCAGAGCAGACCAGAACCAACAG

=====
(1501) DQ853457
=====

PK1: -13.555000(kcal/mol): PK_start=1522 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1550
(fs_start=1542)

A
GAAGGGAAGGACACCAGATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1527 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1563
(fs_start=1542)

C
GAAGGACACCAGATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1550 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1584
(fs_start=1542)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=1557 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1594
(fs_start=1542)

CCAC
AGACAGGCTAATTTTTTAGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1557 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1620
(fs_start=1542)

TCCCACAA
AGACAGGCTAATTTTTTAGGAAAATCTGGCCT
GGACCGGA GGG
CCCCAC
GAATTTTCTTCAGAGCAGACCAGAACCAACAG

=====
(1502) DQ853458
=====

PK1: -13.555000(kcal/mol): PK_start=1522 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1550
(fs_start=1542)

A
GAAGGGAAGGACACCAGACGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1527 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1563
(fs_start=1542)

C
GAAGGACACCAGACGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGCCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1550 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1584
(fs_start=1542)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=1557 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1594
(fs_start=1542)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1557 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1620
(fs_start=1542)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCTTCAGAGCAGACCAGAACCAACAG

=====
(1503) DQ853459
=====

PK1: -13.555000(kcal/mol): PK_start=1522 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1550
(fs_start=1542)

A
GAAGGGAAGGACACCAGATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1527 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1563 (fs_start=1542)

C
GAAGGACACCAGATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1550 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1584 (fs_start=1542)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=1557 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1594 (fs_start=1542)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1557 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1620 (fs_start=1542)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAA
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(1504) DQ853460
=====

PK1: -13.555000(kcal/mol): PK_start=1522 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1550 (fs_start=1542)

A
GAAGGGAAGGACACCAGATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1527 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1563 (fs_start=1542)

C
GAAGGACACCAGATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1550 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1584
(fs_start=1542)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=1557 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1594
(fs_start=1542)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1557 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1620
(fs_start=1542)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAA
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(1505) DQ853461
=====

PK1: -13.555000(kcal/mol): PK_start=1508 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1536
(fs_start=1528)

A
GAAGGGAAGGACACCAGATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGA
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1513 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1549
(fs_start=1528)

C
GAAGGACACCAGATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GAAAAATC

PK3: -24.015000(kcal/mol): PK_start=1536 sp=0 s1=3 s2=8 l1=4 l2=9 L3=0 PK_end=1570
(fs_start=1528)

AAAA
TACTGAGAGACAGGCTAATTTTTTAGGA
CCT TCCGGTCT
AGGCCAGGGA
CACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=1543 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1580
(fs_start=1528)

```

                                CCAC
AGACAGGCTAATTTTTTTAGGAAAAATCTGGCCTTC
                                GGACCGGAGG    GGAA
                                TCTTCA
                                GAATTT
```

PK4B: -30.395000(kcal/mol): PK_start=1543 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1606
(fs_start=1528)

```

                                TCCCACAA
AGACAGGCTAATTTTTTTAGGAAAAATCTGGCCT
                                GGACCGGA    GGGG
                                CCCCAA
                                GAATTTTCTTCAGAGCAGACCAGAGCCAACAG
```

=====
(1506) DQ853462
=====

PK1: -13.555000(kcal/mol): PK_start=1522 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1550
(fs_start=1542)

```

                                A
GAAGGGAAGGACACCAGATGAAAGATTGT
                                GACA    GAGAGTC
                                TTTTtaggg
                                GCTAAT
```

PK2: -20.460000(kcal/mol): PK_start=1527 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1563
(fs_start=1542)

```

                                C
GAAGGACACCAGATGAAAGATTGTACTGAGAGA
                                GATTTTTT  A  ATCGGA
                                TGGCCTTC
                                GGAAAATC
```

PK3: -27.275000(kcal/mol): PK_start=1550 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1584
(fs_start=1542)

```

                                AAA
TACTGAGAGACAGGCTAATTTTTTTAGGGA
                                CCCT    TCCGGTCT
                                AGGCCAGGGA
                                ACAAGGGG
```

PK4: -26.235000(kcal/mol): PK_start=1557 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1594
(fs_start=1542)

```

                                CCAC
AGACAGGCTAATTTTTTTAGGAAAAATCTGGCCTTC
                                GGACCGGAGG    GGAA
                                TCTTCA
                                GAATTT
```

PK4B: -30.395000(kcal/mol): PK_start=1557 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1620
(fs_start=1542)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCTTCAGAGCAGACCAGAACCAACAG

=====
(1507) DQ853463
=====

PK1: -13.555000(kcal/mol): PK_start=1523 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1551
(fs_start=1543)

A
GAAGGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1528 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1564
(fs_start=1543)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1551 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1585
(fs_start=1543)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=1558 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1595
(fs_start=1543)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1558 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1621
(fs_start=1543)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCGA
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(1508) DQ853464
=====

PK1: -13.555000(kcal/mol): PK_start=1522 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1550
(fs_start=1542)

A
GAAGGGAAGGACACCAGATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1527 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1563
(fs_start=1542)

C
GAAGGACACCAGATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1550 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=1584
(fs_start=1542)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=1557 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1594
(fs_start=1542)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1557 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=1620
(fs_start=1542)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCTTCAGAGCAGACCAGAACCAACAG

=====
(1509) DQ854714
=====

PK1: -13.555000(kcal/mol): PK_start=2066 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=2094
(fs_start=2086)

A
GAAAGGAGGGACACCAAATGAAAGATTGT
GACA GAGAGTC

TTTTTAGGG
GCTAAT
PK2: -20.460000(kcal/mol): PK_start=2071 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2107
(fs_start=2086)

C
GAGGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=2094 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2128
(fs_start=2086)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAGGGGA

PK4: -29.045000(kcal/mol): PK_start=2101 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2138
(fs_start=2086)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGGG
TCCTCA
GAATTT

PK4B: -31.325000(kcal/mol): PK_start=2101 sp=7 s1=9 s2=4 l1=6 l2=32 L3=0 PK_end=2164
(fs_start=2086)

CCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT
GGACCGGAA GGGG
CCCCAC
GAATTTTCCTCAGAACAGACTAGAGCCAACAG

=====
(1510) DQ854715
=====

PK1: -13.555000(kcal/mol): PK_start=2066 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2094
(fs_start=2086)

A
GAAAGGAGGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2071 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2107
(fs_start=2086)

C
GAGGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA


```

                                TGGCCTTC
          GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=2094 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2128
(fs_start=2086)
                                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTCT
                                AGGCCAGGGA
          ACAGGGGA
PK4:  -29.045000(kcal/mol): PK_start=2101 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2138
(fs_start=2086)
                                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAAG   GGGA
                                TCCTCA
          GAATTT
PK4B:  -31.325000(kcal/mol): PK_start=2101 sp=7 s1=9 s2=4 l1=6 l2=32 L3=0 PK_end=2164
(fs_start=2086)
                                CCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT
                                GGACCGGAA   GGGG
                                CCCCAC
          GAATTTTCCTCAGAACAGACTAGAGCCACCAG

=====
(1511) DQ854716
=====
PK1:  -13.555000(kcal/mol): PK_start=2066 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2094
(fs_start=2086)
                                A
GAAGGGAGGGACACCAAATGAAAGATTGT
                                GACA   GAGAGTC
                                TTTTTAGGG
          GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=2071 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2107
(fs_start=2086)
                                C
GAGGGACACCAAATGAAAGATTGTACTGAGAGA
                                GATTTTTT   A   ATCGGA
                                TGGCCTTC
          GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=2094 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2128
(fs_start=2086)
                                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTCT

```

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                                AGGCCAGGGA
          ACAGGGGA
PK4:  -29.045000(kcal/mol): PK_start=2101 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2138
(fs_start=2086)
                                CCAC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAAG    GGGG
                                TCCTCA
          GAATTT

PK4B:  -31.325000(kcal/mol): PK_start=2101 sp=7 s1=9 s2=4 l1=6 l2=32 L3=0 PK_end=2164
(fs_start=2086)
                                CCCACA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTT
                                GGACCGGAA    GGGG
                                CCCCAC
          GAATTTTCCTCAGAACAGACTAGAGCCAACAG

=====
(1512) DQ859178
=====
PK1:  -15.100000(kcal/mol): PK_start=2074 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2102
(fs_start=2094)
                                CA
GGAAGGAAGGACATCAAATGAAAGACTG
                                GAC    AGAGAGTC
                                TTTTTTAGGG
          GCTAA

PK2:  -21.940000(kcal/mol): PK_start=2079 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2116
(fs_start=2094)
                                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                                GATTTTTT    AATCGGA
                                TTGGCCTTC
          GGAAAAT

PK3:  -18.565000(kcal/mol): PK_start=2103 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2136
(fs_start=2094)
                                AAA
ACTGAGAGACAGGCTAATTTTTTTAGGGA
                                CCT    TCCGGTTT
                                AGGCCGGGAA
          AACAAGGGA

PK4:  -21.195000(kcal/mol): PK_start=2109 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2146
(fs_start=2094)
                                TCCAACA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
                                GGGCCGGA    AGGGA

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                                TTCCTCA
                                AAATT
=====
(1513) DQ859179
=====
PK1:  -12.340000(kcal/mol): PK_start=2077 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2105
(fs_start=2097)
                                CA
GGCAAGAAGGACATCAAATGAAAGACTG
                                GAC   AGAGGGTC
                                TTTTTTAGGC
                                GCTAA

PK2:  -19.180000(kcal/mol): PK_start=2082 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2119
(fs_start=2097)
                                C
GAAGGACATCAAATGAAAGACTGCACTGGGAGA
                                GATTTTTT   AATCGGA
                                TTGGCCTTC
                                GCAAAAT

PK3:  -14.220000(kcal/mol): PK_start=2104 sp=0 s1=4 s2=6 l1=1 l2=20 L3=1 PK_end=2144
(fs_start=2097)
                                A
GCACTGGGAGACAGGCTAATTTTTTAGGC
                                TCCG  G  TTTAAA
                                GAATTTTC
                                TCCAACAAGGGAAGGCCAGG

PK4:  -22.915000(kcal/mol): PK_start=2112 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2149
(fs_start=2097)
                                TCCAACA
AGACAGGCTAATTTTTTAGGC AAAATTTGGCCT
                                GGACCGGA   AGGGA
                                TTCCTCA
                                GAATT

=====
(1514) DQ886031
=====
PK1:  -10.975000(kcal/mol): PK_start=1299 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=1326
(fs_start=1319)
                                AA
GAAAGGAAGGACACCAAATGAAAGATTGT
                                GACA   GAGAGT
                                TTTTTTAGG
                                GCTAAT

PK2:  -18.180000(kcal/mol): PK_start=1305 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1340
(fs_start=1319)
                                C
AAGGACACCAAATGAAAGATTGTAATGAGAGA

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          ATTTTTT A ATCGGA
                    TGGCCTTC
GGGAGGATC
PK3:  -31.275000(kcal/mol): PK_start=1328 sp=0 s1=6 s2=7 l1=1 l2=6 L3=0 PK_end=1360
(fs_start=1319)
                    T
AATGAGAGACAGGCTAATTTTTTTAGGGAGGA
                    CCTCCT   TCCGGTC
                                AGGCCAGGG
                    AAGGGG
PK4:  -26.235000(kcal/mol): PK_start=1334 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1371
(fs_start=1319)
                                CTCC
AGACAGGCTAATTTTTTTAGGGAGGATCTGGCCTTC
                    GGACCGGAGG   GGAA
                                TCTTCA
                    GAACTT
PK4B:  -30.395000(kcal/mol): PK_start=1334 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1397
(fs_start=1319)
                                TCCTCCAA
AGACAGGCTAATTTTTTTAGGGAGGATCTGGCCT
                    GGACCGGA   GGGG
                                CCCCAC
                    GAACTTTCTTCAGAGCAGACCAGAGCCAACAG
=====
(1515) DQ886032
=====
PK1:  -13.555000(kcal/mol): PK_start=1289 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1317
(fs_start=1309)
                    A
GAAAGGAAGGACACCAAATGAAAGATTGT
                    GACA   GAGAGTC
                                TTTTTAGGG
                    GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1294 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1330
(fs_start=1309)
                    C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                    GATTTTTT A ATCGGA
                                TGGCCTTC
                    GGAAAATC
PK3:  -27.115000(kcal/mol): PK_start=1317 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1351
(fs_start=1309)
                    AAA
TACTGAGAGACAGGCTAATTTTTTTAGGGA

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          CCCT   TCCGGTCT
                GGGCCAGGAA
          GCAGGGGG

PK4:  -26.855000(kcal/mol): PK_start=1324 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1361
(fs_start=1309)
                CCGC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                GGACCGGGG   GGGA
                TCCTCA
          AAATTT

PK4B:  -30.015000(kcal/mol): PK_start=1324 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1387
(fs_start=1309)
                TCCCGCAG
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                GGACCGGG   GGGG
                CCCAC
          AAATTTTCCTCAGGGCAGACTAGAGCCAACAG

=====
(1516) DQ886033
=====

PK1:  -13.300000(kcal/mol): PK_start=1297 sp=0 s1=3 s2=9 l1=1 l2=5 L3=0 PK_end=1326
(fs_start=1317)
                C
GAAAGGAAGGACACCAAATGAAAGATTG
                GAC   AGAGAGTCT
                TTTTTTAGGGA
          GCTAA

PK2:  -23.800000(kcal/mol): PK_start=1300 sp=0 s1=10 s2=6 l1=1 l2=6 L3=1 PK_end=1338
(fs_start=1317)
                C
AGGAAGGACACCAAATGAAAGATTGCTCTGAGAGA
                GGGATTTTTT   A   ATCGGA
                TGGCCTTC
          AAGATC

PK3:  -26.110000(kcal/mol): PK_start=1325 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1359
(fs_start=1317)
                A
CTCTGAGAGACAGGCTAATTTTTTAGGGAAG
                CCCTTC   CGGTCT
                GCCAGGGA
          ACAAGGGGAG

PK4:  -26.235000(kcal/mol): PK_start=1332 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1369
(fs_start=1317)
                CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC

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                GGACCGGAGG    GGAA
                                TCTTCA
          GAATTT
PK4B:  -30.395000(kcal/mol): PK_start=1332 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1395
(fs_start=1317)
                                TCCCACAA
AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCT
                GGACCGGA    GGGG
                                CCCCAC
          GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

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=====
(1517) DQ886035
=====

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PK1:  -13.555000(kcal/mol): PK_start=1289 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1317
(fs_start=1309)

```

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                A
GAAAGGAGGGACACCAAATGAAAGATTGT
                GACA    GAGAGTC
                                TTTTTAGGG
          GCTAAT

```

```

PK2:  -20.460000(kcal/mol): PK_start=1294 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1330
(fs_start=1309)

```

```

                C
GAGGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT    A    ATCGGA
                                TGGCCTTC
          GGAAGATC

```

```

PK3:  -26.110000(kcal/mol): PK_start=1317 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1351
(fs_start=1309)

```

```

                A
TACTGAGAGACAGGCTAATTTTTTTAGGGAAG
                CCCTTC    CGGTCT
                                GCCAGGGA
          ACAAGGGAAG

```

```

PK4:  -26.715000(kcal/mol): PK_start=1324 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1361
(fs_start=1309)

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                                CCAC
AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCTTC
                GGACCGGAAG    GGAA
                                TCTTCA
          GAATTT

```

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=====
(1518) DQ886036
=====

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PK1: -15.100000(kcal/mol): PK_start=1286 sp=0 s1=3 s2=8 l1=2 l2=5 l3=0 PK_end=1314
(fs_start=1306)

CA
GAAAGGAAGGACACCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -20.460000(kcal/mol): PK_start=1291 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1327
(fs_start=1306)

C
GAAGGACACCAAATGAAAGACTGCACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1314 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1348
(fs_start=1306)

A
CACTGAGAGACAGGCTAATTTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
CCAAGGGAAG

PK4: -26.445000(kcal/mol): PK_start=1321 sp=7 s1=8 s2=5 l1=7 l2=5 l3=0 PK_end=1358
(fs_start=1306)

TCCTCCA
AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(1519) DQ886037
=====

PK1: -13.555000(kcal/mol): PK_start=1289 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1317
(fs_start=1309)

A
GAAGGGAAGGACACCAGATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1294 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1330
(fs_start=1309)

C
GAAGGACACCAGATGAAAGATTGTTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1317 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1351
(fs_start=1309)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1324 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1361
(fs_start=1309)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1324 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=1387
(fs_start=1309)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(1520) DQ886038
=====

PK1: -13.070000(kcal/mol): PK_start=1284 sp=0 s1=3 s2=8 l1=2 l2=5 l3=0 PK_end=1312
(fs_start=1304)

CA
GAAAGGAAGGACACCAAATGAAAGACTG
GGC AGGAAGTC
TTTTTTAGGG
GCTAA

PK2: -20.610000(kcal/mol): PK_start=1289 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1326
(fs_start=1304)

C
GAAGGACACCAAATGAAAGACTGCACTGAAGGA
GATTTTTT AATCGGG
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1313 sp=0 s1=3 s2=8 l1=3 l2=9 l3=0 PK_end=1346
(fs_start=1304)

AAA
ACTGAAGGACGGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AGCAAAGGA

PK4: -22.465000(kcal/mol): PK_start=1319 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1356
(fs_start=1304)

TCCAGCAA
GGACGGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA AGGA
TCCTCA
GAACTT

=====
(1521) DQ912822
=====

PK1: -10.640000(kcal/mol): PK_start=1408 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1446
(fs_start=1439)

A
TTGGAAATGTGGAAGGGAAGGACACCAA
GTT AGAAAGT
TTTTTTAGG
CACAGAAAGACAGGCTAA

PK2: -18.700000(kcal/mol): PK_start=1426 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1461
(fs_start=1439)

C
AGGACACCAAATGAAAGATTGCACAGAAAGA
TTTTTT AATCGGA
TTGGCCTTC
AGGGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1447 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1481
(fs_start=1439)

AAA
CACAGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGA

PK4: -25.490000(kcal/mol): PK_start=1454 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1491
(fs_start=1439)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(1522) DQ912823
=====

PK1: -10.640000(kcal/mol): PK_start=1426 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1464
(fs_start=1457)

A
TTGGAAATGTGGAAGGGAAGGACACCAA
GTT AGAAAGT

TTTTTTAGG
CACAGAAAGACAGGCTAA

PK2: -18.700000(kcal/mol): PK_start=1444 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1479
(fs_start=1457)

C
AGGACACCAAATGAAAGATTGCACAGAAAGA

TTTTTT AATCGGA
TTGGCCTTC
AGGGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1465 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1499
(fs_start=1457)

AAA
CACAGAAAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGA

PK4: -25.490000(kcal/mol): PK_start=1472 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1509
(fs_start=1457)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC

GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(1523) DQ926899
=====

PK1: -10.975000(kcal/mol): PK_start=1932 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=1959
(fs_start=1952)

AA
GGAAGGAAGGACACCAAATGAAAGATTGT

GACA GAGAGT
TTTTTAGG
GCTAAT

PK2: -19.660000(kcal/mol): PK_start=1938 sp=0 s1=7 s2=7 l1=1 l2=8 L3=0 PK_end=1974
(fs_start=1952)

C
AAGGACACCAAATGAAAGATTGTAATGAGAGA

ATTTTTT AATCGGA
TTGGCCTTC
GGGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1960 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1994
(fs_start=1952)

AAA
TAATGAGAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT

AGGCCAGGGA

ACAAGGGG

PK4: -27.000000(kcal/mol): PK_start=1967 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=2005
(fs_start=1952)

TCCCCACAA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCC

GGACCGG AGGGG

TCCCCAG

GAATTT

PK4B: -24.080000(kcal/mol): PK_start=1968 sp=8 s1=6 s2=4 l1=9 l2=33 L3=1 PK_end=2029
(fs_start=1952)

TCCCCACAA

GACAGGCTAATTTTTTAGGGAAAATTTGGCC

GACCGG A GGGG

CCCCAG

GGAATTTTCCCCAGAGCAGACCAGAACCAACAG

=====
(1524) DQ978981
=====

PK1: -13.065000(kcal/mol): PK_start=1471 sp=0 s1=3 s2=8 l1=5 l2=19 L3=0 PK_end=1516
(fs_start=1509)

CCAAA

GCTGTTGGAAATGTGGAAAGGAAGGACA

TGT TAGAAAGT

ATTTTTTAGG

AATAATGAGAGGCAGGCTA

PK2: -16.440000(kcal/mol): PK_start=1495 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1530
(fs_start=1509)

C

GACACCAAATGAAAGATTGTAATAATGAGAGG

ATTTTTT A ATCGGA

TGGCCTTC

GGGAAAATA

PK3: -21.005000(kcal/mol): PK_start=1518 sp=0 s1=3 s2=6 l1=5 l2=9 L3=0 PK_end=1549
(fs_start=1509)

AAATA

AATGAGAGGCAGGCTAATTTTTTAGGGA

CCT TCCGGT

AGGCCAGG

AACAAGGGG

PK4: -25.230000(kcal/mol): PK_start=1526 sp=9 s1=8 s2=4 l1=4 l2=8 L3=0 PK_end=1561
(fs_start=1509)

CAAC

GCAGGCTAATTTTTTAGGGAAAATATGGCCTTC

ACCGGAGG GGAA

CCTTCA

GGGAATTT

PK4B: -24.815000(kcal/mol): PK_start=1526 sp=9 s1=6 s2=4 l1=8 l2=34 L3=0 PK_end=1587
(fs_start=1509)

TCCAACAA

GCAGGCTAATTTTTTAGGGAAAATATGGCCT

ACCGGA GGGG

TCCCAC

GGGAATTTTCCTTCAGAGCAGACCAGAGCCAACAG

=====
(1525) DQ979023
=====

PK1: -15.140000(kcal/mol): PK_start=1347 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1375
(fs_start=1367)

CA

GAAGAGAAGGACACCAAATGAAAGACTG

GAC AGAAAGTC

TTTTTTAGGG

GCTAA

PK2: -21.980000(kcal/mol): PK_start=1352 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1389
(fs_start=1367)

C

GAAGGACACCAAATGAAAGACTGCACTGAAAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -22.025000(kcal/mol): PK_start=1375 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1409
(fs_start=1367)

AAA

CACTGAAAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT

AGGCCGGGAA

AGAAGGGG

PK4: -27.240000(kcal/mol): PK_start=1382 sp=7 s1=11 s2=4 l1=2 l2=7 L3=0 PK_end=1420
(fs_start=1367)

CA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTCC

GGCCCGGAGGG GAAG

CTTCAG

AAATTTT

=====
(1526) DQ979024
=====

PK1: -15.140000(kcal/mol): PK_start=1486 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1514
(fs_start=1506)

CA

GAAAAGAAGGACATCAAATGAAGGACTG

```

                GAC   AGAAAGTC
                TTTTTTAGGG
            GCTAA

PK2:  -21.980000(kcal/mol): PK_start=1491 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1528
(fs_start=1506)
                C
GAAGGACATCAAATGAAAGACTGCACTGAAAGA
                GATTTTTT   AATCGGA
                TTGGCCTTC
            GGAGAAT

PK3:  -21.415000(kcal/mol): PK_start=1514 sp=0 s1=5 s2=4 l1=5 l2=9 L3=0 PK_end=1545
(fs_start=1506)
                AATTT
CACTGAAAGACAGGCTAATTTTTTAGGGAG
                CCCTT   CCGG
                GGCCCG
            ACAAGGGGA

PK4:  -21.795000(kcal/mol): PK_start=1524 sp=10 s1=5 s2=4 l1=8 l2=22 L3=0 PK_end=1571
(fs_start=1506)
                TCCCACAA
CAGGCTAATTTTTTAGGGAGAATTTGGCCT
                CCGGA   GGGG
                CCTCAG
            CGGAAATTTCTTCAGAGCAGA

PK4B:  -21.795000(kcal/mol): PK_start=1524 sp=10 s1=5 s2=4 l1=8 l2=35 L3=0
PK_end=1584 (fs_start=1506)
                TCCCACAA
CAGGCTAATTTTTTAGGGAGAATTTGGCCT
                CCGGA   GGGG
                CTCCGC
            CGGAAATTTCTTCAGAGCAGACCTCAGCCATCAG

=====
(1527) DQ979025
=====
PK1:  -15.140000(kcal/mol): PK_start=1550 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1578
(fs_start=1570)
                CA
GAAGAGAAGGACATCAAATGAAAGACTG
                GAC   AGAAAGTC
                TTTTTTAGGG
            GCTAA

PK2:  -21.980000(kcal/mol): PK_start=1555 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1592
(fs_start=1570)
                C
GAAGGACATCAAATGAAAGACTGCACTGAAAGA

```

```

          GATTTTTT   AATCGGA
                    TTGGCCTTC
GGAGAAT
PK3:  -17.120000(kcal/mol): PK_start=1578 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1612
(fs_start=1570)
                    AA
CACTGAAAGACAGGCTAATTTTTTAGGGAG
                    CCTTC   CGGTTT
                                GCCGGGAA
AGCAAGGGGAG
PK4:  -20.985000(kcal/mol): PK_start=1585 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1622
(fs_start=1570)
                                CAGC
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCTTC
                    GGGCCGGAGG   GGAA
                                TCTTCA
AAATTT
PK4B:  -25.145000(kcal/mol): PK_start=1585 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1648
(fs_start=1570)
                                TCCAGCAA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
                    GGGCCGGA   GGGG
                                CCCCAC
AAATTTTCTTCAGAGCAGACCAGAGCCAACAG
=====
(1528) DQ990880
=====
PK1:  -13.205000(kcal/mol): PK_start=2064 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=2091
(fs_start=2083)
                    A
AAAGGAAGGACACCAAATGAAGGAGTGT
                    ACA   GAGAGTC
                                TTTTTAGGG
GGCTAAT
PK2:  -20.460000(kcal/mol): PK_start=2068 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2104
(fs_start=2083)
                    C
GAAGGACACCAAATGAAGGAGTGTACTGAGAGA
                    GATTTTTT   A   ATCGGA
                                TGGCCTTC
GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=2091 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2125
(fs_start=2083)
                    AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA

```

```

          CCCT   TCCGGTCT
                AGGCCAGGGA
ACAAGGGG
PK4:  -26.235000(kcal/mol): PK_start=2098 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2135
(fs_start=2083)
                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                GGACCGGAGG   GGAA
                TCTTCA
          GAATTT

PK4B:  -30.395000(kcal/mol): PK_start=2098 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2161
(fs_start=2083)
                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                GGACCGGA   GGGG
                CCCCAC
          GAATTTTCTTCAGAGCAGACCAGAGCCATCAG

=====
(1529) EF029066
=====
PK1:  -15.100000(kcal/mol): PK_start=1949 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1977
(fs_start=1969)
                CA
GAAAGGAAGGACACCAAATGAAAGACTG
                GAC   AGAGAGTC
                TTTTTTAGGG
          GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1954 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1991
(fs_start=1969)
                C
GAAGGACACCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT   AATCGGA
                TTGGCCTTC
          GGAGAGT

PK3:  -18.840000(kcal/mol): PK_start=1977 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=2011
(fs_start=1969)
                AG
CACTGAGAGACAGGCTAATTTTTTAGGGAG
                CCTTC   CGGTTT
                GCCAGGGA
          AACAAAGGGAG

PK4:  -22.745000(kcal/mol): PK_start=1984 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2021
(fs_start=1969)
                TCCAACA
AGACAGGCTAATTTTTTAGGGAGAGTTTGGCCT

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                GGACCGGA    GGGAA
                    TCCTTCA
    GAATT
=====
(1530) EF029067
=====
PK1:  -15.100000(kcal/mol): PK_start=1949 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1977
(fs_start=1969)
                CA
    GAAGGGAAGGACACCAAATGAAAGACTG
                GAC    AGAGAGTC
                    TTTTTTAGGG
    GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1954 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1991
(fs_start=1969)
                C
    GAAGGACACCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT    AATCGGA
                    TTGGCCTTC
    GGAGAGT

PK3:  -18.840000(kcal/mol): PK_start=1977 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=2011
(fs_start=1969)
                AG
    CACTGAGAGACAGGCTAATTTTTTAGGGAG
                CCTTC    CGGTTT
                    GCCAGGGA
    AACAAAGGGAG

PK4:  -22.745000(kcal/mol): PK_start=1984 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2021
(fs_start=1969)
                TCCAACA
    AGACAGGCTAATTTTTTAGGGAGAGTTTGGCCT
                GGACCGGA    GGGAA
                    TCCTTCA
    GAACT

=====
(1531) EF036527
=====
PK1:  -15.100000(kcal/mol): PK_start=2077 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2105
(fs_start=2097)
                CA
    GAAAGGAAGGACATCAAATGAAAGACTG
                GAC    AGAGAGTC
                    TTTTTTAGGG
    GCTAA

```


PK2: -21.940000(kcal/mol): PK_start=2082 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2119
(fs_start=2097)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAATT

PK3: -19.815000(kcal/mol): PK_start=2106 sp=0 s1=3 s2=9 l1=2 l2=9 L3=0 PK_end=2140
(fs_start=2097)

AA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTTT
AGGCCAGGGAA
AACAAGGGA

PK4: -22.445000(kcal/mol): PK_start=2111 sp=6 s1=9 s2=5 l1=7 l2=4 L3=0 PK_end=2149
(fs_start=2097)

TCCAACA
GAGACAGGCTAATTTTTTAGGGAAATTTTGGCCT
GGGACCGGA AGGGA
TTCCTCA
AATT

=====
(1532) EF036528
=====

PK1: -12.560000(kcal/mol): PK_start=2075 sp=0 s1=3 s2=7 l1=3 l2=5 L3=0 PK_end=2102
(fs_start=2095)

CAA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAAAGT
TTTTTTAGG
GCTAA

PK2: -19.700000(kcal/mol): PK_start=2081 sp=0 s1=7 s2=7 l1=1 l2=8 L3=0 PK_end=2117
(fs_start=2095)

C
AAGGACATCAAATGAAAGACTGCAATGAAAGA
ATTTTTT AATCGGA
TTGGCCTTC
GGGAAAAT

PK3: -18.565000(kcal/mol): PK_start=2104 sp=0 s1=3 s2=8 l1=3 l2=6 L3=0 PK_end=2134
(fs_start=2095)

AAA
AATGAAAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGGA
AAGGGA

PK4: -21.195000(kcal/mol): PK_start=2110 sp=7 s1=8 s2=5 l1=4 l2=5 L3=0 PK_end=2144
(fs_start=2095)

TCCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA AGGGA
TTCCTCA
GAATT

=====
(1533) EF036529
=====

PK1: -15.140000(kcal/mol): PK_start=2075 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2103
(fs_start=2095)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -20.500000(kcal/mol): PK_start=2080 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2116
(fs_start=2095)

C
GAAGGACATCAAATGAAAGACTGCACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -23.145000(kcal/mol): PK_start=2104 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2137
(fs_start=2095)

AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTCT
AGGCCGGGGA
AACAAGGGA

PK4: -25.775000(kcal/mol): PK_start=2110 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2147
(fs_start=2095)

TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGGCCGGA AGGGA
TTCCTCA
GAATT

=====
(1534) EF036530
=====

PK1: -15.100000(kcal/mol): PK_start=2075 sp=0 s1=3 s2=8 l1=5 l2=5 L3=0 PK_end=2106
(fs_start=2098)

CACTG
GAAAGGAAGGACATCAAATGAGAGACTG
GAC AGAGAGTC

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                TTTTTTAGGG
      GCTAA
PK2:  -21.640000(kcal/mol): PK_start=2083 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2120
(fs_start=2098)
                C
GGACATCAAATGAGAGACTGCACTGCTGAGAGA
                GATTTTTT   AATCGGA
                TTGCCTTC
      GGAAAAT
PK3:  -23.745000(kcal/mol): PK_start=2106 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2140
(fs_start=2098)
                AAA
TGCTGAGAGACAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTTT
                AGGCCAGGGA
      GCAAGGGA
PK4:  -22.915000(kcal/mol): PK_start=2113 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2150
(fs_start=2098)
                TCCCGCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA   AGGGA
                TTCCTCA
      GAATT

=====
(1535) EF036531
=====
PK1:  -15.100000(kcal/mol): PK_start=2077 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2105
(fs_start=2097)
                CA
GAAAGGAAGGACATCAAATGAAAGACTG
                GAC   AGAGAGTC
                TTTTTTAGGG
      GCTAA
PK2:  -20.460000(kcal/mol): PK_start=2082 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2118
(fs_start=2097)
                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT   A   ATCGGA
                TTGCCTTC
      GGAAAATC
PK3:  -23.145000(kcal/mol): PK_start=2106 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2139
(fs_start=2097)
                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                CCT   TCCGGTCT

```

AGGCCGGGGA

AACAAAGGGA

PK4: -25.775000(kcal/mol): PK_start=2112 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2149
(fs_start=2097)

TCCAACA

AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT

GGGCCGGA AGGGA

TTCCTCA

GAATT

=====
(1536) EF036532
=====

PK1: -15.100000(kcal/mol): PK_start=2075 sp=0 s1=3 s2=8 l1=5 l2=5 L3=0 PK_end=2106
(fs_start=2098)

CACTA

GGAAGGAAGGACATCAAATGAAAGACTG

GAC AGAGAGTC

TTTTTTAGGG

GCTAA

PK2: -21.940000(kcal/mol): PK_start=2083 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2120
(fs_start=2098)

C

GGACATCAAATGAAAGACTGCACTACTGAGAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=2107 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2140
(fs_start=2098)

AAA

ACTGAGAGACAGGCTAATTTTTTTAGGGA

CCT TCCGGTTT

AGGCCGGGGA

AGCAAGGGA

PK4: -21.195000(kcal/mol): PK_start=2113 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2150
(fs_start=2098)

TCCAGCA

AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT

GGGCCGGA AGGGA

TTCCTCA

GAATT

=====
(1537) EF036533
=====

PK1: -12.340000(kcal/mol): PK_start=2079 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2107
(fs_start=2099)

CA

GGCAAGAAGGACATCAAATGAAAGACTG

```

          GAC   AGAGGGTC
                TTTTTTAGGC
      GCTAA

PK2:  -19.180000(kcal/mol): PK_start=2084 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2121
(fs_start=2099)
                C
GAAGGACATCAAATGAAAGACTGCACTGGGAGA
                GATTTTTT   AATCGGA
                                TTGGCCTTC
      GCAAAAT

PK3:  -14.220000(kcal/mol): PK_start=2106 sp=0 s1=4 s2=6 l1=1 l2=20 L3=1 PK_end=2146
(fs_start=2099)
                A
GCACTGGGAGACAGGCTAATTTTTTAGGC
                TCCG  G  TTTAAA
                                GAATTTTC
      TCCAACAAGGGAAGGCCAGG

PK4:  -22.915000(kcal/mol): PK_start=2114 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2151
(fs_start=2099)
                TCCAACA
AGACAGGCTAATTTTTTAGGCAAAATTTGGCCT
                GGACCGGA   AGGGA
                                TTCCTCA
      GAATT

=====
(1538) EF036534
=====
PK1:  -15.100000(kcal/mol): PK_start=2073 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2101
(fs_start=2093)
                CA
GGAATGAAGGACATCAAATGAAAGACTG
                GAC   AGAGAGTC
                                TTTTTTAGGC
      GCTAA

PK2:  -21.940000(kcal/mol): PK_start=2078 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2115
(fs_start=2093)
                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT   AATCGGA
                                TTGGCCTTC
      GCAAGCT

PK3:  -13.810000(kcal/mol): PK_start=2104 sp=0 s1=3 s2=6 l1=1 l2=13 L3=0 PK_end=2135
(fs_start=2093)
                C
TGAGAGACAGGCTAATTTTTTAGGCAAG

```

TTC CGGTTT
 GCCAGGGA
 CCCACAAGGGAAG

PK4: -25.225000(kcal/mol): PK_start=2107 sp=6 s1=9 s2=5 l1=7 l2=4 L3=0 PK_end=2145
 (fs_start=2093)

TCCCACA
 GAGACAGGCTAATTTTTTAGGCAAGCTTTGGCCT

GGGACCGGA AGGGA
 TTCCTCA
 AATT

=====
 (1539) EF036535
 =====

PK1: -15.100000(kcal/mol): PK_start=2073 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2101
 (fs_start=2093)

CA
 GAAAAGAAGGACATCAAATGAAAGACTG

GAC AGAGAGTC
 TTTTTTAGGG
 GCTAA

PK2: -21.940000(kcal/mol): PK_start=2078 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2115
 (fs_start=2093)

C
 GAAGGACATCAAATGAAAGACTGCACTGAGAGA

GATTTTTT AATCGGA
 TTGGCCTTC
 GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=2102 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2135
 (fs_start=2093)

AAA
 ACTGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGTTT
 AGGCCAGGGA
 AGCAAGGGA

PK4: -22.915000(kcal/mol): PK_start=2108 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2145
 (fs_start=2093)

TCCAGCA
 AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA AGGGA
 TTCCTCA
 GAATT

=====
 (1540) EF036536
 =====

PK1: -10.440000(kcal/mol): PK_start=2071 sp=0 s1=3 s2=7 l1=1 l2=18 l3=0 PK_end=2109 (fs_start=2102)

A
TTGGAAGTGTGGAAGGAAGGACATCAA
GTT AGAAAGT
TTTTTTAGG
CACTGAAAGACAGGCTAA

PK2: -21.980000(kcal/mol): PK_start=2087 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=2124 (fs_start=2102)

C
GAAGGACATCAAATGAAAGATTGCACTGAAAGA
GATTTTTT AATCGGA
TTGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=2110 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=2144 (fs_start=2102)

AAA
CACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGA

PK4: -22.915000(kcal/mol): PK_start=2117 sp=7 s1=8 s2=5 l1=7 l2=5 l3=0 PK_end=2154 (fs_start=2102)

TCCCACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(1541) EF057102
=====

PK1: -13.555000(kcal/mol): PK_start=2063 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=2091 (fs_start=2083)

A
GAAGGGAAGGACACCAGATGAAGGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2068 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=2104 (fs_start=2083)

C
GAAGGACACCAGATGAAGGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=2091 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2125
(fs_start=2083)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=2098 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2135
(fs_start=2083)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTC
GGACCGGAGG GGAA
TCTTCA
GAACTT

PK4B: -30.395000(kcal/mol): PK_start=2098 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2161
(fs_start=2083)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAACTTTCTTCAGAGCAGACCAGAACCAACAG

=====
(1542) EF091932
=====

PK1: -12.705000(kcal/mol): PK_start=1511 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1538
(fs_start=1530)

A
AAAAGAAGGACACCAAATGAAAGAATGT
ACG GAGAGTC
TTTTTAGGG
GGCCAAT

PK2: -22.590000(kcal/mol): PK_start=1515 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1552
(fs_start=1530)

C
GAAGGACACCAAATGAAAGAATGTACTGAGAGG
GATTTTTT AACCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1538 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1572
(fs_start=1530)

AAA
TACTGAGAGGCAGGCCAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGRA
ACAAGGGG

PK4: -23.985000(kcal/mol): PK_start=1545 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1583
(fs_start=1530)

TCCCACAA
AGGCAGGCCAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CTCCAG
RAATTTTC

PK4B: -26.865000(kcal/mol): PK_start=1545 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1608
(fs_start=1530)

TCCCACAA
AGGCAGGCCAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
RAATTTTCCTCCAGAGCAGACCAGAGCCAACAG

=====
(1543) EF116594
=====

PK1: -15.100000(kcal/mol): PK_start=1260 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1288
(fs_start=1280)

CA
GAAAGGAAGGACACCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1265 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1302
(fs_start=1280)

C
GAAGGACACCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAGAAT

PK3: -18.840000(kcal/mol): PK_start=1288 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1322
(fs_start=1280)

AA
CACTGAGAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTTT
GCCAGGAA
AGCAAAGGGAG

PK4: -21.815000(kcal/mol): PK_start=1295 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1332
(fs_start=1280)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
GGACCGGA GGGG
TCCTCA
AAATTT

=====
(1544) EF158040
=====

PK1: -15.10000(kcal/mol): PK_start=1275 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1303
(fs_start=1295)

CA
GGAAAGAAGGACACCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.94000(kcal/mol): PK_start=1280 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1317
(fs_start=1295)

C
GAAGGACACCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.74500(kcal/mol): PK_start=1303 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1337
(fs_start=1295)

AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGAA
ACAAGGGG

PK4: -25.07500(kcal/mol): PK_start=1310 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1347
(fs_start=1295)

TCCCACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGGA
TCCCTCA
AAATT

PK4B: -26.86500(kcal/mol): PK_start=1310 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1373
(fs_start=1295)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTCCCTCAGAGCAGACCAGAGCCAACAG

=====
(1545) EF158041
=====

PK1: -15.10000(kcal/mol): PK_start=1260 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1288
(fs_start=1280)

CA
GGAGAGAAGGACACCAAATGAAAGACTG
GAC AGAGAGTC

```

                TTTTTTAGGG
            GCTAA
PK2:  -21.940000(kcal/mol): PK_start=1265 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1302
(fs_start=1280)
                C
GAAGGACACCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT    AATCGGA
                TTGGCCTTC
            GGAAAAAT
PK3:  -23.745000(kcal/mol): PK_start=1288 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1322
(fs_start=1280)
                AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA
                CCCT    TCCGGTTT
                AGGCCAGGAA
            ACAAGGGG
PK4:  -22.215000(kcal/mol): PK_start=1295 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1332
(fs_start=1280)
                CCCACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
                GGACCGGAG    GGGA
                TCCTCA
            AAATTT
PK4B:  -26.865000(kcal/mol): PK_start=1295 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1358
(fs_start=1280)
                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA    GGGG
                CCCCAC
            AAATTTTCCTCAGAGCAGACCAGAGCCAACAG
=====
(1546) EF158042
=====
PK1:  -15.100000(kcal/mol): PK_start=1257 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1285
(fs_start=1277)
                CA
GGAAAGAGGGACACCAAATGAAAGACTG
                GAC    AGAGAGTC
                TTTTTTAGGG
            GCTAA
PK2:  -21.940000(kcal/mol): PK_start=1262 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1299
(fs_start=1277)
                C
GAGGGACACCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT    AATCGGA

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                                TTGGCCTTC
                GGAAAAT
PK3:  -18.565000(kcal/mol): PK_start=1286 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1319
(fs_start=1277)
                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                CCT   TCCGGTTT
                        AGGCCGGGAA
                AACAAAGGGG
PK4:  -20.495000(kcal/mol): PK_start=1292 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1329
(fs_start=1277)
                        CCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
                GGGCCGGAG   GGGA
                        TCCTCA
                AAACCT
PK4B:  -25.145000(kcal/mol): PK_start=1292 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1355
(fs_start=1277)
                        TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGGCCGGA   GGGG
                        CCCCAC
                AAACCTTCCTCAGAGCAGACCAGAGCCAACAG
=====
(1547) EF158043
=====
PK1:  -15.100000(kcal/mol): PK_start=1260 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1288
(fs_start=1280)
                CA
GGAAAGAAGGACACCAAATGAAAGACTG
                GAC   AGAGAGTC
                        TTTTTTAGGG
                GCTAA
PK2:  -21.940000(kcal/mol): PK_start=1265 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1302
(fs_start=1280)
                C
GAAGGACACCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT   AATCGGA
                        TTGGCCTTC
                GGAAAAT
PK3:  -20.285000(kcal/mol): PK_start=1289 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1322
(fs_start=1280)
                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                CCT   TCCGGTTT

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                                AGGCCAGGAA
                                AACAAGGGG

PK4:  -22.215000(kcal/mol): PK_start=1295 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1332
(fs_start=1280)
                                CCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
                                GGACCGGAG    GGGA
                                TCCTCA
                                AAATTT

PK4B:  -26.865000(kcal/mol): PK_start=1295 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1358
(fs_start=1280)
                                TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                                GGACCGGA    GGGG
                                CCCCAC
                                AAATTTTCCTCAGAGCAGACCAGAGCCAACAG

=====
(1548) EF165539
=====

PK1:  -15.140000(kcal/mol): PK_start=1266 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1294
(fs_start=1286)
                                CA
GGAAGGAAGGACATCAAATGAAAGACTG
                                GAC    AAAGAGTC
                                TTTTTTAGGG
                                ATTAA

PK2:  -12.480000(kcal/mol): PK_start=1271 sp=0 s1=8 s2=5 l1=1 l2=3 L3=2 PK_end=1300
(fs_start=1286)
                                C
GAAGGACATCAAATGAAAGACTGCACTGAGAAA
                                GATTTTTT    AA    TTAGA
                                AATTTTG
                                GGA

PK3:  -18.095000(kcal/mol): PK_start=1295 sp=0 s1=3 s2=9 l1=2 l2=9 L3=0 PK_end=1329
(fs_start=1286)
                                AA
ACTGAGAAACAGATTAATTTTTTAGGGA
                                CCT    TCCGGTTTT
                                AGGCCGGGGAA
                                AACAAGGGA

PK4:  -23.535000(kcal/mol): PK_start=1300 sp=6 s1=9 s2=5 l1=7 l2=4 L3=0 PK_end=1338
(fs_start=1286)
                                TCCAACA
GAAACAGATTAATTTTTTAGGGAAAATTTGGCCT
                                GGGCCCGGA    AGGGA

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                                TCCCTCA
                                AATT
=====
(1549) EF165540
=====
PK1:  -15.100000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
(fs_start=1283)
                                CA
GGAAGGAAGGACATCAAATGAAAGACTG
                                GAC   AGAGAGTC
                                TTTTTTAGGA
                                GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)
                                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                                GATTTTTT   AATCGGA
                                TTGGCCTTC
                                GAAAGCT

PK3:  -13.810000(kcal/mol): PK_start=1294 sp=0 s1=3 s2=6 l1=1 l2=13 L3=0 PK_end=1325
(fs_start=1283)
                                C
TGAGAGACAGGCTAATTTTTTAGGAAAG
                                TTC   CGGTTT
                                GCCAGGAA
                                CCAACAAGGGAAG

PK4:  -25.725000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1335
(fs_start=1283)
                                TCCAACA
AGACAGGCTAATTTTTTAGGAAAGCTTTGGCCT
                                GGACCGGA   AGGGA
                                TCCCTCA
                                AAATT

=====
(1550) EF165541
=====
PK1:  -15.140000(kcal/mol): PK_start=1266 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1294
(fs_start=1286)
                                CA
GGAAGGAAGGACATCAAATGAAAGACTG
                                GAC   AAAGAGTC
                                TTTTTTAGGG
                                ATTAA

PK2:  -12.480000(kcal/mol): PK_start=1271 sp=0 s1=8 s2=5 l1=1 l2=3 L3=2 PK_end=1300
(fs_start=1286)
                                C
GAAGGACATCAAATGAAAGACTGCACTGAGAAA

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          GATTTTTT AA TTAGA
                        AATTTTG
          GGA
PK3:  -18.095000(kcal/mol): PK_start=1295 sp=0 s1=3 s2=9 l1=2 l2=9 L3=0 PK_end=1329
(fs_start=1286)
          AA
ACTGAGAAACAGATTAATTTTTTTAGGGA
          CCT   TCCGGTTTT
                        AGGCCGGGAA
          AACAAGGGA
PK4:  -23.535000(kcal/mol): PK_start=1300 sp=6 s1=9 s2=5 l1=7 l2=4 L3=0 PK_end=1338
(fs_start=1286)
                        TCCAACA
GAAACAGATTAATTTTTTTAGGGAAATTTTGGCCT
          GGGCCCGGA   AGGGA
                        TCCCTCA
          AATT
=====
(1551) EF175209
=====
PK1:  -10.640000(kcal/mol): PK_start=1506 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1544
(fs_start=1537)
          A
TTGGAAATGTGGAAAGGAAGGACACCAA
          GTT   AGAAAGT
                        TTTTTTAGG
          CACTGAGAGACAGGCTAA
PK2:  -20.460000(kcal/mol): PK_start=1522 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1558
(fs_start=1537)
          C
GAAGGACACCAAATGAAAGATTGCACTGAGAGA
          GATTTTTT A ATCGGA
                        TGGCCTTC
          GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1545 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1579
(fs_start=1537)
          AAA
CACTGAGAGACAGGCTAATTTTTTTAGGGA
          CCCT   TCCGGTCT
                        AGGCCAGGGA
          ACAAGGGA
PK4:  -26.715000(kcal/mol): PK_start=1552 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1589
(fs_start=1537)
                        CCAC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC

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                GGACCGGAAG    GGAA
                                TCTTCA
          GAATTT

=====
(1552) EF175210
=====
PK1:  -10.640000(kcal/mol): PK_start=1506 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1544
(fs_start=1537)
                A
TTGGAAATGTGGAAAGGAAGGACACCAA

                GTT    AGAAAGT

                TTTTTTAGG
          CACTGAGAGACAGGCTAA

PK2:  -20.460000(kcal/mol): PK_start=1522 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1558
(fs_start=1537)
                C
GAAGGACACCAAATGAAAGATTGCACTGAGAGA

                GATTTTTT  A  ATCGGA

                                TGGCCTTC
          GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1545 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1579
(fs_start=1537)
                AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA

                CCCT    TCCGGTCT

                                AGGCCAGGGA
          ACAAGGGA

PK4:  -26.715000(kcal/mol): PK_start=1552 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1589
(fs_start=1537)
                CCAC
AGACAGGCTAATTTTTTAGGAAAATCTGGCCTTC

                GGACCGGAAG    GGAA
                                TCTTCA
          GAATTT

=====
(1553) EF175211
=====
PK1:  -10.640000(kcal/mol): PK_start=1506 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1544
(fs_start=1537)
                A
TTGGAAATGTGGAAAGGAAGGACACCAA

                GTT    AGAAAGT

                TTTTTTAGG
          CACTGAGAGACAGGCTAA

```


PK2: -20.46000(kcal/mol): PK_start=1522 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1558
(fs_start=1537)

C
GAAGGACACCAAATGAAAGATTGCACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.27500(kcal/mol): PK_start=1545 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1579
(fs_start=1537)

AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.71500(kcal/mol): PK_start=1552 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1589
(fs_start=1537)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(154) EF175212
=====

PK1: -10.64000(kcal/mol): PK_start=1506 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1544
(fs_start=1537)

A
TTGGAAATGTGGAAAGGAAGGACACCAA
GTT AGAAAGT
TTTTTTAGG
CACTGAGAGACAGGCTAA

PK2: -20.46000(kcal/mol): PK_start=1522 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1558
(fs_start=1537)

C
GAAGGACACCAAATGAAAGATTGCACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.27500(kcal/mol): PK_start=1545 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1579
(fs_start=1537)

AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1552 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1589
(fs_start=1537)

```

                                CCAC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAAG   GGAA
                                TCTTCA
                                GAATTT
```

=====
(1555) EF178338
=====

PK1: -9.390000(kcal/mol): PK_start=1348 sp=0 s1=3 s2=6 l1=1 l2=5 L3=0 PK_end=1371
(fs_start=1365)

```

                                T
GAAAGGAAGGACACCAAATGAAAGATTG
                                GAC   AGAGAG
                                TTTTTTAG
                                GCTAA
```

PK2: -18.080000(kcal/mol): PK_start=1351 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1386
(fs_start=1365)

```

                                C
AGGAAGGACACCAAATGAAAGATTGTGAGAGA
                                ATTTTTT A  ATCGGA
                                TGGCCTTC
                                GGGAAAATC
```

PK3: -27.275000(kcal/mol): PK_start=1373 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1407
(fs_start=1365)

```

                                AAA
TTGTGAGAGACAGGCTAATTTTTTTAGGGA
                                CCCT   TCCGGTCT
                                AGGCCAGGGA
                                ACAAGGGA
```

PK4: -26.715000(kcal/mol): PK_start=1380 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1417
(fs_start=1365)

```

                                CCAC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAAG   GGAA
                                TCTTCA
                                GAATTT
```

=====
(1556) EF178354
=====

PK1: -15.405000(kcal/mol): PK_start=1372 sp=0 s1=4 s2=8 l1=3 l2=6 L3=0 PK_end=1404
(fs_start=1395)

```

                                ACA
GAAAGGAAGGACACCAAATGAAAGATTGT
                                GACA   GAGAGTCT
```

TTTTGTAGAGA
 ACTAAT

PK2: -20.120000(kcal/mol): PK_start=1379 sp=0 s1=9 s2=5 l1=1 l2=3 L3=2 PK_end=1410
 (fs_start=1395)

C
 AGGACACCAAATGAAAGATTGTACATCTGAGAGA

AGATTTTTT AA TCAGA
 GGTCTGG
 GAA

PK3: -19.590000(kcal/mol): PK_start=1405 sp=0 s1=4 s2=6 l1=1 l2=12 L3=0 PK_end=1437
 (fs_start=1395)

G
 CTGAGAGACAGACTAATTTTTTAGAGAAG

CTTC CGGTCT
 GCCAGGGA
 CCACAGGGGAAG

PK4: -26.365000(kcal/mol): PK_start=1410 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1447
 (fs_start=1395)

CCAC
 AGACAGACTAATTTTTTAGAGAAGGTCTGGCCTTC

GGACCGGAAG GGGGA
 TCTTCA
 GAATTT

PK4B: -31.805000(kcal/mol): PK_start=1410 sp=7 s1=9 s2=5 l1=5 l2=32 L3=0 PK_end=1474
 (fs_start=1395)

CCCAC
 AGACAGACTAATTTTTTAGAGAAGGTCTGGCCTT

GGACCGGAA GGGGA
 CCCCTCC
 GAATTTTCTTCAGAGCAGACCAGAACCAACAG

=====
 (1557) EF178358
 =====

PK1: -13.070000(kcal/mol): PK_start=1383 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1411
 (fs_start=1403)

CA
 GAAGGGAAGGACACCAAATGAAGGATTG

GAC AGAGAGTC
 TTTTTTAGGG
 GCTAW

PK2: -20.460000(kcal/mol): PK_start=1388 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1424
 (fs_start=1403)

C
 GAAGGACACCAAATGAAGGATTGCACTGAGAGA

GATTTTTT W ATCGGA

TGGCCTTC

GGAAAATC

PK3: -26.605000(kcal/mol): PK_start=1411 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1445
(fs_start=1403)

AAA

CACTGAGAGACAGGCTAWTTTTTTAGGGA

CCCT TCCGGTCT

AGGCCGGGGA

ACAAGGGA

PK4: -26.375000(kcal/mol): PK_start=1418 sp=7 s1=8 s2=5 l1=7 l2=4 L3=0 PK_end=1454
(fs_start=1403)

TCCCACA

AGACAGGCTAWTTTTTTAGGGAAAATCTGGCCT

GGCCGGA AGGGA

TTCCTAC

GAAC

=====
(158) EF192591
=====

PK1: -15.100000(kcal/mol): PK_start=1712 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1740
(fs_start=1732)

CA

GGAATGAAGGACACCAAATGAAAGACTG

GAC AGAGAGTC

TTTTTTAGGG

GCTAA

PK2: -21.940000(kcal/mol): PK_start=1717 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1754
(fs_start=1732)

C

GAAGGACACCAAATGAAAGACTGCACTGAGAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1741 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1774
(fs_start=1732)

AAA

ACTGAGAGACAGGCTAATTTTTTTAGGGA

CCT TCCGGTTT

AGGCCAGGGA

AACAAGGGA

PK4: -22.915000(kcal/mol): PK_start=1747 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1784
(fs_start=1732)

TCCAACA

AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT

GGACCGGA AGGGA

```

                                TTCCTCA
                                GAATT
=====
(1559) EF192592
=====
PK1:  -15.100000(kcal/mol): PK_start=1706 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1734
(fs_start=1726)
                                CA
GGAATGAAGGACACCAAATGAAAGACTG
                                GAC   AGAGAGTC
                                TTTTTTAGGG
                                GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1711 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1748
(fs_start=1726)
                                C
GAAGGACACCAAATGAAAGACTGCACTGAGAGA
                                GATTTTTT   AATCGGA
                                TTGGCCTTC
                                GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1735 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1768
(fs_start=1726)
                                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCT   TCCGGTTT
                                AGGCCAGGGA
                                AACAAGGGA

PK4:  -22.915000(kcal/mol): PK_start=1741 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1778
(fs_start=1726)
                                TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                                GGACCGGA   AGGGA
                                GAATT   TTCCTCA

=====
(1560) EF363122
=====
PK1:  -13.595000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2092
(fs_start=2084)
                                A
GAAGGGAAGGACACCAAATGAAAGATTGT
                                GACA   GAAAGTC
                                TTTTTTAGGG
                                GCTAAT

PK2:  -20.500000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2105
(fs_start=2084)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA

```

GATTTTTT A ATCGGA
 TGGCCTTC
 GGAAAATC
 PK3: -27.275000(kcal/mol): PK_start=2092 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2126
 (fs_start=2084)
 AAA
 TACTGAAAGACAGGCTAATTTTTTAGGGA
 CCCT TCCGGTCT
 AGGCCAGGGA
 ACAAGGGA
 PK4: -26.715000(kcal/mol): PK_start=2099 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2136
 (fs_start=2084)
 CCAC
 AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
 GGACCGGAAG GGAA
 TCTTCA
 GAACTT
 =====
 (1561) EF363123
 =====
 PK1: -13.595000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2092
 (fs_start=2084)
 A
 GAAGGGAAGGACACCAAATGAAAGATTGT
 GACA GAAAGTC
 TTTTTAGGG
 GCTAAT
 PK2: -20.500000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2105
 (fs_start=2084)
 C
 GAAGGACACCAAATGAAAGATTGTACTGAAAGA
 GATTTTTT A ATCGGA
 TGGCCTTC
 GGAAAATC
 PK3: -27.275000(kcal/mol): PK_start=2092 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2126
 (fs_start=2084)
 AAA
 TACTGAAAGACAGGCTAATTTTTTAGGGA
 CCCT TCCGGTCT
 AGGCCAGGGA
 ACAAGGGA
 PK4: -26.715000(kcal/mol): PK_start=2099 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2136
 (fs_start=2084)
 CCAC
 AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

```

                GGACCGGAAG    GGAA
                                TCTTCA
        GAACTT
=====
(1562) EF363124
=====
PK1:  -13.555000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2092
(fs_start=2084)
                                A
        GAAAGGAAGGACACCAAATGAAAGATTGT
                GACA    GAGAGTC
                                TTTTTAGGG
        GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2105
(fs_start=2084)
                                C
        GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT    A    ATCGGA
                                TGGCCTTC
        GGAAGATC

PK3:  -25.060000(kcal/mol): PK_start=2092 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=2126
(fs_start=2084)
                                A
        TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                TCCTTC    CGGTCT
                                GCCAGGGA
        ACAAGGGAAG

PK4:  -26.715000(kcal/mol): PK_start=2099 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2136
(fs_start=2084)
                                CTAC
        AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
                GGACCGGAAG    GGAA
                                TCTTCA
        GAATTT

=====
(1563) EF363125
=====
PK1:  -10.465000(kcal/mol): PK_start=2065 sp=0 s1=4 s2=6 l1=2 l2=5 L3=0 PK_end=2091
(fs_start=2085)
                                AC
        GAAGGGAAGGACACCAAATGAAAGATTGT
                GACA    GAAAGA
                                TTTTTTAG
        GCTAA

```

PK2: -17.220000(kcal/mol): PK_start=2072 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=2106 (fs_start=2085)

C
AGGACACCAAATGAAAGATTGTACAGAAAGA
TTTTTT A ATCGGA
TGGCCTC
AGGGAAAATC

PK3: -27.275000(kcal/mol): PK_start=2093 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2127 (fs_start=2085)

AAA
TACAGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=2100 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2137 (fs_start=2085)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTC
GGACCGGAGG GGAA
TCTTCA
GAACTT

PK4B: -30.395000(kcal/mol): PK_start=2100 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2163 (fs_start=2085)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAT
GAACTTTCTTCAGAGCAGGCCAGAGCCAACAG

=====
(1564) EF363126
=====

PK1: -10.465000(kcal/mol): PK_start=2065 sp=0 s1=4 s2=6 l1=2 l2=5 L3=0 PK_end=2091 (fs_start=2085)

AC
GAAGGGAAGGACACCAAATGAAAGATTGT
GACA GAAAGA
TTTTTTAG
GCTAA

PK2: -17.220000(kcal/mol): PK_start=2072 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=2106 (fs_start=2085)

C
AGGACACCAAATGAAAGATTGTACAGAAAGA
TTTTTT A ATCGGA
TGGCCTC
AGGGAAAATC

PK3: -27.275000(kcal/mol): PK_start=2093 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2127
(fs_start=2085)

AAA
TACAGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=2100 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2137
(fs_start=2085)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTC
GGACCGGAGG GGAA
TCTTCA
GAACTT

PK4B: -30.395000(kcal/mol): PK_start=2100 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2163
(fs_start=2085)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAT
GAACTTTCTTCAGAGCAGGCCAGCCAACAG

=====
(1565) EF363127
=====

PK1: -13.595000(kcal/mol): PK_start=2073 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2101
(fs_start=2093)

A
GAAGGGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -21.980000(kcal/mol): PK_start=2078 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2115
(fs_start=2093)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -22.025000(kcal/mol): PK_start=2101 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2135
(fs_start=2093)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCGGGGA
ACAAGGGA

PK4: -21.195000(kcal/mol): PK_start=2108 sp=7 s1=8 s2=5 l1=7 l2=4 L3=0 PK_end=2144
(fs_start=2093)

TCCCACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA AGGGA
TTCCTCC
GAAT

=====
(1566) EF368370
=====

PK1: -13.555000(kcal/mol): PK_start=1399 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1427
(fs_start=1419)

A
GAAAAGAAGGACATCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCCAAT

PK2: -21.340000(kcal/mol): PK_start=1404 sp=0 s1=8 s2=5 l1=2 l2=8 L3=1 PK_end=1439
(fs_start=1419)

CA
GAAGGACATCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ACCGG
TGGCCCT
GGAAAATC

PK3: -24.730000(kcal/mol): PK_start=1427 sp=0 s1=4 s2=7 l1=3 l2=9 L3=1 PK_end=1460
(fs_start=1419)

AAA
TACTGAGAGACAGGCCAATTTTTTAGGGA
CCCT C CCGGTCT
GGCCAGGGA
ACAAGGGAA

PK4: -23.190000(kcal/mol): PK_start=1434 sp=7 s1=7 s2=6 l1=8 l2=4 L3=0 PK_end=1471
(fs_start=1419)

CTCCCACA
AGACAGGCCAATTTTTTAGGGAAAATCTGGCC
GGACCGG AAGGGA
TTTCTTCA
GAAT

=====
(1567) EF368371
=====

PK1: -13.555000(kcal/mol): PK_start=1396 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1424
(fs_start=1416)

A
GAAAAGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC

```

          TTTT TAGGG
      GCCAAT
PK2:  -21.340000(kcal/mol): PK_start=1401 sp=0 s1=8 s2=5 l1=2 l2=8 L3=1 PK_end=1436
(fs_start=1416)
          CA
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
          GATTTTTT A ACCGG
          TGGCCCT
      GGAAAATC
PK3:  -24.730000(kcal/mol): PK_start=1424 sp=0 s1=4 s2=7 l1=3 l2=9 L3=1 PK_end=1457
(fs_start=1416)
          AAA
TACTGAGAGACAGGCCAATTTTTTAGGGA
          CCCT C CCGGTCT
          GGCCAGGGA
      ACAAGGGAA
PK4:  -23.190000(kcal/mol): PK_start=1431 sp=7 s1=7 s2=6 l1=8 l2=4 L3=0 PK_end=1468
(fs_start=1416)
          CTCCCACA
AGACAGGCCAATTTTTTAGGGAAAATCTGGCC
          GGACCGG AAGGGA
          TTTCTTCA
      GAAT

=====
(1568) EF368372
=====
PK1:  -15.645000(kcal/mol): PK_start=1381 sp=0 s1=3 s2=9 l1=4 l2=16 L3=0 PK_end=1424
(fs_start=1416)
          CCAA
GCTGTTGGAAATGTGGAAAAGAAGGACA
          TGT TAGAAAGTC
          ATTTTTTAGGG
      ACTGAGAGACAGGCTA
PK2:  -19.080000(kcal/mol): PK_start=1401 sp=0 s1=8 s2=5 l1=2 l2=8 L3=1 PK_end=1436
(fs_start=1416)
          CA
GAAGGACACCAACTGAAAGATTGTACTGAGAGA
          GATTTTTT A ATCGG
          TGGCCCT
      GGAAAATC
PK3:  -24.730000(kcal/mol): PK_start=1424 sp=0 s1=4 s2=7 l1=3 l2=9 L3=1 PK_end=1457
(fs_start=1416)
          AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
          CCCT C CCGGTCT

```

GGCCAGGGA

ACAAGGGAA

PK4: -23.190000(kcal/mol): PK_start=1431 sp=7 s1=7 s2=6 l1=8 l2=4 L3=0 PK_end=1468
(fs_start=1416)

CTCCCACA

AGACAGGCTAATTTTTTTAGGGAAAATCTGGCC

GGACCGG AAGGGA

TTTCTTCA

GAAT

=====
(1569) EF420986
=====

PK1: -13.555000(kcal/mol): PK_start=1430 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1458
(fs_start=1450)

A

GAAAAGAAGGACATCAAATGAAAGATTGT

GACA GAGAGTC

TTTTTAGGG

GCCAAT

PK2: -21.340000(kcal/mol): PK_start=1435 sp=0 s1=8 s2=5 l1=2 l2=8 L3=1 PK_end=1470
(fs_start=1450)

CA

GAAGGACATCAAATGAAAGATTGTACTGAGAGA

GATTTTTT A ACCGG

TGGCCCT

GGAAAATC

PK3: -24.730000(kcal/mol): PK_start=1458 sp=0 s1=4 s2=7 l1=3 l2=9 L3=1 PK_end=1491
(fs_start=1450)

AAA

TACTGAGAGACAGGCCAATTTTTTAGGGA

CCCT C CCGGTCT

GGCCAGGGA

ACAAGGGAA

PK4: -23.190000(kcal/mol): PK_start=1465 sp=7 s1=7 s2=6 l1=8 l2=4 L3=0 PK_end=1502
(fs_start=1450)

CTCCCACA

AGACAGGCCAATTTTTTTAGGGAAAATCTGGCC

GGACCGG AAGGGA

TTTCTTCA

GAAT

=====
(1570) EF469243
=====

PK1: -10.375000(kcal/mol): PK_start=2088 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=2115
(fs_start=2108)

AA

GAAAGGAAGGACACCAAATGAAAGATTGT

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          GACG   GAGAGT
          TTTT TAGG
    GCTAAT
PK2:  -18.050000(kcal/mol): PK_start=2094 sp=0 s1=7 s2=7 l1=1 l2=8 L3=0 PK_end=2130
(fs_start=2108)
          C
AAGGACACCAAATGAAAGATTGTAATGAGAGG
          ATTTTTT   AATCGGA
          TTGGCCTTC
    GGGAAAAT
PK3:  -22.025000(kcal/mol): PK_start=2116 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2150
(fs_start=2108)
          AAA
TAATGAGAGGCAGGCTAATTTTTTAGGGA
          CCCT   TCCGGTTT
          AGGCCGGGGA
    ACTCGGGG
PK4:  -25.390000(kcal/mol): PK_start=2123 sp=7 s1=10 s2=4 l1=4 l2=40 L3=0 PK_end=2194
(fs_start=2108)
          CCAC
AGGCAGGCTAATTTTTTAGGAAAATTTGGCCTTC
          GGGCCGGAGG   GGCT
          CCGACA
    GAATTTCTTCAGAACAGACCAGAGCCAACAGCCCCTCTG
=====
(1571) EF495062
=====
PK1:  -10.795000(kcal/mol): PK_start=2003 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2031
(fs_start=2023)
          A
GGGAGGAAGGACATCAAATGAAAGATTGT
          GACA   GAGGGTC
          TTTTTAGGA
    GCTAAT
PK2:  -6.020000(kcal/mol): PK_start=2020 sp=0 s1=3 s2=4 l1=1 l2=20 L3=1 PK_end=2054
(fs_start=2023)
          A
ATGAAAGATTGTACTGGGAGACAGGCTA
          GAT T TTTT
          AAAGGG
    GAAGTTCTGGCCTCCCCAC
PK3:  -22.040000(kcal/mol): PK_start=2031 sp=0 s1=3 s2=8 l1=3 l2=11 L3=0 PK_end=2066
(fs_start=2023)
          AGG
TACTGGGAGACAGGCTAATTTTTTAGGA

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          CCT   CCGGTCTT
                GGCCAGGGAA
          CCACAAAGGGA

PK4:  -27.620000(kcal/mol): PK_start=2037 sp=6 s1=10 s2=4 l1=6 l2=5 L3=0 PK_end=2075
(fs_start=2023)
                CCCACA
GAGACAGGCTAATTTTTTTAGGAAGGTTCTGGCCTC
                GGGACCGGAG   GGAA
                                CCTTCA
          AACTT

=====
(1572) EF514698
=====
PK1:  -15.645000(kcal/mol): PK_start=1422 sp=0 s1=3 s2=9 l1=4 l2=16 L3=0 PK_end=1465
(fs_start=1457)
                CCAA
GCTGTTGGAAATGTGGAAAGGAAGGACA
                TGT   TAGAAAGTC
                                ATTTTTTAGGG
          ACTGAAAGGCAGGCTA

PK2:  -18.760000(kcal/mol): PK_start=1442 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1478
(fs_start=1457)
                C
GAAGGACACCAACTGAAAGATTGTACTGAAAGG
                GATTTTTT   A   ATCGGA
                                TGGCCTTC
          GGAAGATC

PK3:  -26.110000(kcal/mol): PK_start=1465 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1499
(fs_start=1457)
                A
TACTGAAAGGCAGGCTAATTTTTTTAGGGAAG
                CCCTTC   CGGTCT
                                GCCAGGGA
          ACAAGGGGAG

PK4:  -26.235000(kcal/mol): PK_start=1472 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1509
(fs_start=1457)
                CCAC
AGGCAGGCTAATTTTTTTAGGGAAGATCTGGCCTTC
                GGACCGGAGG   GGAA
                                TCTTCA
          GAATTT

PK4B:  -30.395000(kcal/mol): PK_start=1472 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1535
(fs_start=1457)
                TCCCACAA
AGGCAGGCTAATTTTTTTAGGGAAGATCTGGCCT

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GGACCGGA GGGG
CCCCAC
GAATTTTCTTCAGAGCAGGCCAGAGCCATCAG

=====
(1573) EF514699
=====

PK1: -13.555000(kcal/mol): PK_start=1431 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1459
(fs_start=1451)

A
GAAGGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1436 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1472
(fs_start=1451)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1459 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1493
(fs_start=1451)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -29.020000(kcal/mol): PK_start=1466 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1503
(fs_start=1451)

CCAC
AGACAGGCTAATTTTTTAGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAACTT

=====
(1574) EF514700
=====

PK1: -13.555000(kcal/mol): PK_start=1426 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1454
(fs_start=1446)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1431 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1467
(fs_start=1446)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1454 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1488
(fs_start=1446)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGAA
ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1461 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1498
(fs_start=1446)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
AAACTT

PK4B: -30.395000(kcal/mol): PK_start=1461 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1524
(fs_start=1446)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CCCCAC
AAACTTTCCTCAGAGCAGACCAGAGCCAACAG

=====
(1575) EF514701
=====

PK1: -8.805000(kcal/mol): PK_start=1430 sp=0 s1=4 s2=6 l1=2 l2=5 L3=0 PK_end=1456
(fs_start=1450)

AC
GAAGGGAAGGACATCAGATGAAGGATTGT
GACG GAGAGG
TTTTTTAG
GCTAA

PK2: -15.540000(kcal/mol): PK_start=1437 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=1471
(fs_start=1450)

C
AGGACATCAGATGAAGGATTGTACGGAGAGG
TTTTTT A ATCGGA
TGGCCTTC
AGGGAGGATC

PK3: -25.760000(kcal/mol): PK_start=1458 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1492 (fs_start=1450)

A
TACGGAGAGGCAGGCTAATTTTTTAGGGAGG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -29.020000(kcal/mol): PK_start=1465 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1502 (fs_start=1450)

CCAC
AGGCAGGCTAATTTTTTAGGGAGGATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(1576) EF514702
=====

PK1: -10.975000(kcal/mol): PK_start=1446 sp=0 s1=4 s2=6 l1=2 l2=6 l3=0 PK_end=1473 (fs_start=1466)

AA
GACAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGT
TTTTTAGG
GCTAAT

PK2: -18.180000(kcal/mol): PK_start=1452 sp=0 s1=7 s2=6 l1=1 l2=9 l3=1 PK_end=1487 (fs_start=1466)

C
AAGGACACCAAATGAAAGATTGTAATGAGAGA
ATTTTTT A ATCGGA
TGGCCTTC
GGGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1474 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1508 (fs_start=1466)

A
TAATGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1481 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1518 (fs_start=1466)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1481 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1544
(fs_start=1466)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCTTCAGAACAGACCAGAGCCAACAG

=====
(1577) EF514703
=====

PK1: -13.555000(kcal/mol): PK_start=1445 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1473
(fs_start=1465)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -21.940000(kcal/mol): PK_start=1450 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1487
(fs_start=1465)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1473 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1507
(fs_start=1465)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGA

PK4: -22.915000(kcal/mol): PK_start=1480 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1517
(fs_start=1465)

TCCCACA
AGACAGGCTAATTTTTTAGGAAAATTTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(1578) EF514704
=====

PK1: -15.140000(kcal/mol): PK_start=1430 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1458
(fs_start=1450)

CA
GAAAGGAAGGACACCAAATGAAAGACTG
GAC AGAAAGTC

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          TTTTTTAGGG
    GCTAA
PK2:  -17.860000(kcal/mol): PK_start=1435 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1471
(fs_start=1450)
          C
    GAAGGACACCAAATGAAAGACTGCACTGAAAGA
          GATTTTTT A  ATCGGA
          TGGTCTTC
    GGAAGATC
PK3:  -24.335000(kcal/mol): PK_start=1458 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1492
(fs_start=1450)
          A
    CACTGAAAGACAGGCTAATTTTTTAGGGAAG
          CCCTTC  TGGTCT
          GCCAGGGA
    ACAAGGGAAG
PK4:  -26.380000(kcal/mol): PK_start=1465 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1502
(fs_start=1450)
          CCAC
    AGACAGGCTAATTTTTTAGGGAAGATCTGGTCTTC
          GGACCGGAAG  GGAA
          CCTTCA
    GAATTT

=====
(1579) EF514705
=====
PK1:  -10.640000(kcal/mol): PK_start=1427 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1465
(fs_start=1458)
          A
    TTGGAAATGTGGGAAGGAGGGACACCAA
          GTT  AGAAAGT
          TTTTTTAGG
    CACTGAGAGACAGGCTAA
PK2:  -20.460000(kcal/mol): PK_start=1443 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1479
(fs_start=1458)
          C
    GAGGGACACCAAATGAAAGATTGCACTGAGAGA
          GATTTTTT A  ATCGGA
          TGGCCTTC
    GGAAAATC
PK3:  -26.605000(kcal/mol): PK_start=1466 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1500
(fs_start=1458)
          AAA
    CACTGAGAGACAGGCTAATTTTTTAGGGA
          CCCT  TCCGGTCT

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                                AGGCCGGGAA
                ACAAGGGA
PK4:  -24.325000(kcal/mol): PK_start=1473 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1510
(fs_start=1458)
                                TCCCACAA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT
                                GGGCCGGA    AGGG
                                TCTCCA
                AAATTT

=====
(1580) EF514706
=====
PK1:  -13.555000(kcal/mol): PK_start=1444 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1472
(fs_start=1464)
                                A
GAAAGGAAGGGCACCAAATGAAAGATTGT
                                GACA    GAGAGTC
                                TTTTtaggg
                GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1449 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1485
(fs_start=1464)
                                C
GAAGGGCACCAAATGAAAGATTGTACTGAGAGA
                                GATTTTTT  A  ATCGGA
                                TGGCCTTC
                GGAAGATC

PK3:  -26.110000(kcal/mol): PK_start=1472 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1506
(fs_start=1464)
                                A
TACTGAGAGACAGGCTAATTTTTTTAGGGAAG
                                CCCTTC    CGGTCT
                                GCCAGGGA
                ACAAGGGAAG

PK4:  -26.715000(kcal/mol): PK_start=1479 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1516
(fs_start=1464)
                                CCAC
AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCTTC
                                GGACCGGAAG    GGAA
                                TCTTCA
                GAATTT

=====
(1581) EF514707
=====
PK1:  -13.595000(kcal/mol): PK_start=1389 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1417
(fs_start=1409)
                                A
GAAGGGAAGGACACCAAATGAAAGATTGT

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          GACA    GAAAGTC
                TTTT TAGGG
    GCTAAT
PK2:  -20.50000(kcal/mol): PK_start=1394 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1430
(fs_start=1409)
                C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
                GATTTTTT  A  ATCGGA
                                TGGCCTTC
                GGAAAATC

PK3:  -27.27500(kcal/mol): PK_start=1417 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1451
(fs_start=1409)
                AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
                CCCT    TCCGGTCT
                                AGGCCAGGGA
                ACAAGGGG

PK4:  -26.23500(kcal/mol): PK_start=1424 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1461
(fs_start=1409)
                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                GGACCGGAGG    GGAA
                                TCTTCA
                GAATTT

PK4B:  -30.39500(kcal/mol): PK_start=1424 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1487
(fs_start=1409)
                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                GGACCGGA    GGGG
                                CCCAC
                GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(1582) EF514708
=====
PK1:  -10.42500(kcal/mol): PK_start=1441 sp=0 s1=4 s2=6 l1=2 l2=5 L3=0 PK_end=1467
(fs_start=1461)
                AC
GAAAGGAAGGACACCAAATGAAAGATTGT
                GACA    GAGAGA
                                TTTTTTAG
                GCTAA

PK2:  -17.18000(kcal/mol): PK_start=1448 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=1482
(fs_start=1461)
                C
AGGACACCAAATGAAAGATTGTACAGAGAGA

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TTTTTT A ATCGGA
                TGGCCTTC
AGGGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1469 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1503
(fs_start=1461)
                AAA
TACAGAGAGACAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTCT
                AGGCCAGGGA
ACAAGGGA
PK4:  -26.715000(kcal/mol): PK_start=1476 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1513
(fs_start=1461)
                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                GGACCGGAAG   GGAA
                TCTTCA
GAATTT
=====
(1583) EF514710
=====
PK1:  -15.100000(kcal/mol): PK_start=1389 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1417
(fs_start=1409)
                CA
GAAAAGAAGGACACCAAATGAAAGACTG
                GAC   AGAGAGTC
                TTTTTTAGGG
GCTAA
PK2:  -20.460000(kcal/mol): PK_start=1394 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1430
(fs_start=1409)
                C
GAAGGACACCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT A ATCGGA
                TGGCCTTC
GGAAGATC
PK3:  -26.110000(kcal/mol): PK_start=1417 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1451
(fs_start=1409)
                A
CACTGAGAGACAGGCTAATTTTTTAGGGAAG
                CCCTTC   CGGTCT
                GCCAGGGA
ACAAGGGAAG
PK4:  -29.020000(kcal/mol): PK_start=1424 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1461
(fs_start=1409)
                CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC

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                GGACCGGAAG    GGAA
                                CCTTCA
          GAATTT

=====
(1584) EF514711
=====
PK1:  -13.205000(kcal/mol): PK_start=1325 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1352
(fs_start=1344)
                A
AAAGGAAGGACACCAAATGAAAGAGTGT
                ACA    GAGAGTC
                                TTTTTAGGG
          GGCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1329 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1365
(fs_start=1344)
                C
GAAGGACACCAAATGAAAGAGTGTACTGAGAGA
                GATTTTTT  A  ATCGGA
                                TGGCCTTC
          GGAAGATC

PK3:  -26.110000(kcal/mol): PK_start=1352 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1386
(fs_start=1344)
                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                CCCTTC    CGGTCT
                                GCCAGGGA
          ACAAGGGGAG

PK4:  -26.235000(kcal/mol): PK_start=1359 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1396
(fs_start=1344)
                CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
                GGACCGGAGG    GGAA
                                TCTTCA
          GAATTT

PK4B:  -30.395000(kcal/mol): PK_start=1359 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1422
(fs_start=1344)
                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
                GGACCGGA    GGGG
                                CCCCAC
          GAATTTTCTTCAGAGCAGACCAGACCAACAG

=====
(1585) EF514712
=====

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PK1: -15.585000(kcal/mol): PK_start=1383 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1411 (fs_start=1403)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1388 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1424 (fs_start=1403)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAGGATC

PK3: -25.760000(kcal/mol): PK_start=1411 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1445 (fs_start=1403)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAGG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1418 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1455 (fs_start=1403)

CCAC
AGACAGGCTAATTTTTTAGGGAGGATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

=====
(1586) EF545108
=====

PK1: -15.100000(kcal/mol): PK_start=1365 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1393 (fs_start=1385)

CA
GAAAGGAAGGCCATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1370 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1407 (fs_start=1385)

C
GAAGGCCATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1394 sp=0 s1=3 s2=8 l1=3 l2=9 l3=0 PK_end=1427
(fs_start=1385)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGRA
AGCAARGGG

PK4: -20.990000(kcal/mol): PK_start=1400 sp=7 s1=7 s2=4 l1=10 l2=6 l3=0 PK_end=1437
(fs_start=1385)

TTCCAGCAAR
AGACAGGCTAATTTTTTAGGGAAAATTTGGCC
GGACCGG AGGG
TCCTCA
RAATTT

=====
(1587) EF589039
=====

PK1: -15.100000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 l3=0 PK_end=1291
(fs_start=1283)

CA
GAAAGGAAGGCCATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1305
(fs_start=1283)

C
GAAGGCCATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAGAAT

PK3: -18.840000(kcal/mol): PK_start=1291 sp=0 s1=5 s2=6 l1=2 l2=11 l3=0 PK_end=1325
(fs_start=1283)

AA
CACTGAGAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTTT
GCCAGGAA
AGCAAAGGGAG

PK4: -22.840000(kcal/mol): PK_start=1298 sp=7 s1=7 s2=4 l1=10 l2=6 l3=0 PK_end=1335
(fs_start=1283)

TTCCAGCAAA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCC
GGACCGG AGGG
TCCCA
AAATTT

=====
(1588) EF589040
=====

PK1: -15.10000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
(fs_start=1283)

CA
GAAAGGAAGGCCATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.94000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)

C
GAAGGCCATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAGAAT

PK3: -18.84000(kcal/mol): PK_start=1291 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1325
(fs_start=1283)

AA
CACTGAGAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTTT
GCCAGGAA
AGCAAAGGGAG

PK4: -21.81500(kcal/mol): PK_start=1298 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1335
(fs_start=1283)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
GGACCGGA GGGG
TCCTCA
AAATTT

=====
(1589) EF589041
=====

PK1: -15.14000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
(fs_start=1283)

CA
GAAAGGAAGGCCATCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -21.98000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)

C
GAAGGCCATCAAATGAAAGACTGCACTGAAAGA
GATTTTTT AATCGGA

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                                TTGGCCTTC
                GGAGAAT
PK3:  -18.840000(kcal/mol): PK_start=1291 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1325
(fs_start=1283)
                                AA
CACTGAAAGACAGGCTAATTTTTTAGGGAG
                                CCTTC   CGGTTT
                                GCCAGGAA
                AGCAAAGGGAG
PK4:  -21.815000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1335
(fs_start=1283)
                                TCCAGCAA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
                                GGACCGGA   GGG
                                TCCTCA
                AAATTT
=====
(1590) EF589042
=====
PK1:  -15.100000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
(fs_start=1283)
                                CA
GAAAGGAAGGCCATCAAATGAAAGACTG
                                GAC   AGAGAGTC
                                TTTTTTAGGG
                GCTAA
PK2:  -21.940000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)
                                C
GAAGGCCATCAAATGAAAGACTGCACTGAGAGA
                                GATTTTTT   AATCGGA
                                TTGGCCTTC
                GGAGAAT
PK3:  -18.840000(kcal/mol): PK_start=1291 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1325
(fs_start=1283)
                                AA
CACTGAGAGACAGGCTAATTTTTTAGGGAG
                                CCTTC   CGGTTT
                                GCCAGGAA
                AGCAAAGGGAG
PK4:  -21.815000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1335
(fs_start=1283)
                                TCCAGCAA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
                                GGACCGGA   GGG

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                                TCCTCA
AAATTT

=====
(1591) EF589043
=====
PK1:  -15.100000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
(fs_start=1283)
                                CA
GAAAGGAAGGCCATCAAATGAAAGACTG
                                GAC   AGAGAGTC
                                TTTTTTAGGG
                                GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)
                                C
GAAGGCCATCAAATGAAAGACTGCACTGAGAGA
                                GATTTTTT   AATCGGA
                                TTGGCCTTC
                                GGAGAAT

PK3:  -18.840000(kcal/mol): PK_start=1291 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1325
(fs_start=1283)
                                AA
CACTGAGAGACAGGCTAATTTTTTAGGGAG
                                CCTTC   CGGTTT
                                GCCAGGGA
                                AGCAAAGGGAG

PK4:  -21.815000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1335
(fs_start=1283)
                                TCCAGCAA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
                                GGACCGGA   GGG
                                TCCTCA
                                GAATTT

=====
(1592) EF589044
=====
PK1:  -15.100000(kcal/mol): PK_start=1252 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1280
(fs_start=1272)
                                CA
GAAAGGAAGGCCATCAAATGAAAGACTG
                                GAC   AGAGAGTC
                                TTTTTTAGGG
                                GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1257 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1294
(fs_start=1272)
                                C
GAAGGCCATCAAATGAAAGACTGCACTGAGAGA

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          GATTTTTT   AATCGGA
                    TTGGCCTTC
GGAGAAT
PK3:  -18.84000(kcal/mol): PK_start=1280 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1314
(fs_start=1272)
                    AA
CACTGAGAGACAGGCTAATTTTTTAGGGAG
                    CCTTC   CGGTTT
                                GCCAGGGA
AGCAAAGGGAG
PK4:  -21.815000(kcal/mol): PK_start=1287 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1324
(fs_start=1272)
                                TCCAGCAA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
                    GGACCGGA   GGA
                                TCCTCA
GAATTT
=====
(1593) EF633445
=====
PK1:  -15.140000(kcal/mol): PK_start=1413 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1441
(fs_start=1433)
                    CA
GAAGGGAAGGACACCAAATGAAAGACTG
                    GAC   AGAAAGTC
                                TTTTTTAGGG
GCTAA
PK2:  -21.980000(kcal/mol): PK_start=1418 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1455
(fs_start=1433)
                    C
GAAGGACACCAAATGAAAGACTGCACTGAAAGA
                    GATTTTTT   AATCGGA
                                TTGGCCTTC
GGAAAAT
PK3:  -22.025000(kcal/mol): PK_start=1441 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1475
(fs_start=1433)
                    AAA
CACTGAAAGACAGGCTAATTTTTTAGGGA
                    CCCT   TCCGGTTT
                                AGGCCGGGGA
ACAAGGGA
PK4:  -21.465000(kcal/mol): PK_start=1448 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1485
(fs_start=1433)
                                CCAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC

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GGGCCGGAAG    GGAA
                TCTTCA
GAATTT
=====
(1594) EF637046
=====
PK1:  -13.065000(kcal/mol): PK_start=1459 sp=0 s1=3 s2=8 l1=5 l2=19 L3=0 PK_end=1504
(fs_start=1497)
                CCAAA
GCTGTTGAAATGTGAAAGGAAGGACA
                TGT    TAGAAAGT
                ATTTTTTAGG
ACTTTTGAGAGACAGGCTA
PK2:  -17.490000(kcal/mol): PK_start=1480 sp=0 s1=10 s2=6 l1=1 l2=6 L3=1 PK_end=1518
(fs_start=1497)
                C
AAGGACACCAAATGAAAGATTGTACTTTTGAGAGA
                GGGATTTTTT A  ATCGGA
                TGGCCTTC
AAGATC
PK3:  -26.110000(kcal/mol): PK_start=1505 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1539
(fs_start=1497)
                A
TTTTGAGAGACAGGCTAATTTTTTAGGGAAG
                CCCTTC    CGGTCT
                GCCAGGGA
ACAAGGGGAG
PK4:  -28.540000(kcal/mol): PK_start=1512 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1549
(fs_start=1497)
                CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
                GGACCGGAGG    GGAA
                CCTTCA
GAATTT
=====
(1595) EF637047
=====
PK1:  -13.765000(kcal/mol): PK_start=1462 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1490
(fs_start=1482)
                A
GCAAGGAAGGACACCAAATGAAAGATTGT
                GACA    AAGAGTC
                TTTTTAGGA
GCTAAT

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PK2: -20.50000(kcal/mol): PK_start=1467 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1503
(fs_start=1482)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAAA
GATTTTTT A ATCGGA
TGGCCTTC
GAAGAATC

PK3: -22.85000(kcal/mol): PK_start=1490 sp=0 s1=5 s2=6 l1=2 l2=11 l3=0 PK_end=1524
(fs_start=1482)

AA
TACTGAGAAACAGGCTAATTTTTTAGGAAG
CCTTC CGGTCT
GCCAGGGA
CACAAAGGAAG

PK4: -26.71500(kcal/mol): PK_start=1497 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1534
(fs_start=1482)

CCAC
AAACAGGCTAATTTTTTAGGAAGAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(1596) EF637048
=====

PK1: -13.55500(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1511
(fs_start=1503)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.46000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1524
(fs_start=1503)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -23.81500(kcal/mol): PK_start=1512 sp=0 s1=3 s2=8 l1=3 l2=9 l3=0 PK_end=1545
(fs_start=1503)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTCT
AGGCCAGGGA
AACAAAGGA

PK4: -23.185000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=4 l1=8 l2=5 L3=0 PK_end=1554
(fs_start=1503)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA AGGA
TTCTCC
GAACT

=====
(1597) EF637049
=====

PK1: -13.555000(kcal/mol): PK_start=1382 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1410
(fs_start=1402)

A
GAAAGGAAGGACATCAGATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1387 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1423
(fs_start=1402)

C
GAAGGACATCAGATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1410 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1444
(fs_start=1402)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=1417 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1454
(fs_start=1402)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAACTT

PK4B: -30.395000(kcal/mol): PK_start=1417 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1480
(fs_start=1402)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAACTTTCTTCAGAGCAGACCAGAGCCATCAG

=====
(1598) EF637050
=====

PK1: -13.305000(kcal/mol): PK_start=1460 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1487
(fs_start=1479)

A
AAAGGAAGGACACCAAATGAAAGAATGT
ACA GAGAGTC
TTTTTAGGG
GGCTAAT

PK2: -20.460000(kcal/mol): PK_start=1464 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1500
(fs_start=1479)

C
GAAGGACACCAAATGAAAGAATGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1487 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1521
(fs_start=1479)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
CCAAGGGAAG

PK4: -29.020000(kcal/mol): PK_start=1494 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1531
(fs_start=1479)

CTCC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

PK4B: -26.530000(kcal/mol): PK_start=1494 sp=7 s1=8 s2=4 l1=1 l2=40 L3=7 PK_end=1558
(fs_start=1479)

T
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGGAAC CTCC
GAGGAG
GAATTTCTTCAGAGCAGACCAGGCCATCAGCCCCACCA

=====
(1599) EF637051
=====

PK1: -13.595000(kcal/mol): PK_start=1390 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1418
(fs_start=1410)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC

```

                TTTT TAGGG
      GCTAAT
PK2:  -20.50000(kcal/mol): PK_start=1395 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1431
(fs_start=1410)
                C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
                GATTTTTT  A  ATCGGA
                TGGCCTTC
      GGAAAATC
PK3:  -26.60500(kcal/mol): PK_start=1418 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1452
(fs_start=1410)
                AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
                CCCT    TCCGGTCT
                AGGCCGGGGA
      ACAAGGGA
PK4:  -28.35000(kcal/mol): PK_start=1425 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1462
(fs_start=1410)
                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                GGGCCGGAAG    GGAA
                CCTTCA
      GAATTT

=====
(1600) EF637052
=====
PK1:  -15.14000(kcal/mol): PK_start=1351 sp=0 s1=3 s2=8 l1=5 l2=5 L3=0 PK_end=1382
(fs_start=1374)
                CACTA
GAAGAGAAGGACACCAAATGAAAGACTG
                GAC    AGAAAGTC
                TTTTTTAGGG
      GCTAA
PK2:  -21.98000(kcal/mol): PK_start=1359 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1396
(fs_start=1374)
                C
GGACACCAAATGAAAGACTGCACTACTGAAAGA
                GATTTTTT  AATCGGA
                TTGGCCTTC
      GGAAAAT
PK3:  -23.74500(kcal/mol): PK_start=1382 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1416
(fs_start=1374)
                AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
                CCCT    TCCGGTTT

```

AGGCCAGGGA

ACAAGGGA

PK4: -25.490000(kcal/mol): PK_start=1389 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1426
(fs_start=1374)

CCAC

AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTTC

GGACCGGAAG GGAA

CCTTCA

GAATTT

=====
(1601) EF637053
=====

PK1: -13.555000(kcal/mol): PK_start=1407 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1435
(fs_start=1427)

A

GAAAGGAAGGACACCAAATGAAAGATTGT

GACA GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1412 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1448
(fs_start=1427)

C

GAAGGACACCAAATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1435 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1469
(fs_start=1427)

A

TACTGAGAGACAGGCTAATTTTTTTAGGGAAG

TCCTTC CGGTCT

GCCAGGGA

ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1442 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1479
(fs_start=1427)

CTAC

AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCTTC

GGACCGGAGG GGAA

TCTTCA

GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1442 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1505
(fs_start=1427)

TCCTACAA

AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCT

GGACCGGA GGGG

CCCCAC
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(1602) EF637054
=====

PK1: -10.975000(kcal/mol): PK_start=1437 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=1464
(fs_start=1457)

AA
GAAAAGAAGGACACCAAATGAAAGATTGT
GACA GAGAGT
TTTTTAGG
GCTAAT

PK2: -18.180000(kcal/mol): PK_start=1443 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1478
(fs_start=1457)

C
AAGGACACCAAATGAAAGATTGTAATGAGAGA
ATTTTTT A ATCGGA
TGGCCTTC
GGGAGAATC

PK3: -22.370000(kcal/mol): PK_start=1465 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1499
(fs_start=1457)

AA
TAATGAGAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTCT
GCCAGGGA
AACAAAGGGAG

PK4: -23.415000(kcal/mol): PK_start=1472 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1509
(fs_start=1457)

CCAACA
AGACAGGCTAATTTTTTAGGGAGAATCTGGCCTT
GGACCGGAG GGAA
TCTTCA
GAATTT

=====
(1603) EF637056
=====

PK1: -10.440000(kcal/mol): PK_start=1450 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1488
(fs_start=1481)

A
TTGGAAATGTGGAAAGGAAGGACATCAA
GTT AGAAAGT
TTTTTTTAGG
CACAGAAAGACAGGCTAA

PK2: -17.220000(kcal/mol): PK_start=1468 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=1502
(fs_start=1481)

C
AGGACATCAAATGAAAGATTGCACAGAAAGA

```

TTTTTT A ATCGGA
                TGGCCTTC
AGGGAAAATC

PK3:  -26.605000(kcal/mol): PK_start=1489 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1523
(fs_start=1481)
                AAA
CACAGAAAGACAGGCTAATTTTTTTAGGGA
                CCCT   TCCGGTCT
                AGGCCGGGGA
ACAAGGGA

PK4:  -28.350000(kcal/mol): PK_start=1496 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1533
(fs_start=1481)
                CCAC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
                GGGCCGGAAG   GGAA
                CCTTCA
GAATTT

=====
(1604) EF637057
=====
PK1:  -13.765000(kcal/mol): PK_start=1491 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1519
(fs_start=1511)
                A
GAAGGGAAGGACACCAAATGAAAGATTGT
                GACA   AAGAGTC
                TTTTTAGGG
GCTAAT

PK2:  -20.500000(kcal/mol): PK_start=1496 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1532
(fs_start=1511)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAAA
                GATTTTTT A ATCGGA
                TGGCCTTC
GGAAGATC

PK3:  -26.110000(kcal/mol): PK_start=1519 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1553
(fs_start=1511)
                A
TACTGAGAAACAGGCTAATTTTTTTAGGGAAG
                CCCTTC   CGGTCT
                GCCAGGGA
ACAAGGGAAG

PK4:  -26.715000(kcal/mol): PK_start=1526 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1563
(fs_start=1511)
                CCAC
AAACAGGCTAATTTTTTTAGGGAAGATCTGGCCTTC

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                GGACCGGAAG    GGAA
                                TCTTCA
          GAATTT
=====
(1605) EF694032
=====
PK1:  -14.985000(kcal/mol): PK_start=1440 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1468
(fs_start=1460)
                A
GAAAGGAAGGACACCAAATGAAAGACTGT
                GACG    GAGAGTC
                                TTTTTAGGG
          GCTAAT

PK2:  -20.330000(kcal/mol): PK_start=1445 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1482
(fs_start=1460)
                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
                GATTTTTT    AATCGGA
                                TTGGCCTTC
          GGAAAAT

PK3:  -22.025000(kcal/mol): PK_start=1468 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1502
(fs_start=1460)
                AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
                CCCT    TCCGGTTT
                                AGGCCGGGAA
          ACGAGGGG

PK4:  -24.625000(kcal/mol): PK_start=1475 sp=7 s1=8 s2=6 l1=6 l2=5 L3=0 PK_end=1513
(fs_start=1460)
                TCCCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGGCCGGA    GGGGAG
                                TCCTTCAG
          AAATT

PK4B:  -25.145000(kcal/mol): PK_start=1475 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1538
(fs_start=1460)
                TCCCACGA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGGCCGGA    GGGG
                                CCCCCG
          AAATTCCTTCAGAGCAGACCAGAGCCAACAG
=====
(1606) EF694033
=====

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PK1: -14.985000(kcal/mol): PK_start=1409 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1437
(fs_start=1429)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1414 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1451
(fs_start=1429)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA
TTGCGCTTC
GGAAAAT

PK3: -22.025000(kcal/mol): PK_start=1437 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1471
(fs_start=1429)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCGGGAA
ACAAGGGG

PK4: -23.290000(kcal/mol): PK_start=1444 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1481
(fs_start=1429)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGGCCGGAGG GGAA
CCTTCA
AAATTT

PK4B: -25.145000(kcal/mol): PK_start=1444 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1507
(fs_start=1429)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA GGGG
CCCCGC
AAATTTTCCTTCAGAGCAGACCAGAGCCAACAG

=====
(1607) EF694037
=====

PK1: -13.555000(kcal/mol): PK_start=1411 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1439
(fs_start=1431)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1416 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1452
(fs_start=1431)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1439 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=1473
(fs_start=1431)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGAA

PK4: -25.045000(kcal/mol): PK_start=1446 sp=7 s1=9 s2=5 l1=5 l2=5 l3=0 PK_end=1483
(fs_start=1431)

CCCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT
GGACCGGAA AGGAA
TTCTTCA
GAACT

=====
(1608) EU000507

=====
PK1: -11.500000(kcal/mol): PK_start=1412 sp=0 s1=3 s2=7 l1=5 l2=17 l3=1 PK_end=1453
(fs_start=1447)

CCAAA
GCTGTTGGAAATGTGGAAAGGAAGGACA
TGT C AGAAAGT
TTTTTTAGG
ACCGAAAGGCAGGCTAA

PK2: -15.950000(kcal/mol): PK_start=1434 sp=0 s1=5 s2=6 l1=2 l2=11 l3=1 PK_end=1468
(fs_start=1447)

GC
AGGACACCAAATGAAAGACTGTACCGAAAG
TTTTT A ATCGGA
TGGCCTTC
TAGGGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1455 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=1489
(fs_start=1447)

AAA
TACCGAAAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -27.515000(kcal/mol): PK_start=1462 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1500
(fs_start=1447)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CTCCAG
GAATTTTC

PK4B: -30.395000(kcal/mol): PK_start=1462 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1525
(fs_start=1447)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCCTCCAGAGCAGACCAGAGCCAACAG

=====
(1609) EU000508
=====

PK1: -11.500000(kcal/mol): PK_start=1412 sp=0 s1=3 s2=7 l1=5 l2=17 L3=1 PK_end=1453
(fs_start=1447)

CCAAA
GCTGTTGGAAATGTGGAAAGGAAGGACA
TGT C AGAAAGT
TTTTTTAGG
ACCGAAAGGCAGGCTAA

PK2: -15.950000(kcal/mol): PK_start=1434 sp=0 s1=5 s2=6 l1=2 l2=11 L3=1 PK_end=1468
(fs_start=1447)

GC
AGGACACCAAATGAAAGACTGTACCGAAAG
TTTTT A ATCGGA
TGGCCTTC
TAGGGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1455 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1489
(fs_start=1447)

AAA
TACCGAAAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -27.515000(kcal/mol): PK_start=1462 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1500
(fs_start=1447)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CTCCAG
GAATTTTC

PK4B: -30.395000(kcal/mol): PK_start=1462 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1525
(fs_start=1447)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCCCTCCAGAGCAGACCAGGCCAACAG

=====
(1610) EU000509
=====

PK1: -15.025000(kcal/mol): PK_start=1413 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1441
(fs_start=1433)

A
GAAAAGAAGGACACCAAATGAAAGACTGT
GACG GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -18.760000(kcal/mol): PK_start=1418 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1454
(fs_start=1433)

C
GAAGGACACCAAATGAAAGACTGTACTGAAAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGCTC

PK3: -26.110000(kcal/mol): PK_start=1441 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1475
(fs_start=1433)

C
TACTGAAAGGCAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -28.755000(kcal/mol): PK_start=1447 sp=6 s1=9 s2=5 l1=7 l2=3 L3=0 PK_end=1484
(fs_start=1433)

TCCCACA
AAGGCAGGCTAATTTTTTAGGGAAGCTCTGGCCT
GGGACCGGA AGGGA
TTCCTCC
AAT

=====
(1611) EU000510
=====

PK1: -15.025000(kcal/mol): PK_start=1413 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1441
(fs_start=1433)

A
GAAAAGAAGGACACCAAATGAAAGACTGT
GACG GAAAGTC

```

                TTTT TAGGG
      GCTAAT
PK2:  -18.760000(kcal/mol): PK_start=1418 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1454
(fs_start=1433)
                C
GAAGGACACCAAATGAAAGACTGTACTGAAAGG
                GATTTTTT A  ATCGGA
                TGGCCTTC
      GGAAGCTC
PK3:  -26.110000(kcal/mol): PK_start=1441 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1475
(fs_start=1433)
                C
TACTGAAAGGCAGGCTAATTTTTTAGGGAAG
                CCCTTC  CGGTCT
                GCCAGGGA
      ACAAGGGAAG
PK4:  -28.755000(kcal/mol): PK_start=1447 sp=6 s1=9 s2=5 l1=7 l2=3 L3=0 PK_end=1484
(fs_start=1433)
                TCCCACA
AAGGCAGGCTAATTTTTTAGGGAAGCTCTGGCCT
                GGGACCGGA  AGGGA
                TTCCTCC
      AAT
=====
(1612) EU000511
=====
PK1:  -15.625000(kcal/mol): PK_start=1413 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1441
(fs_start=1433)
                A
GAAAGGAAGGACACCAAATGAAAGACTGT
                GACA  GAAAGTC
                TTTT TAGGG
      GCTAAT
PK2:  -20.500000(kcal/mol): PK_start=1418 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1454
(fs_start=1433)
                C
GAAGGACACCAAATGAAAGACTGTACTGAAAGA
                GATTTTTT A  ATCGGA
                TGGCCTTC
      GGAACTG
PK3:  -24.465000(kcal/mol): PK_start=1441 sp=0 s1=4 s2=6 l1=5 l2=8 L3=0 PK_end=1473
(fs_start=1433)
                AACTG
TACTGAAAGACAGGCTAATTTTTTAGGGA
                CCCT  TCCGGT

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                                AGGCCAGG
          ACAAGGGA
PK4:  -23.035000(kcal/mol): PK_start=1450 sp=9 s1=6 s2=5 l1=7 l2=6 L3=0 PK_end=1484
(fs_start=1433)
                                TCCCACA
ACAGGCTAATTTTTTAGGGAAACTGTGGCCT
                                ACCGGA   AGGGA
                                TTCCTCC
          GGAAT

=====
(1613) EU000512
=====
PK1:  -11.500000(kcal/mol): PK_start=1413 sp=0 s1=3 s2=7 l1=5 l2=17 L3=1 PK_end=1454
(fs_start=1448)
                                CCAAA
GCTGTTGGAAATGTGGAAAGGAAGGACA
                                TGT   C   AGAAAGT
                                TTTTTTAGG
          ACCGAAAGGCAGGCTAA

PK2:  -15.950000(kcal/mol): PK_start=1435 sp=0 s1=5 s2=6 l1=2 l2=11 L3=1 PK_end=1469
(fs_start=1448)
                                GC
AGGACACCAAATGAAAGACTGTACCGAAAG
                                TTTTT   A   ATCGGA
                                TGGCCTC
          TAGGGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1456 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1490
(fs_start=1448)
                                AAA
TACCGAAAGGCAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTCT
                                AGGCCAGGGA
          ACAAGGGG

PK4:  -27.515000(kcal/mol): PK_start=1463 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1501
(fs_start=1448)
                                TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCT
                                GGACCGGA   GGGG
                                CTCCAG
          GAATTC

PK4B:  -30.395000(kcal/mol): PK_start=1463 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1526
(fs_start=1448)
                                TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCT
                                GGACCGGA   GGGG

```

CCCCGC
GAATTTCCCTCCAGAGCAGACCAGAGCCAACAG

=====
(1614) EU000513
=====

PK1: -11.500000(kcal/mol): PK_start=1416 sp=0 s1=3 s2=7 l1=5 l2=17 L3=1 PK_end=1457
(fs_start=1451)

CCAAA
GCTGTTGGAAATGTGGAAAGGAAGGACA

TGT C AGAAAGT

TTTTTTAGG
ACCGAAAGGCAGGCTAA

PK2: -15.950000(kcal/mol): PK_start=1438 sp=0 s1=5 s2=6 l1=2 l2=11 L3=1 PK_end=1472
(fs_start=1451)

GC
AGGACACCAAATGAAAGACTGTACCGAAAG

TTTTT A ATCGGA

TGGCCTTC
TAGGGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1459 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1493
(fs_start=1451)

AAA
TACCGAAAGGCAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT

AGGCCAGGGA
ACAAGGGG

PK4: -28.605000(kcal/mol): PK_start=1466 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1503
(fs_start=1451)

TCCCACA
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCT

GGACCGGA GGGGA

TCCCTCA
GAATT

PK4B: -28.125000(kcal/mol): PK_start=1466 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1529
(fs_start=1451)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCT

GGACCGGA GGGG

TCCCAA
GAATTTCCCTCAGAGCAGACCAGAGCCAACAG

=====
(1615) EU000514
=====

PK1: -11.500000(kcal/mol): PK_start=1416 sp=0 s1=3 s2=7 l1=5 l2=17 L3=1 PK_end=1457
(fs_start=1451)

CCAAA
GCTGTTGGAAATGTGGAAAGGAAGGACA

TGT C AGAAAGT
 TTTTTTAGG
 ACCGAAAGGCAGGCTAA
 PK2: -15.950000(kcal/mol): PK_start=1438 sp=0 s1=5 s2=6 l1=2 l2=11 L3=1 PK_end=1472
 (fs_start=1451)
 GC
 AGGACACCAAATGAAAGACTGTACCGAAAG
 TTTTT A ATCGGA
 TGGCCTTC
 TAGGGAAAATC
 PK3: -27.275000(kcal/mol): PK_start=1459 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1493
 (fs_start=1451)
 AAA
 TACCGAAAGGCAGGCTAATTTTTTAGGGA
 CCCT TCCGGTCT
 AGGCCAGGGA
 ACAAGGGG
 PK4: -28.540000(kcal/mol): PK_start=1466 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1503
 (fs_start=1451)
 CCAC
 AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
 GGACCGGAGG GGAA
 CCTTCA
 GAATTT
 PK4B: -28.125000(kcal/mol): PK_start=1466 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1529
 (fs_start=1451)
 TCCCACAA
 AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCT
 GGACCGGA GGGG
 TCCCACAA
 GAATTTCTTCAGAGCCGACCAGAGCCAACAG
 =====
 (1616) EU000515
 =====
 PK1: -13.555000(kcal/mol): PK_start=1436 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1464
 (fs_start=1456)
 A
 GAAAGGAAGGACACCAAATGAAAGATTGT
 GACA GAGAGTC
 TTTTTAGGG
 GCTAAT
 PK2: -20.460000(kcal/mol): PK_start=1441 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1477
 (fs_start=1456)
 C
 GAAGGACACCAAATGAAAGATTGTACTGAGAGA

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          GATTTTTT A ATCGGA
                    TGGCCTTC
      GGAAGATC
PK3:  -26.110000(kcal/mol): PK_start=1464 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1498
(fs_start=1456)
          A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
          CCCTTC   CGGTCT
                    GCCAGGGA
      ACAAGGGGAG
PK4:  -27.515000(kcal/mol): PK_start=1471 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1509
(fs_start=1456)
                    TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
          GGACCGGA   GGGG
                    CTCCAG
      GAATTTTC
PK4B: -30.395000(kcal/mol): PK_start=1471 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1534
(fs_start=1456)
                    TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
          GGACCGGA   GGGG
                    CCCCAC
      GAATTTCTCCAGAGCAGGCCAGGCCATCAG
=====
(1617) EU000516
=====
PK1:  -13.305000(kcal/mol): PK_start=1437 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1464
(fs_start=1456)
          A
AAAGGAAGGACACCAAATGAAAGAATGT
          ACA   GAGAGTC
                    TTTTTAGGG
      GGCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1441 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1477
(fs_start=1456)
          C
GAAGGACACCAAATGAAAGAATGTACTGAGAGA
          GATTTTTT A ATCGGA
                    TGGCCTTC
      GGAAGATC
PK3:  -26.110000(kcal/mol): PK_start=1464 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1498
(fs_start=1456)
          A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG

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          CCCTTC   CGGTCT
                    GCCAGGGA
          ACAAGGGGAG

PK4:  -27.515000(kcal/mol): PK_start=1471 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1509
(fs_start=1456)
                    TCCCACAA
AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCT
                    GGACCGGA   GGGG
                    CTCCAG
          GAATTTTC

PK4B:  -30.395000(kcal/mol): PK_start=1471 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1534
(fs_start=1456)
                    TCCCACAA
AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCT
                    GGACCGGA   GGGG
                    CCCCAC
          GAATTTCCCTCCAGAGCAGGCCAGAGCCATCAG

=====
(1618) EU031913
=====
PK1:  -10.975000(kcal/mol): PK_start=1359 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=1386
(fs_start=1379)
                    AG
GGAAGGAAGGACATCAAATGAAAGATTGT
                    GACA   GAGAGT
                    TTTTTAGG
          AGTAAT

PK2:  -16.000000(kcal/mol): PK_start=1366 sp=0 s1=5 s2=6 l1=1 l2=7 L3=2 PK_end=1395
(fs_start=1379)
                    A
AGGACATCAAATGAAAGATTGTAGTGAGAG
                    TTTTT  AA  TGAGAC
                    ACTCTGGC
          TAGGAAA

PK3:  -27.225000(kcal/mol): PK_start=1387 sp=0 s1=3 s2=9 l1=3 l2=9 L3=0 PK_end=1422
(fs_start=1379)
                    AAA
TAGTGAGAGACAGAGTAATTTTTTTAGGA
                    CCT   TCCGGTCTC
                    AGGCCAGGGAA
          AACAAAGGA

PK4:  -27.290000(kcal/mol): PK_start=1394 sp=7 s1=10 s2=4 l1=4 l2=3 L3=0 PK_end=1428
(fs_start=1379)
                    CAAC
AGACAGAGTAATTTTTTTAGGAAAACCTCTGGCCTTC

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                GGACCGGAAG      GAAA
                                CTTTAT
          GAA
=====
(1619) EU031914
=====
PK1:  -15.100000(kcal/mol): PK_start=2020 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2048
(fs_start=2040)
                CA
GGAAGGAAGGACATCAAATGAAAGACTG
                GAC      AGAGAGTC
                                TTTTTTAGGG
          GCTAA

PK2:  -21.940000(kcal/mol): PK_start=2025 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2062
(fs_start=2040)
                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT      AATCGGA
                                TTGGCCTTC
          GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=2049 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2082
(fs_start=2040)
                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                CCT      TCCGGTTT
                                AGGCCAGGCA
          AACAAGGGG

PK4:  -22.215000(kcal/mol): PK_start=2055 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=2092
(fs_start=2040)
                CCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
                GGACCGGAG      GGGA
                                TCCTCA
          CAATTT

PK4B:  -26.865000(kcal/mol): PK_start=2055 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2118
(fs_start=2040)
                TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA      GGGG
                                CCCCAC
          CAATTTTCCTCAGAACAGACTAGAGCCAACAG
=====
(1620) EU031915
=====

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PK1: -13.555000(kcal/mol): PK_start=1472 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1500
(fs_start=1492)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -19.080000(kcal/mol): PK_start=1477 sp=0 s1=8 s2=5 l1=2 l2=8 L3=1 PK_end=1512
(fs_start=1492)

CA
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGG
TGCCCT
GGAAGATC

PK3: -24.730000(kcal/mol): PK_start=1500 sp=0 s1=4 s2=7 l1=3 l2=9 L3=1 PK_end=1533
(fs_start=1492)

AGA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT C CCGGTCT
GGCCAGGGA
ACAAGGGAA

PK4: -23.190000(kcal/mol): PK_start=1507 sp=7 s1=7 s2=6 l1=8 l2=4 L3=0 PK_end=1544
(fs_start=1492)

CTCCCACA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCC
GGACCGG AAGGGA
TTTCTTCA
GAAC

=====
(1621) EU074775
=====

PK1: -11.420000(kcal/mol): PK_start=1381 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=1407
(fs_start=1401)

CACA
GAAAGGAGGGACATCAAATGAAAGACTG
GAC AGAGAG
TTTTTTAG
GCTAA

PK2: -17.180000(kcal/mol): PK_start=1388 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=1422
(fs_start=1401)

C
GGGACATCAAATGAAAGACTGCACAGAGAGA
TTTTTT A ATCGGA
TGGCCTC
AGGGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1409 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1443
(fs_start=1401)

AAA
CACAGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=1416 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1453
(fs_start=1401)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1416 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1479
(fs_start=1401)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCTTCAGAGCAGACCAGCCAACAG

=====
(1622) EU074777

=====
PK1: -11.420000(kcal/mol): PK_start=1361 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=1387
(fs_start=1381)

CACA
GAAAGGAGGGACATCAAATGAAAGACTG
GAC AGAGAG
TTTTTTAG
GCTAA

PK2: -17.180000(kcal/mol): PK_start=1368 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=1402
(fs_start=1381)

C
GGGACATCAAATGAAAGACTGCACAGAGAGA
TTTTTT A ATCGGA
TGGCCTTC
AGGGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1389 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1423
(fs_start=1381)

AAA
CACAGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=1396 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1433
(fs_start=1381)

```

                                CCAC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAGG    GGAA
                                TCTTCA
                                GAATTT
```

PK4B: -30.395000(kcal/mol): PK_start=1396 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=1459
(fs_start=1381)

```

                                TCCCACAA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT
                                GGACCGGA    GGGG
                                CCCCAC
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG
```

=====
(1623) EU074778
=====

PK1: -11.420000(kcal/mol): PK_start=1302 sp=0 s1=3 s2=6 l1=4 l2=5 l3=0 PK_end=1328
(fs_start=1322)

```

                                CACA
GAAAGGAGGGACATCAAATGAAAGACTG
                                GAC    AGAGAG
                                TTTTTTAG
                                GCTAA
```

PK2: -17.180000(kcal/mol): PK_start=1309 sp=0 s1=6 s2=6 l1=1 l2=10 l3=1 PK_end=1343
(fs_start=1322)

```

                                C
GGGACATCAAATGAAAGACTGCACAGAGAGA
                                TTTTTT    A    ATCGGA
                                TGGCCTTC
                                AGGGAAAATC
```

PK3: -27.275000(kcal/mol): PK_start=1330 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=1364
(fs_start=1322)

```

                                AAA
CACAGAGAGACAGGCTAATTTTTTTAGGGA
                                CCCT    TCCGGTCT
                                AGGCCAGGAA
                                ACAAGGGG
```

PK4: -26.235000(kcal/mol): PK_start=1337 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1374
(fs_start=1322)

```

                                CCAC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAGG    GGAA
                                TCTTCA
                                AAATTT
```

PK4B: -30.395000(kcal/mol): PK_start=1337 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1400
(fs_start=1322)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(1624) EU074781
=====

PK1: -11.420000(kcal/mol): PK_start=1434 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=1460
(fs_start=1454)

CACA
GAAAGGAGGGACATCAAATGAAAGACTG
GAC AGAGAG
TTTTTTAG
GCTAA

PK2: -17.180000(kcal/mol): PK_start=1441 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=1475
(fs_start=1454)

C
GGGACATCAAATGAAAGACTGCACAGAGAGA
TTTTTT A ATCGGA
TGGCCTTC
AGGGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1462 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1496
(fs_start=1454)

AAA
CACAGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=1469 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1506
(fs_start=1454)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1469 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1532
(fs_start=1454)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(1625) EU074782
=====

PK1: -11.46000(kcal/mol): PK_start=1514 sp=0 s1=3 s2=6 l1=4 l2=5 l3=0 PK_end=1540
(fs_start=1534)

CACA
GAAARGAGGGACATCAAATGAAAGACTG
GAC AGAAAG
TTTTTTAG
GCTAA

PK2: -17.22000(kcal/mol): PK_start=1521 sp=0 s1=6 s2=6 l1=1 l2=10 l3=1 PK_end=1555
(fs_start=1534)

C
GGGACATCAAATGAAAGACTGCACAGAAAAGA
TTTTTT A ATCGGA
TGGCCTC
AGGGAAAATC

PK3: -27.27500(kcal/mol): PK_start=1542 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=1576
(fs_start=1534)

AAA
CACAGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -26.23500(kcal/mol): PK_start=1549 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1586
(fs_start=1534)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.39500(kcal/mol): PK_start=1549 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=1612
(fs_start=1534)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(1626) EU110085
=====

PK1: -15.14000(kcal/mol): PK_start=1387 sp=0 s1=3 s2=8 l1=2 l2=5 l3=0 PK_end=1415
(fs_start=1407)

CA
GGAAGGAGGGACACCAAATGAAAGACTG
GAC AGAAAGTC

TTTTTTAGGG
GCTAA
PK2: -21.980000(kcal/mol): PK_start=1392 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1429
(fs_start=1407)

C
GAGGGACACCAAATGAAAGACTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAGAAT

PK3: -18.840000(kcal/mol): PK_start=1415 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1449
(fs_start=1407)

AA
CACTGAAAGACAGGCTAATTTTTTTAGGGAG
CCTTC CGGTTT
GCCAGGAA
CACAAAGGGGAG

PK4: -25.075000(kcal/mol): PK_start=1422 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1459
(fs_start=1407)

TCCCACA
AGACAGGCTAATTTTTTTAGGGAGAATTTGGCCT
GGACCGGA GGGGA
TCCCTCA
AAATT

PK4B: -26.865000(kcal/mol): PK_start=1422 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1485
(fs_start=1407)

TCCCACAA
AGACAGGCTAATTTTTTTAGGGAGAATTTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTCCCTCAGAGCAGACCAGAGCCAACAG

=====
(1627) EU110086
=====

PK1: -14.985000(kcal/mol): PK_start=1388 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1416
(fs_start=1408)

A
GAAAGGAAGGACATCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1393 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1430
(fs_start=1408)

C
GAAGGACATCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1417 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1450
(fs_start=1408)

AAA

ACTGAGAGGCAGGCTAATTTTTTAGGGA

CCT TCCGGTTT

AGGCCAGGGA

AGCAAGGGA

PK4: -25.490000(kcal/mol): PK_start=1423 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1460
(fs_start=1408)

CAGC

AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC

GGACCGGAAG GGAA

CCTTCA

GAATTT

=====
(1628) EU110087
=====

PK1: -15.140000(kcal/mol): PK_start=1381 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1409
(fs_start=1401)

CA

GAAAGGAGGGACACCAAATGAAAGACTG

GAC AGAAAGTC

TTTTTTTAGGG

GCTAA

PK2: -21.980000(kcal/mol): PK_start=1386 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1423
(fs_start=1401)

C

GAGGGACACCAAATGAAAGACTGCACTGAAAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1410 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1443
(fs_start=1401)

AAA

ACTGAAAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT

AGGCCAGGAA

AGCAAGGGG

PK4: -22.215000(kcal/mol): PK_start=1416 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1453
(fs_start=1401)

CCAGCA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT

GGACCGGAG GGGA

TCCTCA

AAATTT

PK4B: -26.865000(kcal/mol): PK_start=1416 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1479
(fs_start=1401)

TCCAGCAA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG

CCCCAC

AAATTTTCCTCAGAGCAGACCGGAGCCAACAG

=====
(1629) EU110088
=====

PK1: -15.100000(kcal/mol): PK_start=1388 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1416
(fs_start=1408)

CA

GGAAAGAGGGACACCAAATGAAAGACTG

GAC AGAGAGTC

TTTTTTAGGG

GCTAA

PK2: -21.940000(kcal/mol): PK_start=1393 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1430
(fs_start=1408)

C

GAGGGACACCAAATGAAAGACTGCACTGAGAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAGAAT

PK3: -18.840000(kcal/mol): PK_start=1416 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1450
(fs_start=1408)

AA

CACTGAGAGACAGGCTAATTTTTTAGGGAG

CCTTC CGGTTT

GCCAGGAA

AGCAAAGGGAG

PK4: -22.840000(kcal/mol): PK_start=1423 sp=7 s1=7 s2=4 l1=10 l2=6 L3=0 PK_end=1460
(fs_start=1408)

TTCCAGCAAA

AGACAGGCTAATTTTTTAGGGAGAATTTGGCC

GGACCGG AGGG

TCCCCA

AAACTT

=====
(1630) EU110089
=====

PK1: -15.140000(kcal/mol): PK_start=1397 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1425
(fs_start=1417)

CA

GGAAGGAAGGACATCAAATGAAAGACTG

```

          GAC   AGAAAGTC
                TTTTTTAGGG
    GCTAA
PK2:  -20.50000(kcal/mol): PK_start=1402 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1438
(fs_start=1417)
                C
GAAGGACATCAAATGAAAGACTGCACTGAAAGA
                GATTTTTT A  ATCGGA
                                TGGCCTTC
                GGAAAATC
PK3:  -23.81500(kcal/mol): PK_start=1426 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1459
(fs_start=1417)
                AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
                CCT   TCCGGTCT
                                AGGCCAGGAA
                AACAAAGGG
PK4:  -26.27500(kcal/mol): PK_start=1432 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1469
(fs_start=1417)
                TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                GGACCGGA   GGGAA
                                TCCTTCA
                AAACT
=====
(1631) EU110090
=====
PK1:  -10.64000(kcal/mol): PK_start=1387 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1425
(fs_start=1418)
                A
TTGGAAATGTGGAAGGGAAGGACACCAA
                GTT   AGAAAGT
                                TTTTTTAGG
                CACTGAAAGACAGGCTAA
PK2:  -21.98000(kcal/mol): PK_start=1403 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1440
(fs_start=1418)
                C
GAAGGACACCAAATGAAAGATTGCACTGAAAGA
                GATTTTTT   AATCGGA
                                TTGGCCTTC
                GGAGAAT
PK3:  -18.84000(kcal/mol): PK_start=1426 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1460
(fs_start=1418)
                AA
CACTGAAAGACAGGCTAATTTTTTAGGGAG

```

```

          CCTTC   CGGTTT
                    GCCAGGAA
          AGCAAAGGAAG

PK4:  -23.395000(kcal/mol): PK_start=1433 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1470
(fs_start=1418)
                    TCCAGCA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
                    GGACCGGA   AGGAA
                    TCCTTCA
          AAACT

=====
(1632) EU110091
=====
PK1:  -15.100000(kcal/mol): PK_start=1380 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1408
(fs_start=1400)
                    CA
GGAAGGAAGGACACCAAATGAAAGACTG
                    GAC   AGAGAGTC
                    TTTTTTAGGG
          GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1385 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1422
(fs_start=1400)
                    C
GAAGGACACCAAATGAAAGACTGCACTGAGAGA
                    GATTTTTT   AATCGGA
                    TTGGCCTTC
          GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1409 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1442
(fs_start=1400)
                    AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                    CCT   TCCGGTTT
                    AGGCCAGGGA
          AACAAGGGG

PK4:  -25.010000(kcal/mol): PK_start=1415 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1452
(fs_start=1400)
                    CAAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
                    GGACCGGAGG   GGAA
                    CCTTCA
          GAATTT

PK4B:  -26.865000(kcal/mol): PK_start=1415 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1478
(fs_start=1400)
                    TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

```

GGACCGGA GGGG
CCCCAC
GAATTTCCCTTCAGAACAGACCAGAGCCAACAG

=====
(1633) EU110092
=====

PK1: -15.625000(kcal/mol): PK_start=1387 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1415
(fs_start=1407)

A
GGAAGGAGGGACACCAAATGAAAGACTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -21.980000(kcal/mol): PK_start=1392 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1429
(fs_start=1407)

C
GAGGGACACCAAATGAAAGACTGTACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAACT

PK3: -20.285000(kcal/mol): PK_start=1416 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1449
(fs_start=1407)

AAC
ACTGAAAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AGCAAAGGG

PK4: -21.815000(kcal/mol): PK_start=1422 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1459
(fs_start=1407)

TCCAGCAA
AGACAGGCTAATTTTTTAGGAACTTTGGCCT
GGACCGGA GGGA
TCCTCA
AAATTT

=====
(1634) EU110093
=====

PK1: -15.140000(kcal/mol): PK_start=1379 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1407
(fs_start=1399)

CA
GGAAGGAGGGACACCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -21.980000(kcal/mol): PK_start=1384 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1421
(fs_start=1399)

C
GAGGGACACCAAATGAAAGACTGCACTGAAAGA
GATTTTTT AATCGGA
TTGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1408 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1441
(fs_start=1399)

AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AGCAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1414 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1451
(fs_start=1399)

CAGC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
AAACTT

PK4B: -26.865000(kcal/mol): PK_start=1414 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1477
(fs_start=1399)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
AAACTTCCTTCAGAGCAGACCAGAGCCAACAG

=====
(1635) EU110094
=====

PK1: -10.390000(kcal/mol): PK_start=1374 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1412
(fs_start=1405)

A
TTGGAAATGTGGGAAAGAAGGACACCAG
GTT AGAAAGT
TTTTTTAGG
CACTGAGAGACAGGCTAA

PK2: -20.460000(kcal/mol): PK_start=1390 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1426
(fs_start=1405)

C
GAAGGACACCAGATGAAAGATTGCACTGAGAGA
GATTTTTT A ATCGGA
TGCCTTC
GGAAAATC

PK3: -23.815000(kcal/mol): PK_start=1414 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1447
(fs_start=1405)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTCT
AGGCCAGGAA
AGCAAGGGG

PK4: -30.530000(kcal/mol): PK_start=1420 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=1458
(fs_start=1405)

TTCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCC
GGACCGG AGGGG
TCCCCAG
AAATTT

PK4B: -25.710000(kcal/mol): PK_start=1421 sp=8 s1=6 s2=4 l1=9 l2=33 L3=1 PK_end=1482
(fs_start=1405)

TTCCAGCAA
GACAGGCTAATTTTTTAGGGAAAATCTGGCC
GACCGG A GGGG
CCCCAC
GAAATTTTCCCCAGAGCAGACCGGAGCCAACAG

=====
(1636) EU110095

=====
PK1: -15.140000(kcal/mol): PK_start=1386 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1414
(fs_start=1406)

CA
GAAAGGAGGGACACCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -21.980000(kcal/mol): PK_start=1391 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1428
(fs_start=1406)

C
GAGGGACACCAAATGAAAGACTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1415 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1448
(fs_start=1406)

AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AGCAAGGGG

PK4: -22.215000(kcal/mol): PK_start=1421 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1458
(fs_start=1406)

CCAGCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGAG GGGA
TCCTCA
AAATTT

PK4B: -26.865000(kcal/mol): PK_start=1421 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1484
(fs_start=1406)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGA GGGG
CCCCAC
AAATTTTCCTCAGAGCAGACCGGAGCCAACAG

=====
(1637) EU110096
=====

PK1: -15.100000(kcal/mol): PK_start=1375 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1403
(fs_start=1395)

CA
GGAAGGAAGGACACCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -20.460000(kcal/mol): PK_start=1380 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1416
(fs_start=1395)

C
GAAGGACACCAAATGAAAGACTGCACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -23.815000(kcal/mol): PK_start=1404 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1437
(fs_start=1395)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTCT
AGGCCAGGGA
AACAAGGGG

PK4: -28.540000(kcal/mol): PK_start=1410 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1447
(fs_start=1395)

CAAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1410 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1473
(fs_start=1395)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCCCTTCAGAACAGACCAGAGCCAACAG

=====
(1638) EU110097
=====

PK1: -15.625000(kcal/mol): PK_start=1387 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1415
(fs_start=1407)

A
GGAAGGAGGGACACCAAATGAAAGACTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -21.980000(kcal/mol): PK_start=1392 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1429
(fs_start=1407)

C
GAGGGACACCAAATGAAAGACTGTACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAACT

PK3: -20.285000(kcal/mol): PK_start=1416 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1449
(fs_start=1407)

AAC
ACTGAAAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AGCAAAGGG

PK4: -21.815000(kcal/mol): PK_start=1422 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1459
(fs_start=1407)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAACTTTGGCCT
GGACCGGA GGGG
TCCTCA
AAATTT

=====
(1639) EU170136
=====

PK1: -15.140000(kcal/mol): PK_start=1604 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1632
(fs_start=1624)

CA
GAAGAGAGGGACACCAAATGAAAGACTG
GAC AGAAAGTC


```

                TTTTTTAGGG
          GCTAA

PK2:  -21.980000(kcal/mol): PK_start=1609 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1646
(fs_start=1624)
                C
GAGGGACACCAAATGAAAGACTGCACTGAAAGA
                GATTTTTT   AATCGGA
                TTGGCCTTC
          GGAAAAT

PK3:  -21.780000(kcal/mol): PK_start=1632 sp=0 s1=5 s2=4 l1=5 l2=9 L3=0 PK_end=1663
(fs_start=1624)
                AATTT
CACTGAAAGACAGGCTAATTTTTTAGGGAA
                CCCTT   CCGG
                GGCCCG
          ACAAGGGGA

PK4:  -21.795000(kcal/mol): PK_start=1642 sp=10 s1=5 s2=4 l1=8 l2=10 L3=0 PK_end=1677
(fs_start=1624)
                TCCCACAA
CAGGCTAATTTTTTAGGGAAAATTTGGCCT
                CCGGA   GGGG
                CTCCAG
          CGGAAATTC

=====
(1640) EU170138
=====
PK1:  -15.140000(kcal/mol): PK_start=1599 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1627
(fs_start=1619)
                CA
GAAAAGAGGGACACCAAATGAAAGACTG
                GAC   AGAAAGTC
                TTTTTTAGGG
          GCTAA

PK2:  -21.980000(kcal/mol): PK_start=1604 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1641
(fs_start=1619)
                C
GAGGGACACCAAATGAAAGACTGCACTGAAAGA
                GATTTTTT   AATCGGA
                TTGGCCTTC
          GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1628 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1661
(fs_start=1619)
                AAA
ACTGAAAGACAGGCTAATTTTTTAGGGAA
                CCT   TCCGGTTT

```

AGGCCAGGAA

AGCAAGGGG

PK4: -23.985000(kcal/mol): PK_start=1634 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1672
(fs_start=1619)

TCCAGCAA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG

CTCCAG

AAATTTTC

=====
(1641) EU170139
=====

PK1: -15.140000(kcal/mol): PK_start=1606 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1634
(fs_start=1626)

CA

GAAGAGAGGGACACCAAATGAAAGACTG

GAC AGAAAGTC

TTTTTTAGGG

GCTAA

PK2: -21.980000(kcal/mol): PK_start=1611 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1648
(fs_start=1626)

C

GAGGGACACCAAATGAAAGACTGCACTGAAAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1635 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1668
(fs_start=1626)

AAA

ACTGAAAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT

AGGCCAGGAA

AACAAGGGG

PK4: -23.985000(kcal/mol): PK_start=1641 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1679
(fs_start=1626)

TCCAACAA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG

CTCCAG

AAATTTTC

=====
(1642) EU170140
=====

PK1: -15.140000(kcal/mol): PK_start=1604 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1632
(fs_start=1624)

CA

GAAGAGAGGGACACCAAATGAAAGACTG

GAC AGAAAGTC
TTTTTTAGGG
GCTAA
PK2: -21.980000(kcal/mol): PK_start=1609 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1646
(fs_start=1624)

C
GAGGGACACCAAATGAAAGACTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1633 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1666
(fs_start=1624)

AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
ACAAGGGG

PK4: -23.985000(kcal/mol): PK_start=1639 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1677
(fs_start=1624)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CTCCAG
AAATTTTC

PK4B: -26.865000(kcal/mol): PK_start=1639 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1702
(fs_start=1624)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCGC
AAATTTCTCCAGAACAGGACAGAGCCAACAG

=====
(1643) EU170141
=====

PK1: -15.140000(kcal/mol): PK_start=1269 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1297
(fs_start=1289)

CA
GAAGAGAGGGACACCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -21.980000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1311
(fs_start=1289)

C
GAGGGACACCAAATGAAAGACTGCACTGAAAGA

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          GATTTTTT   AATCGGA
                    TTGGCCTTC
      GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1298 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1331
(fs_start=1289)
          AAA
ACTGAAAGACAGGCTAATTTTTTTAGGGA

          CCT   TCCGGTTT
                    AGGCCAGGAA
      AACAAGGGG

PK4:  -23.985000(kcal/mol): PK_start=1304 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1342
(fs_start=1289)
                    TCCAACAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT

          GGACCGGA   GGGG
                    CTCCAG
      AAATTTTC

=====
(1644) EU170142
=====
PK1:  -15.140000(kcal/mol): PK_start=1578 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1606
(fs_start=1598)
          CA
GAAGAGAGGGACACCAAATGAAAGACTG

          GAC   AGAAAGTC
                    TTTTTTTAGGG
      GCTAA

PK2:  -21.980000(kcal/mol): PK_start=1583 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1620
(fs_start=1598)
          C
GAGGGACACCAAATGAAAGACTGCACTGAAAGA

          GATTTTTT   AATCGGA
                    TTGGCCTTC
      GGAAAAT

PK3:  -18.320000(kcal/mol): PK_start=1607 sp=0 s1=4 s2=4 l1=5 l2=10 L3=0 PK_end=1637
(fs_start=1598)
          AATTT
ACTGAAAGACAGGCTAATTTTTTTAGGGAA

          CCTT   CCGG
                    GGCCCG
      YACAAGGGGA

PK4:  -21.795000(kcal/mol): PK_start=1616 sp=10 s1=5 s2=4 l1=8 l2=10 L3=0 PK_end=1651
(fs_start=1598)
          TCCYACAA
CAGGCTAATTTTTTTAGGGAAAATTTGGCCT

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                CCGGA   GGGG
                    CTCCAG
            CGGAAATTTTC

=====
(1645) EU170143
=====
PK1:  -15.140000(kcal/mol): PK_start=1603 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1631
(fs_start=1623)
                CA
GAAGAGAGGGGACACCAAATGAAAGACTG

                GAC   AGAAAGTC
                    TTTTTTAGGG
            GCTAA

PK2:  -21.980000(kcal/mol): PK_start=1608 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1645
(fs_start=1623)
                C
GAGGGACACCAAATGAAAGACTGCACTGAAAGA

                GATTTTTT   AATCGGA
                    TTGGCCTTC
            GGAAAAT

PK3:  -21.780000(kcal/mol): PK_start=1631 sp=0 s1=5 s2=4 l1=5 l2=9 L3=0 PK_end=1662
(fs_start=1623)
                AATTT
CACTGAAAGACAGGCTAATTTTTTAGGGAA

                CCCTT   CCGG
                    GGCCCG
            ACAAGGGGA

PK4:  -21.795000(kcal/mol): PK_start=1641 sp=10 s1=5 s2=4 l1=8 l2=10 L3=0 PK_end=1676
(fs_start=1623)
                TCCCACAA
CAGGCTAATTTTTTAGGGAAAATTTGGCCT

                CCGGA   GGGG
                    CTCCAG
            CGGAAATTTTC

=====
(1646) EU170144
=====
PK1:  -15.140000(kcal/mol): PK_start=1604 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1632
(fs_start=1624)
                CA
GAAGAGAGGGGACACCAAATGAAAGACTG

                GAC   AGAAAGTC
                    TTTTTTAGGG
            GCTAA

```

PK2: -21.980000(kcal/mol): PK_start=1609 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1646 (fs_start=1624)

C
GAGGGACACCAAATGAAAGACTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -21.780000(kcal/mol): PK_start=1632 sp=0 s1=5 s2=4 l1=5 l2=9 L3=0 PK_end=1663 (fs_start=1624)

AATTT
CACTGAAAGACAGGCTAATTTTTTAGGGAA
CCCTT CCGG
GGCCCG
ACAAGGGGA

PK4: -21.795000(kcal/mol): PK_start=1642 sp=10 s1=5 s2=4 l1=8 l2=10 L3=0 PK_end=1677 (fs_start=1624)

TCCCACAA
CAGGCTAATTTTTTAGGGAAAATTTGGCCT
CCGGA GGGG
CTCCAG
CGGAAATTC

=====
(1647) EU170145
=====

PK1: -15.140000(kcal/mol): PK_start=1581 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1609 (fs_start=1601)

CA
GAAGAGAGGGACACCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -21.980000(kcal/mol): PK_start=1586 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1623 (fs_start=1601)

C
GAGGGACACCAAATGAAAGACTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.730000(kcal/mol): PK_start=1609 sp=0 s1=5 s2=4 l1=5 l2=9 L3=0 PK_end=1640 (fs_start=1601)

AATTT
CACTGAAAGACAGGCTAATTTTTTAGGGAA
TCCTT CCGG
GGCCCG
ACAAGGGGA

PK4: -21.795000(kcal/mol): PK_start=1619 sp=10 s1=5 s2=4 l1=8 l2=10 L3=0 PK_end=1654
(fs_start=1601)

TCCTACAA
CAGGCTAATTTTTTAGGGAAAATTTGGCCT
CCGGA GGGG
CTCCAG
CGGAAATTC

=====
(1648) EU170146
=====

PK1: -15.140000(kcal/mol): PK_start=1604 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1632
(fs_start=1624)

CA
GAAGAGAGGGACACCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -21.980000(kcal/mol): PK_start=1609 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1646
(fs_start=1624)

C
GAGGGACACCAAATGAAAGACTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.730000(kcal/mol): PK_start=1632 sp=0 s1=5 s2=4 l1=5 l2=9 L3=0 PK_end=1663
(fs_start=1624)

AATTT
CACTGAAAGACAGGCTAATTTTTTTAGGGAA
TCCTT CCGG
GGCCCG
ACAAGGGGA

PK4: -19.925000(kcal/mol): PK_start=1642 sp=10 s1=6 s2=4 l1=6 l2=8 L3=0 PK_end=1675
(fs_start=1624)

CCTACA
CAGGCTAATTTTTTTAGGGAAAATTTGGCCTT
CCGGAG GGA
TCCTYC
CGGAAATT

=====
(1649) EU170148
=====

PK1: -15.140000(kcal/mol): PK_start=1588 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1616
(fs_start=1608)

CA
GAAGAGAGGGACACCAAATGAAAGACTG
GAC AGAAAGTC

```

                TTTTTTAGGG
          GCTAA

PK2:  -21.980000(kcal/mol): PK_start=1593 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1630
(fs_start=1608)
                C
GAGGGACACCAAATGAAAGACTGCACTGAAAGA
                GATTTTTT   AATCGGA
                TTGGCCTTC
          GGAAAAT

PK3:  -20.730000(kcal/mol): PK_start=1616 sp=0 s1=5 s2=4 l1=5 l2=9 L3=0 PK_end=1647
(fs_start=1608)
                AATTT
CACTGAAAGACAGGCTAATTTTTTAGGGAA
                TCCTT   CCGG
                GGCCCG
          ACAAGGGGA

PK4:  -21.795000(kcal/mol): PK_start=1626 sp=10 s1=5 s2=4 l1=8 l2=10 L3=0 PK_end=1661
(fs_start=1608)
                TCCTACAA
CAGGCTAATTTTTTAGGGAAAATTTGGCCT
                CCGGA   GGGG
                CTCCAG
          CGGAAATTC

=====
(1650) EU170150
=====
PK1:  -15.140000(kcal/mol): PK_start=1560 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1588
(fs_start=1580)
                CA
GAAGAGAGGGACACCAAATGAAAGACTG
                GAC   AGAAAGTC
                TTTTTTAGGG
          GCTAA

PK2:  -21.980000(kcal/mol): PK_start=1565 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1602
(fs_start=1580)
                C
GAGGGACACCAAATGAAAGACTGCACTGAAAGA
                GATTTTTT   AATCGGA
                TTGGCCTTC
          GGAAAAT

PK3:  -20.730000(kcal/mol): PK_start=1588 sp=0 s1=5 s2=4 l1=5 l2=9 L3=0 PK_end=1619
(fs_start=1580)
                AATTT
CACTGAAAGACAGGCTAATTTTTTAGGGAA
                TCCTT   CCGG

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ACARGGGGA
 GGCCCG
 PK4: -21.795000(kcal/mol): PK_start=1598 sp=10 s1=5 s2=4 l1=8 l2=10 L3=0 PK_end=1633
 (fs_start=1580)
 TCCTACAR
 CAGGCTAATTTTTAGGGAAAATTTGGCCT
 CCGGA GGGG
 CTCCAG
 CGGAAATTC

=====
 (1651) EU170151
 =====

PK1: -15.140000(kcal/mol): PK_start=1600 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1628
 (fs_start=1620)
 CA
 GAAGAGAGGGACACCAAATGAAAGACTG
 GAC AGAAAGTC
 TTTTTTAGGG
 GCTAA

PK2: -21.980000(kcal/mol): PK_start=1605 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1642
 (fs_start=1620)
 C
 GAGGGACACCAAATGAAAGACTGCACTGAAAGA
 GATTTTTT AATCGGA
 TTGGCCTTC
 GGAAAAT

PK3: -20.730000(kcal/mol): PK_start=1628 sp=0 s1=5 s2=4 l1=5 l2=9 L3=0 PK_end=1659
 (fs_start=1620)
 AATTT
 CACTGAAAGACAGGCTAATTTTTTAGGGAA
 TCCTT CCGG
 GGCCCG
 GCAAGGGGA

PK4: -21.795000(kcal/mol): PK_start=1638 sp=10 s1=5 s2=4 l1=8 l2=10 L3=0 PK_end=1673
 (fs_start=1620)
 TCCTGCAA
 CAGGCTAATTTTTAGGGAAAATTTGGCCT
 CCGGA GGGG
 CTCCAG
 CGGAAATTC

=====
 (1652) EU170153
 =====

PK1: -15.140000(kcal/mol): PK_start=1578 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1606
 (fs_start=1598)
 CA
 GAAGAGAGGGACACCAAATGAAAGACTG

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                GAC   AGAAAGTC
                TTTTTTAGGG
GCTAA
PK2:  -20.50000(kcal/mol): PK_start=1583 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1619
(fs_start=1598)
                C
GAGGGACACCAAATGAAAGACTGCACTGAAAGA
                GATTTTTT A  ATCGGA
                TGGCCTTC
                GGAAAATC
PK3:  -20.73000(kcal/mol): PK_start=1606 sp=0 s1=5 s2=4 l1=5 l2=9 L3=0 PK_end=1637
(fs_start=1598)
                AATCT
CACTGAAAGACAGGCTAATTTTTTAGGGAA
                TCCTT   CCGG
                GGCCCG
                ACAAGGGGA
PK4:  -21.79500(kcal/mol): PK_start=1616 sp=10 s1=5 s2=4 l1=8 l2=10 L3=0 PK_end=1651
(fs_start=1598)
                TCCTACAA
CAGGCTAATTTTTTAGGGAAAATCTGGCCT
                CCGGA   GGGG
                CTCCAG
                CGGAAATTC

=====
(1653) EU170154
=====
PK1:  -15.14000(kcal/mol): PK_start=1605 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1633
(fs_start=1625)
                CA
GAAGAGAGGGACACCAAATGAAAGACTG
                GAC   AGAAAGTC
                TTTTTTAGGG
                GCTAA
PK2:  -21.98000(kcal/mol): PK_start=1610 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1647
(fs_start=1625)
                C
GAGGGACACCAAATGAAAGACTGCACTGAAAGA
                GATTTTTT AATCGGA
                TTGGCCTTC
                GGAAAAT
PK3:  -20.73000(kcal/mol): PK_start=1633 sp=0 s1=5 s2=4 l1=5 l2=9 L3=0 PK_end=1664
(fs_start=1625)
                AATTT
CACTGAAAGACAGGCTAATTTTTTAGGGAA

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          TCCTT   CCGG
                    GGCCCG
          RCAAGGGGA

PK4:  -21.795000(kcal/mol): PK_start=1643 sp=10 s1=5 s2=4 l1=8 l2=10 L3=0 PK_end=1678
(fs_start=1625)
                    TCCTRCAA
CAGGCTAATTTTTTAGGGAAAATTTGGCCT
                    CCGGA   GGGG
                    CTCCAG
          CGGAAATTC

=====
(1654) EU170155
=====
PK1:  -15.140000(kcal/mol): PK_start=1590 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1618
(fs_start=1610)
                    CA
GAAGAGAGGGACACCAAATGAAAGACTG
                    GAC   AGAAAGTC
                    TTTTTTAGGG
          GCTAA

PK2:  -20.500000(kcal/mol): PK_start=1595 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1631
(fs_start=1610)
                    C
GAGGGACACCAAATGAAAGACTGCACTGAAAGA
                    GATTTTTT A  ATCGGA
                    TGGCCTTC
          GGAAAATC

PK3:  -20.730000(kcal/mol): PK_start=1618 sp=0 s1=5 s2=4 l1=5 l2=9 L3=0 PK_end=1649
(fs_start=1610)
                    AATCT
CACTGAAAGACAGGCTAATTTTTTAGGGAA
                    TCCTT   CCGG
                    GGCCCG
          ACAAGGGGA

PK4:  -21.795000(kcal/mol): PK_start=1628 sp=10 s1=5 s2=4 l1=8 l2=10 L3=0 PK_end=1663
(fs_start=1610)
                    TCCTACAA
CAGGCTAATTTTTTAGGGAAAATCTGGCCT
                    CCGGA   GGGG
                    CTCCAG
          CGGAAATTC

=====
(1655) EU293444
=====

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PK1: -15.025000(kcal/mol): PK_start=2050 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2078
(fs_start=2070)

A
GAAAAGAAGGACACCAAATGAAGGACTGT
GACG GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.370000(kcal/mol): PK_start=2055 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2092
(fs_start=2070)

C
GAAGGACACCAAATGAAGGACTGTACTGAAAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAAT

PK3: -22.025000(kcal/mol): PK_start=2078 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2112
(fs_start=2070)

AAA
TACTGAAAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCGGGGA
ACAAGGGA

PK4: -23.770000(kcal/mol): PK_start=2085 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2122
(fs_start=2070)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGGCCGGAAG GGAA
CCTTCA
GAATTT

=====
(1656) EU293445
=====

PK1: -13.005000(kcal/mol): PK_start=2051 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=2078
(fs_start=2071)

GG
GAAGAGAAGGACACCAAATGAAAGACTGT
GACA GAGAGT
TTTTTAGG
GCTAAT

PK2: -19.560000(kcal/mol): PK_start=2057 sp=0 s1=7 s2=7 l1=1 l2=8 L3=0 PK_end=2093
(fs_start=2071)

C
AAGGACACCAAATGAAAGACTGTGGTGAGAGA
ATTTTTT AATCGGA
TTGGCCTTC
GGGAAAAAT

PK3: -23.745000(kcal/mol): PK_start=2079 sp=0 s1=4 s2=8 l1=3 l2=11 l3=0 PK_end=2116
(fs_start=2071)

AAA
TGGTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGAA
ACAAGGGGGG

PK4: -33.500000(kcal/mol): PK_start=2088 sp=9 s1=9 s2=4 l1=5 l2=34 l3=0 PK_end=2152
(fs_start=2071)

CACAA
ACAGGCTAATTTTTTAGGGAAAATTTGGCCTTCC
ACCGGAGGG GGGG
CCCCAC
GGAAATTTCTCCAGAACAGGCCAGGCCAACAG

=====
(1657) EU293446
=====

PK1: -15.585000(kcal/mol): PK_start=2052 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=2080
(fs_start=2072)

A
GAAGGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -21.940000(kcal/mol): PK_start=2057 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=2094
(fs_start=2072)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=2081 sp=0 s1=3 s2=8 l1=3 l2=9 l3=0 PK_end=2114
(fs_start=2072)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AACAAGGGG

PK4: -22.705000(kcal/mol): PK_start=2087 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=2124
(fs_start=2072)

CAAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=2087 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2150
(fs_start=2072)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCTTCAGAACAGGACAGAGCCAACAG

=====
(1658) EU293447
=====

PK1: -13.005000(kcal/mol): PK_start=2067 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=2094
(fs_start=2087)

AA
ACCAAATGAAAGACTGTATGAAAGACTGT
GACA GAGAGT
TTTTTAGG
GCTAAT

PK2: -19.660000(kcal/mol): PK_start=2073 sp=0 s1=7 s2=7 l1=1 l2=8 L3=0 PK_end=2109
(fs_start=2087)

C
TGAAAGACTGTATGAAAGACTGTAATGAGAGA
ATTTTTT AATCGGA
TTGGCCTTC
GGGAAAAT

PK3: -23.745000(kcal/mol): PK_start=2095 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2129
(fs_start=2087)

AAA
TAATGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=2102 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2139
(fs_start=2087)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=2102 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2165
(fs_start=2087)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCGC
GAATTTCTTCAGAGCAGACCAGAGCCAAGT

=====
(1659) EU293448
=====

PK1: -11.50000(kcal/mol): PK_start=2036 sp=0 s1=3 s2=7 l1=5 l2=23 l3=1 PK_end=2083
(fs_start=2077)

 CCAAA
GCTGTTGGAAATGTGGAAAGGAAGGACA

 TGT C AGAAAGT

 TTTTTTAGG
 ACTAGTGCTGAGAGACAGGCTAA

PK2: -21.64000(kcal/mol): PK_start=2062 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=2099
(fs_start=2077)

 C
CACCAAATGAAAGACTGTACTAGTGCTGAGAGA

 GATTTTTT AATCGGA

 TTGGCCTTC
 GGAAATT

PK3: -23.27500(kcal/mol): PK_start=2085 sp=0 s1=4 s2=9 l1=2 l2=8 l3=0 PK_end=2120
(fs_start=2077)

 AA
TGCTGAGAGACAGGCTAATTTTTTTAGGGA

 CCCT TCCGGTTTT

 AGGCCAGGGAA
 ACAAGGGG

PK4: -19.78500(kcal/mol): PK_start=2091 sp=6 s1=9 s2=4 l1=8 l2=6 l3=0 PK_end=2130
(fs_start=2077)

 TCCCACAA
GAGACAGGCTAATTTTTTTAGGGAAATTTTGGCCT

 GGGACCGGA GGGG

 CTTCAG
 AATTTT

PK4B: -26.39500(kcal/mol): PK_start=2091 sp=6 s1=9 s2=4 l1=8 l2=31 l3=0 PK_end=2155
(fs_start=2077)

 TCCCACAA
GAGACAGGCTAATTTTTTTAGGGAAATTTTGGCCT

 GGGACCGGA GGGG

 CCCCAC
 AATTTCTTCAGAACAGACCAGAGCCAACAG

=====
(1660) EU293449
=====

PK1: -13.59500(kcal/mol): PK_start=2054 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=2082
(fs_start=2074)

 A
GAAAGGAAGGACACCAAATGAAAGATTGT

 GACA GAAAGTC

TTTTTAGGG
GCTAAT
PK2: -20.50000(kcal/mol): PK_start=2059 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2095
(fs_start=2074)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.27500(kcal/mol): PK_start=2082 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2116
(fs_start=2074)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -28.54000(kcal/mol): PK_start=2089 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2126
(fs_start=2074)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -30.39500(kcal/mol): PK_start=2089 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2152
(fs_start=2074)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCTTCAGAGCAGGCCAGAGCCAACAG

=====
(1661) EU293450
=====

PK1: -15.58500(kcal/mol): PK_start=2053 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2081
(fs_start=2073)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -21.94000(kcal/mol): PK_start=2058 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2095
(fs_start=2073)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT AATCGGA


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                                TTGGCCTTC
          GGAAAAAT
PK3:  -23.745000(kcal/mol): PK_start=2081 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2115
(fs_start=2073)
                                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTTT
                                AGGCCAGGGA
          ACAAGGGG
PK4:  -22.705000(kcal/mol): PK_start=2088 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2125
(fs_start=2073)
                                CCAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
                                GGACCGGAGG   GGAA
                                TCTTCA
          GAATTT
PK4B: -24.595000(kcal/mol): PK_start=2088 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2151
(fs_start=2073)
                                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                                GGACCGGA   GGGG
                                TCCCAT
          GAATTTTCTTCAGAACAGACCAGAGCCAACAG

=====
(1662) EU446022
=====
PK1:  -15.585000(kcal/mol): PK_start=1391 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1419
(fs_start=1411)
                                A
GAAAAGAGGGACACCAAATGAAAGACTGT
                                GACA   GAGAGTC
                                TTTTATAGGG
          GCTAAT
PK2:  -21.940000(kcal/mol): PK_start=1396 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1433
(fs_start=1411)
                                C
GAGGGACACCAAATGAAAGACTGTACTGAGAGA
                                GATTTTTT   AATCGGA
                                TTGGCCTTC
          GGAAGAT
PK3:  -19.120000(kcal/mol): PK_start=1420 sp=0 s1=5 s2=6 l1=1 l2=11 L3=0 PK_end=1453
(fs_start=1411)
                                A
ACTGAGAGACAGGCTAATTTTTTAGGGAAG
                                CCTTC   CGGTTT

```

GCCAGGGA

AACAAGGGGAG

PK4: -25.010000(kcal/mol): PK_start=1426 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1463
(fs_start=1411)

CAAC

AGACAGGCTAATTTTTTTAGGGAAGATTTGGCCTTC

GGACCGGAGG GGAA

CCTTCA

GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1426 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1489
(fs_start=1411)

TCCAACAA

AGACAGGCTAATTTTTTTAGGGAAGATTTGGCCT

GGACCGGA GGGG

CCCCGC

GAATTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(1663) EU448295
=====

PK1: -10.440000(kcal/mol): PK_start=2045 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=2083
(fs_start=2076)

A

TTGGAAATGTGGGAAGGAAGGACATCAA

GTT AGAAAGT

TTTTTTTAGG

CACTGAGAGACAGGCTAA

PK2: -21.940000(kcal/mol): PK_start=2061 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2098
(fs_start=2076)

C

GAAGGACATCAAATGAAAGATTGCACTGAGAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=2085 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2118
(fs_start=2076)

AAA

ACTGAGAGACAGGCTAATTTTTTTAGGGA

CCT TCCGGTTT

AGGCCAGGGA

AGCAGAGGG

PK4: -25.765000(kcal/mol): PK_start=2091 sp=7 s1=8 s2=5 l1=7 l2=6 L3=0 PK_end=2129
(fs_start=2076)

TCCAGCA

AGACAGGCTAATTTTTTTAGGAAAATTTGGCCT

GGACCGGA GGGAG

TCCTCAG

GAACTT

PK4B: -27.135000(kcal/mol): PK_start=2091 sp=7 s1=8 s2=5 l1=7 l2=33 L3=0 PK_end=2156
(fs_start=2076)

TCCAGCA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGAG

CCCTCCA

GAACTTTCCTCAGAGCAGACCGGAGCCATCAGC

=====

(1664) EU448296

=====

PK1: -15.025000(kcal/mol): PK_start=2036 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2064
(fs_start=2056)

A

GAAAGGAAGGACACCAAATGAAAGACTGT

GACG GAAAGTC

TTTTTAGGG

GCTAAT

PK2: -20.370000(kcal/mol): PK_start=2041 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2078
(fs_start=2056)

C

GAAGGACACCAAATGAAAGACTGTACTGAAAGG

GATTTTTT AATCGGA

TTGGCCTTC

GGAGAAT

PK3: -18.840000(kcal/mol): PK_start=2064 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=2098
(fs_start=2056)

AA

TACTGAAAGGCAGGCTAATTTTTTAGGGAG

CCTTC CGGTTT

GCCAGGAA

CACAAAGGGAG

PK4: -23.985000(kcal/mol): PK_start=2071 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=2109
(fs_start=2056)

TCCCACAA

AGGCAGGCTAATTTTTTAGGGAGAATTTGGCCT

GGACCGGA GGGG

CTCCAG

AAATTTT

PK4B: -26.865000(kcal/mol): PK_start=2071 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2134
(fs_start=2056)

TCCCACAA

AGGCAGGCTAATTTTTTAGGGAGAATTTGGCCT

GGACCGGA GGGG

CCCCAC
AAATTTCCCTCCAGAGCAGACCAGAACCAACAG

=====
(1665) EU541617
=====

PK1: -13.555000(kcal/mol): PK_start=1610 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1638
(fs_start=1630)

A
GAAAGGAAGGACACCAAATGAAAGATTGT

GACA GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1615 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1651
(fs_start=1630)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1638 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1672
(fs_start=1630)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG

CCCTTC CGGTCT

GCCAGGGA

ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1645 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1682
(fs_start=1630)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC

GGACCGGAAG GGAA

TCTTCA

GAATTT

=====
(1666) EU547186
=====

PK1: -13.555000(kcal/mol): PK_start=1481 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1509
(fs_start=1501)

A
GAAGGGAAGGACACCAAATGAAAGATTGT

GACA GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1486 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1522
(fs_start=1501)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA
 TGGCCTTC
 GGAAAATC
 PK3: -27.275000(kcal/mol): PK_start=1509 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1543
 (fs_start=1501)
 AAA
 TACTGAGAGACAGGCTAATTTTTTAGGGA
 CCCT TCCGGTCT
 AGGCCAGGGA
 ACAAGGGA
 PK4: -29.020000(kcal/mol): PK_start=1516 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1553
 (fs_start=1501)
 CCAC
 AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
 GGACCGGAAG GGAA
 CCTTCA
 GAATTT
 =====
 (1667) EU581823
 =====
 PK1: -15.140000(kcal/mol): PK_start=1260 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1288
 (fs_start=1280)
 CA
 GAAAAGAAGGACACCAAATGAAAGACTG
 GAC AGAAAGTC
 TTTTTTAGGG
 GCTAA
 PK2: -21.980000(kcal/mol): PK_start=1265 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1302
 (fs_start=1280)
 C
 GAAGGACACCAAATGAAAGACTGCACTGAAAGA
 GATTTTTT AATCGGA
 TTGGCCTTC
 GGAAAAT
 PK3: -18.320000(kcal/mol): PK_start=1289 sp=0 s1=4 s2=4 l1=5 l2=10 L3=0 PK_end=1319
 (fs_start=1280)
 AATTT
 ACTGAAAGACAGGCTAATTTTTTAGGGAA
 CCTT CCGG
 GGCCCG
 AACAAGGGGA
 PK4: -22.820000(kcal/mol): PK_start=1298 sp=10 s1=7 s2=4 l1=4 l2=9 L3=0 PK_end=1332
 (fs_start=1280)
 CAAC
 CAGGCTAATTTTTTAGGGAAAATTTGGCCTTC

CCGGAGG GGAA
 CCTTCA
 CGGAAATTT

PK4B: -24.675000(kcal/mol): PK_start=1298 sp=10 s1=5 s2=4 l1=8 l2=35 L3=0
 PK_end=1358 (fs_start=1280)

TCCAACAA
 CAGGCTAATTTTTTAGGGAAAATTTGGCCT

CCGGA GGGG
 CCCCCA
 CGGAAATTTCTTCAGAACAGGCCAGAGCCAACAG

=====
 (1668) EU581825
 =====

PK1: -15.140000(kcal/mol): PK_start=1254 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1282
 (fs_start=1274)

CA
 GAAGAGAGGGACACCAAATGAAAGACTG

GAC AGAAAGTC
 TTTTTTAGGG
 GCTAA

PK2: -21.980000(kcal/mol): PK_start=1259 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1296
 (fs_start=1274)

C
 GAGGGACACCAAATGAAAGACTGCACTGAAAGA

GATTTTTT AATCGGA
 TTGGCCTTC
 GGAGAAT

PK3: -18.840000(kcal/mol): PK_start=1282 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1316
 (fs_start=1274)

AA
 CACTGAAAGACAGGCTAATTTTTTAGGGAG

CCTTC CGGTTT
 GCCAGGAA
 AACAAAGGGAG

PK4: -22.745000(kcal/mol): PK_start=1289 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1326
 (fs_start=1274)

TCCAACA
 AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT

GGACCGGA GGGAA
 TCCTTCA
 AAATT

=====
 (1669) EU581826
 =====

PK1: -15.140000(kcal/mol): PK_start=1254 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1282
(fs_start=1274)

CA
GAAGAGAAGGACACCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTTAGGG
GCTAA

PK2: -21.980000(kcal/mol): PK_start=1259 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1296
(fs_start=1274)

C
GAAGGACACCAAATGAAAGACTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAGAAT

PK3: -18.840000(kcal/mol): PK_start=1282 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1316
(fs_start=1274)

AA
CACTGAAAGACAGGCTAATTTTTTTAGGGAG
CCTTC CGGTTT
GCCAGGAA
AACAAGGGGAG

PK4: -25.010000(kcal/mol): PK_start=1289 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1326
(fs_start=1274)

CAAC
AGACAGGCTAATTTTTTTAGGGAGAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
AAACTT

PK4B: -26.865000(kcal/mol): PK_start=1289 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1352
(fs_start=1274)

TCCAACAA
AGACAGGCTAATTTTTTTAGGGAGAATTTGGCCT
GGACCGGA GGGG
CCCCGA
AAACTTCCTTCAGAACAGGCCAGAGCCAACAG

=====
(1670) EU581827
=====

PK1: -15.140000(kcal/mol): PK_start=1266 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1294
(fs_start=1286)

CA
GAAAAGAAGGACACCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTTAGGG
GCTAA

PK2: -21.980000(kcal/mol): PK_start=1271 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1308
(fs_start=1286)

C
GAAGGACACCAAATGAAAGACTGCACTGAAAGA
GATTTTTT AATCGGA
TTGCCTTC
GGAGAAT

PK3: -18.840000(kcal/mol): PK_start=1294 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1328
(fs_start=1286)

AA
CACTGAAAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTTT
GCCAGGGA
AACAAAGGGAG

PK4: -22.745000(kcal/mol): PK_start=1301 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1338
(fs_start=1286)

TCCAACA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
GGACCGGA GGGAA
TCCTTCA
GAATT

=====
(1671) EU616639
=====

PK1: -11.015000(kcal/mol): PK_start=1272 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=1299
(fs_start=1292)

AA
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAAAGT
TTTTTAGG
GCTAAT

PK2: -18.220000(kcal/mol): PK_start=1278 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1313
(fs_start=1292)

C
AAGGACACCAAATGAAAGATTGTAATGAAAGA
ATTTTTT A ATCGGA
TGGCCTTC
GGGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1300 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1334
(fs_start=1292)

A
TAATGAAAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGAA
ACAAGGGGAG

PK4: -28.540000(kcal/mol): PK_start=1307 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1344
(fs_start=1292)

CTAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
AAATTT

PK4B: -30.395000(kcal/mol): PK_start=1307 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1370
(fs_start=1292)

TCCTACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTTCCTTCAGAGCAGACCAGAGCCAACAG

=====
(1672) EU616640
=====

PK1: -11.015000(kcal/mol): PK_start=1272 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=1299
(fs_start=1292)

AA
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAAAGT
TTTTTAGG
GCTAAT

PK2: -18.220000(kcal/mol): PK_start=1278 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1313
(fs_start=1292)

C
AAGGACACCAAATGAAAGATTGTAATGAAAGA
ATTTTTT A ATCGGA
TGGCCTTC
GGGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1300 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1334
(fs_start=1292)

A
TAATGAAAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGAA
ACAAGGGGAG

PK4: -28.540000(kcal/mol): PK_start=1307 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1344
(fs_start=1292)

CTAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
AAATTT

PK4B: -30.395000(kcal/mol): PK_start=1307 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1370
(fs_start=1292)

TCCTACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTTCCTTCAGAGCAGACCAGAGCCAACAG

=====
(1673) EU616641
=====

PK1: -11.015000(kcal/mol): PK_start=1272 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=1299
(fs_start=1292)

AA
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAAAGT
TTTTTAGG
GCTAAT

PK2: -18.220000(kcal/mol): PK_start=1278 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1313
(fs_start=1292)

C
AAGGACACCAAATGAAAGATTGTAATGAAAGA
ATTTTTT A ATCGGA
TGGCCTTC
GGGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1300 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1334
(fs_start=1292)

A
TAATGAAAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGAA
ACAAGGGGAG

PK4: -28.540000(kcal/mol): PK_start=1307 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1344
(fs_start=1292)

CTAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
AAATTT

PK4B: -30.395000(kcal/mol): PK_start=1307 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1370
(fs_start=1292)

TCCTACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTTCCTTCAGAGCAGACCAGAGCCAACAG

=====
(1674) EU616642
=====

PK1: -13.555000(kcal/mol): PK_start=1275 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1303
(fs_start=1295)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1280 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1316
(fs_start=1295)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -26.775000(kcal/mol): PK_start=1301 sp=0 s1=5 s2=8 l1=4 l2=7 L3=0 PK_end=1337
(fs_start=1295)

AAAA
TGTACTGAGAGACAGGCTAATTTTTTAGGG
ATCCT TCCGGTCT
AGGCCAGGGA
CAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1310 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1347
(fs_start=1295)

CTAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(1675) EU616643
=====

PK1: -13.555000(kcal/mol): PK_start=1275 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1303
(fs_start=1295)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1280 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1316
(fs_start=1295)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA

TGGCCTTC

GGAAAATC

PK3: -26.775000(kcal/mol): PK_start=1301 sp=0 s1=5 s2=8 l1=4 l2=7 L3=0 PK_end=1337
(fs_start=1295)

AAAA

TGTACTGAGAGACAGGCTAATTTTTTAGGG

ATCCT TCCGGTCT

AGGCCAGGGA

CAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1310 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1347
(fs_start=1295)

CTAC

AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAAG GGAA

TCTTCA

GAATTT

=====
(1676) EU616644
=====

PK1: -13.555000(kcal/mol): PK_start=1275 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1303
(fs_start=1295)

A

GAAAGGAAGGACACCAAATGAAAGATTGT

GACA GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1280 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1316
(fs_start=1295)

C

GAAGGACACCAAATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAAATC

PK3: -26.775000(kcal/mol): PK_start=1301 sp=0 s1=5 s2=8 l1=4 l2=7 L3=0 PK_end=1337
(fs_start=1295)

AAAA

TGTACTGAGAGACAGGCTAATTTTTTAGGG

ATCCT TCCGGTCT

AGGCCAGGGA

CAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1310 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1347
(fs_start=1295)

CTAC

AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAAG GGAA

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                                TCTTCA
                                GAATTT

=====
(1677) EU616645
=====
PK1:  -13.555000(kcal/mol): PK_start=1275 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1303
(fs_start=1295)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                                GACA    GAGAGTC
                                TTTTtaggg
                                GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1280 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1316
(fs_start=1295)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                                GATTTTTT A  ATCGGA
                                TGGCCTTC
                                GGAAAATC

PK3:  -26.775000(kcal/mol): PK_start=1301 sp=0 s1=5 s2=8 l1=4 l2=7 L3=0 PK_end=1337
(fs_start=1295)
                                AAAA
TGTACTGAGAGACAGGCTAATTTTTTAGGG
                                ATCCT   TCCGGTCT
                                AGGCCAGGGA
                                CAAGGGA

PK4:  -26.715000(kcal/mol): PK_start=1310 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1347
(fs_start=1295)
                                CTAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAAG   GGAA
                                TCTTCA
                                GAATTT

=====
(1678) EU616649
=====
PK1:  -13.555000(kcal/mol): PK_start=1275 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1303
(fs_start=1295)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                                GACA    GAGAGTC
                                TTTTtaggg
                                GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1280 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1316
(fs_start=1295)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA

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GATTTTTT A ATCGGA
 TGGCCTTC
 GGAAAATC
 PK3: -26.775000(kcal/mol): PK_start=1301 sp=0 s1=5 s2=8 l1=4 l2=7 L3=0 PK_end=1337
 (fs_start=1295)
 AAAAA
 TGTACTGAGAGACAGGCTAATTTTTTAGGG
 ATCCT TCCGGTCT
 AGGCCAGGGA
 CAAGGGA
 PK4: -26.715000(kcal/mol): PK_start=1310 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1347
 (fs_start=1295)
 CTAC
 AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
 GGACCGGAAG GGAA
 TCTTCA
 GAATTT
 =====
 (1679) EU693240
 =====
 PK1: -12.160000(kcal/mol): PK_start=1567 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1605
 (fs_start=1598)
 A
 TTGGAAATGTGGGAAAGAAGGACATCAG
 GTC AGAAAGT
 TTTTTTAGG
 CACAGAGAGACAGGCTAA
 PK2: -18.660000(kcal/mol): PK_start=1585 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1620
 (fs_start=1598)
 C
 AGGACATCAGATGAAAGACTGCACAGAGAGA
 TTTTTT AATCGGA
 TTGGCCTTC
 AGGGAAAAT
 PK3: -20.285000(kcal/mol): PK_start=1607 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1640
 (fs_start=1598)
 AAA
 ACAGAGAGACAGGCTAATTTTTTAGGGA
 CCT TCCGGTTT
 AGGCCAGGGA
 AACAAAGGG
 PK4: -19.885000(kcal/mol): PK_start=1613 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1650
 (fs_start=1598)
 CCAACA
 AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT

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                GGACCGGAG    GGAA
                    TCTTCA
    GAACTT
=====
(1680) EU697904
=====
PK1:  -11.460000(kcal/mol): PK_start=1592 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=1618
(fs_start=1612)
                CACA
    GAAAGGAGGGACATCAAATGAAAGACTG
                GAC    AGAAAG
                    TTTTTTAG
    GCTAA
PK2:  -18.700000(kcal/mol): PK_start=1599 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1634
(fs_start=1612)
                C
    GGGACATCAAATGAAAGACTGCACAGAAAGA
                TTTTTT    AATCGGA
                    TTGGCCTTC
    AGGGAAAAT
PK3:  -23.745000(kcal/mol): PK_start=1620 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1654
(fs_start=1612)
                AAA
    CACAGAAAGACAGGCTAATTTTTTAGGGA
                CCCT    TCCGGTTT
                    AGGCCAGGGA
    ACAAGGGG
PK4:  -25.010000(kcal/mol): PK_start=1627 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1664
(fs_start=1612)
                CCAC
    AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
                GGACCGGAG    GGAA
                    CCTTCA
    GAACTT
PK4B:  -26.865000(kcal/mol): PK_start=1627 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1690
(fs_start=1612)
                TCCCACAA
    AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA    GGGG
                    CCCAC
    GAACTTCCTTCAGAGCAGGCCAGCCAACAG
=====
(1681) EU697906
=====

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PK1: -11.420000(kcal/mol): PK_start=1607 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=1633
(fs_start=1627)

CACG
GAAAGGAGGGACATCAAATGAAAGACTG
GAC AGAGAG
TTTTTTAG
GCTAA

PK2: -18.760000(kcal/mol): PK_start=1614 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1649
(fs_start=1627)

C
GGGACATCAAATGAAAGACTGCACGGAGAGA
TTTTTT AATCGGA
TTGGCCTTC
AGGGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1636 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1669
(fs_start=1627)

AAA
ACGGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
ARCAAGGGA

PK4: -25.490000(kcal/mol): PK_start=1642 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1679
(fs_start=1627)

CARC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(1682) EU697907
=====

PK1: -10.925000(kcal/mol): PK_start=1577 sp=0 s1=3 s2=7 l1=4 l2=18 L3=0 PK_end=1618
(fs_start=1611)

CAAA
CTGTTGGAAATGTGGAAAGGAGGGACAT
GTA AGAAAGT
TTTTTTAGG
CACAGAGAGACAGGCTAA

PK2: -18.660000(kcal/mol): PK_start=1598 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1633
(fs_start=1611)

C
GGGACATCAAATGAAAGAATGCACAGAGAGA
TTTTTT AATCGGA
TTGGCCTTC
AGGGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1619 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1653
(fs_start=1611)

AAA
CACAGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -22.705000(kcal/mol): PK_start=1626 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1663
(fs_start=1611)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1626 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1689
(fs_start=1611)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCTTCAGAGCAGGCCAGGCCATCAG

=====
(1683) EU735535
=====

PK1: -15.625000(kcal/mol): PK_start=1532 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1560
(fs_start=1552)

A
GAAAGGAAGGACACCAAATGCTAGACTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1537 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1573
(fs_start=1552)

C
GAAGGACACCAAATGCTAGACTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -23.815000(kcal/mol): PK_start=1561 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1594
(fs_start=1552)

AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTCT
AGGCCAGGGA
AACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=1567 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1604
(fs_start=1552)

CAAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1567 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1630
(fs_start=1552)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAA
GAATTTTCTTCAGAGCAGAACAGAGCCAACAG

=====
(1684) EU735536
=====

PK1: -16.825000(kcal/mol): PK_start=1443 sp=0 s1=4 s2=9 l1=4 l2=13 L3=0 PK_end=1485
(fs_start=1478)

CAAA
GCTGTTGGAAATGTGGAAAGGAAGGACAC
TGTG TTAGAAAGT
AATTTTTTAGG
GGAGAGACAGGCT

PK2: -17.280000(kcal/mol): PK_start=1465 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=1499
(fs_start=1478)

C
AGGACACCAAATGAAAGATTGTGTGGAGAGA
TTTTTT A ATCGGA
TGGCCTTC
AGGGAAGATC

PK3: -22.650000(kcal/mol): PK_start=1487 sp=0 s1=5 s2=6 l1=1 l2=11 L3=0 PK_end=1520
(fs_start=1478)

A
GTGGAGAGACAGGCTAATTTTTTAGGGAAG
CCTTC CGGTCT
GCCAGGGA
AACAAGGGGAG

PK4: -22.705000(kcal/mol): PK_start=1493 sp=7 s1=10 s2=4 l1=4 l2=5 L3=0 PK_end=1529
(fs_start=1478)

CAAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAGG GGAA
TTTTTC
GAATT

PK4B: -30.395000(kcal/mol): PK_start=1493 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1556
(fs_start=1478)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTTTTCAGAGCAGACCAGAGCCAACAG

=====
(1685) EU735537
=====

PK1: -13.555000(kcal/mol): PK_start=1547 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1575
(fs_start=1567)

A
GAAGAGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1552 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1588
(fs_start=1567)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTCC
GGAAGATC

PK3: -29.180000(kcal/mol): PK_start=1573 sp=0 s1=6 s2=7 l1=3 l2=8 L3=0 PK_end=1609
(fs_start=1567)

AGA
TGTACTGAGAGACAGGCTAATTTTTTAGGGA
ATCCCT CCGGTCT
GGCCAGGGA
CAAGGGGA

PK4: -31.350000(kcal/mol): PK_start=1582 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1619
(fs_start=1567)

CTAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTCC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1582 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1645
(fs_start=1567)

CCCTACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CCCCGC
GAATTTCTTCAGAACAGGCTAGAGCCAACAG

=====
(1686) EU735538
=====

PK1: -13.555000(kcal/mol): PK_start=1616 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1644
(fs_start=1636)

A
GAAGAGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1621 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1657
(fs_start=1636)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1644 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=1678
(fs_start=1636)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -28.540000(kcal/mol): PK_start=1651 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1688
(fs_start=1636)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1651 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=1714
(fs_start=1636)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCGC
GAATTTCCCTTCAGAACAGGCTAGAGCCGACAG

=====
(1687) EU735539
=====

PK1: -14.685000(kcal/mol): PK_start=1597 sp=0 s1=3 s2=9 l1=4 l2=14 l3=0 PK_end=1638
(fs_start=1631)

CAAA
CTGTTGGAAATGTGGAAAAGAAGGACAC
GTG TTAGAAAGT

AATTTTTTAGG
ATATGAGACAGGCT

PK2: -15.260000(kcal/mol): PK_start=1620 sp=0 s1=4 s2=6 l1=1 l2=12 l3=1 PK_end=1652
(fs_start=1631)

C
GACACCAAATGAAAGATTGTGATATGAGA

TTTT A ATCGGA
TGGCCTC
TTAGGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1639 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=1673
(fs_start=1631)

AAA
TGATATGAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -27.515000(kcal/mol): PK_start=1646 sp=7 s1=8 s2=4 l1=8 l2=7 l3=0 PK_end=1684
(fs_start=1631)

TCCCACAA
AGACAGGCTAATTTTTTAGGAAAATCTGGCCT

GGACCGGA GGGG
CTCCAG
GAATTTTC

PK4B: -30.395000(kcal/mol): PK_start=1646 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=1709
(fs_start=1631)

TCCCACAA
AGACAGGCTAATTTTTTAGGAAAATCTGGCCT

GGACCGGA GGGG
CCCCGC
GAATTTCTCCAGAACAGGCCAGAGCCAACAG

=====
(1688) EU735540
=====

PK1: -13.555000(kcal/mol): PK_start=1578 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1606
(fs_start=1598)

A
GAAAAGAAGGACACCAAATGAAAGATTGT

GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1583 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1619
(fs_start=1598)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA

GGAAGATC TGGCCTCC
PK3: -27.85000(kcal/mol): PK_start=1605 sp=0 s1=5 s2=7 l1=3 l2=9 L3=0 PK_end=1640
(fs_start=1598)

AGA
GTAAGAGAGACAGGCTAATTTTTTAGGGA
TCCCT CCGGTCT
GGCCAGGGA
CCAAGGGAA

PK4: -26.445000(kcal/mol): PK_start=1613 sp=7 s1=8 s2=5 l1=7 l2=4 L3=0 PK_end=1649
(fs_start=1598)

CCCTCCA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGGA
TTCCTCC
GAAT

=====
(1689) EU743963
=====

PK1: -15.910000(kcal/mol): PK_start=1347 sp=0 s1=3 s2=10 l1=3 l2=5 L3=0 PK_end=1380
(fs_start=1370)

CCC
GCAAGGAAGGACACCAAATGAAAGACTG
GAC AGAGAGTTCT
TTTTTTTAGGGAA
GCTAA

PK2: -23.550000(kcal/mol): PK_start=1353 sp=0 s1=10 s2=7 l1=1 l2=5 L3=0 PK_end=1392
(fs_start=1370)

C
AAGGACACCAAATGAAAGACTGCCCTCTTGAGAGA
GGGATTTTTT AATCGGA
TTGGCCTTC
AAAAT

PK3: -20.285000(kcal/mol): PK_start=1379 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1412
(fs_start=1370)

AAA
CTTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AACAAGGGG

PK4: -22.215000(kcal/mol): PK_start=1385 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1422
(fs_start=1370)

CCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGAG GGGA

TCCTCA

AAATTT

PK4B: -26.865000(kcal/mol): PK_start=1385 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1448
(fs_start=1370)

TCCAACAA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG

CCCCAC

AAATTTTCCTCAGAGCAGACCAGAGCCAACAG

=====

(1690) EU786670

=====

PK1: -11.460000(kcal/mol): PK_start=1550 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=1576
(fs_start=1570)

CACA

GAAGGGAGGGACATCAAATGAAAGACTG

GAC AGAAAG

TTTTTTAG

GCTAA

PK2: -17.220000(kcal/mol): PK_start=1557 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=1591
(fs_start=1570)

C

GGGACATCAAATGAAAGACTGCACAGAAAGA

TTTTTT A ATCGGA

TGGCCTTC

AGGGAAAATC

PK3: -23.815000(kcal/mol): PK_start=1579 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1612
(fs_start=1570)

AAA

ACAGAAAGACAGGCTAATTTTTTTAGGGA

CCT TCCGGTCT

AGGCCAGGGA

AACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=1585 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1622
(fs_start=1570)

CAAC

AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAGG GGAA

TCTTCA

GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1585 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1648
(fs_start=1570)

TCCAACAA

AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT

GGACCGGA GGGG

CCCCAC
GAATTTTCTTCAGAGCAGGCCAGAGCCAACAG

=====
(1691) EU786671
=====

PK1: -13.005000(kcal/mol): PK_start=1502 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=1529
(fs_start=1522)

AA
GGAAGGAAGGACACCTAATGAAAGACTGT
GACA GAGAGT
TTTTTAGG
GCTAAT

PK2: -19.660000(kcal/mol): PK_start=1508 sp=0 s1=7 s2=7 l1=1 l2=8 L3=0 PK_end=1544
(fs_start=1522)

C
AAGGACACCTAATGAAAGACTGTAATGAGAGA
ATTTTTT AATCGGA
TTGGCCTTC
GGGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1531 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1564
(fs_start=1522)

AAA
AATGAGAGACAGGCTAATTTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AACAAGGGG

PK4: -22.215000(kcal/mol): PK_start=1537 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1574
(fs_start=1522)

CCAACA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTT
GGACCGGAG GGGA
TCCTCA
AAATTT

PK4B: -26.865000(kcal/mol): PK_start=1537 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1600
(fs_start=1522)

TCCAACAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTT
GGACCGGA GGGG
CCCCAC
AAATTTTCTCAGAACAGACTGGAACCAACAG

=====
(1692) EU786672
=====

PK1: -10.975000(kcal/mol): PK_start=1507 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=1534
(fs_start=1527)

AA
GAAAGGAAGGACACCAAATGAAGGATTGT


```

          GACA      GAGAGT
                TTTTTAGG
      GCTAAT
PK2:  -18.180000(kcal/mol): PK_start=1513 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1548
(fs_start=1527)
                C
AAGGACACCAAATGAAGGATTGTAATGAGAGA
                A      ATCGGA
                TGGCCTTC
      GGGAAGATC
PK3:  -26.110000(kcal/mol): PK_start=1535 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1569
(fs_start=1527)
                A
TAATGAGAGACAGGCTAATTTTTTAGGGAAG
                CCCTTC      CGGTCT
                GCCAGGGA
      ACAAGGGAAG
PK4:  -26.715000(kcal/mol): PK_start=1542 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1579
(fs_start=1527)
                CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
                GGACCGGAAG      GGAA
                TCTTCA
      GAATTT
=====
(1693) EU786673
=====
PK1:  -14.985000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1540
(fs_start=1532)
                A
GAAAAGAAGGACACCAAATGAAAGACTGT
                GACG      GAGAGTC
                TTTTTAGGG
      GCTAAT
PK2:  -20.330000(kcal/mol): PK_start=1517 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1554
(fs_start=1532)
                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
                GATTTTTT      AATCGGA
                TTGGCCTTC
      GGAAAAT
PK3:  -23.745000(kcal/mol): PK_start=1540 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1574
(fs_start=1532)
                AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA

```

CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG
PK4: -25.01000(kcal/mol): PK_start=1547 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1584
(fs_start=1532)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

=====
(1694) EU786674
=====

PK1: -13.555000(kcal/mol): PK_start=1314 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1342
(fs_start=1334)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCCAAT

PK2: -22.720000(kcal/mol): PK_start=1319 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1355
(fs_start=1334)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ACCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1342 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1376
(fs_start=1334)

AAA
TACTGAGAGACAGGCCAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1349 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1386
(fs_start=1334)

CCAC
AGACAGGCCAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(1695) EU786675
=====

PK1: -13.555000(kcal/mol): PK_start=1436 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1464 (fs_start=1456)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1441 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1477 (fs_start=1456)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1464 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1498 (fs_start=1456)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -29.020000(kcal/mol): PK_start=1471 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1508 (fs_start=1456)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(1696) EU786676
=====

PK1: -13.205000(kcal/mol): PK_start=1505 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1532 (fs_start=1524)

A
AAAGGAAGGACACCAAATGAAAGAGTGT
ACA GAGAGTC
TTTTTAGGG
GGCTAAT

PK2: -20.460000(kcal/mol): PK_start=1509 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1545 (fs_start=1524)

C
GAAGGACACCAAATGAAAGAGTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -32.400000(kcal/mol): PK_start=1532 sp=0 s1=3 s2=10 l1=5 l2=3 l3=0 PK_end=1565
(fs_start=1524)

AAAAAT
TACTGAGAGACAGGCTAATTTTTTAGGG
CCC CCTTCCGGTC
GGAAGCCAGGG
AAG

PK4: -29.020000(kcal/mol): PK_start=1539 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1576
(fs_start=1524)

CCCC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(1697) EU786677
=====

PK1: -13.595000(kcal/mol): PK_start=1499 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1527
(fs_start=1519)

A
GACAGGAAGGACATCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1504 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1540
(fs_start=1519)

C
GAAGGACATCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -26.605000(kcal/mol): PK_start=1527 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=1561
(fs_start=1519)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCGGGGA
ACAAGGGA

PK4: -28.585000(kcal/mol): PK_start=1534 sp=7 s1=8 s2=5 l1=7 l2=5 l3=0 PK_end=1571
(fs_start=1519)

TCCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGGCCGGA AGGGA
TCCCTCA
GAATT

=====
(1698) EU786678
=====

PK1: -10.425000(kcal/mol): PK_start=1520 sp=0 s1=4 s2=6 l1=2 l2=5 L3=0 PK_end=1546
(fs_start=1540)

AC
GACAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGA
TTTTTTAG
GCTAA

PK2: -17.180000(kcal/mol): PK_start=1527 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=1561
(fs_start=1540)

C
AGGACACCAAATGAAAGATTGTACAGAGAGA
TTTTTT A ATCGGA
TGGCCTC
AGGGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1548 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1582
(fs_start=1540)

AAA
TACAGAGAGACAGGCTAATTTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=1555 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1592
(fs_start=1540)

CCAC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1555 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1618
(fs_start=1540)

TCCCACAA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(1699) EU786679
=====

PK1: -13.555000(kcal/mol): PK_start=1516 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1544
(fs_start=1536)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC

```

          TTTT TAGGG
    GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1521 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1557
(fs_start=1536)
          C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
          GATTTTTT A  ATCGGA
          TGGCCTTC
    GGAAGATC
PK3:  -26.110000(kcal/mol): PK_start=1544 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1578
(fs_start=1536)
          A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
          CCCTTC  CGGTCT
          GCCAGGGA
    ACAAGGGAAG
PK4:  -29.020000(kcal/mol): PK_start=1551 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1588
(fs_start=1536)
          CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
          GGACCGGAAG  GGAA
          CCTTCA
    GAATTT

=====
(1700) EU786680
=====
PK1:  -9.390000(kcal/mol): PK_start=1530 sp=0 s1=3 s2=6 l1=1 l2=5 L3=0 PK_end=1553
(fs_start=1547)
          T
GAAAGGAAGGACACCAAATGAAGGATTG
          GAC  AGAGAG
          TTTTTTAG
    GCTAA
PK2:  -18.080000(kcal/mol): PK_start=1533 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1568
(fs_start=1547)
          C
AGGAAGGACACCAAATGAAGGATTGTGAGAGA
          ATTTTTT A  ATCGGA
          TGGCCTTC
    GGGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1555 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1589
(fs_start=1547)
          AAA
TTGTGAGAGACAGGCTAATTTTTTAGGGA
          CCCT  TCCGGTCT

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                                AGGCCAGGGA
                ACAAAGGA
PK4:  -26.925000(kcal/mol): PK_start=1562 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1599
(fs_start=1547)
                                TCCCACA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT
                                GGACCGGA    AGGAA
                                TCCTTCA
                GAATT

=====
(1701) EU786681
=====
PK1:  -15.025000(kcal/mol): PK_start=1494 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1522
(fs_start=1514)
                                T
GGAAAGAAGGACACCAAATGAAGGACTGT
                                GACG    GAAAGTC
                                TTTTtaggg
                GCTAAT

PK2:  -21.190000(kcal/mol): PK_start=1498 sp=0 s1=8 s2=7 l1=2 l2=6 L3=1 PK_end=1535
(fs_start=1514)
                                GC
AGAAGGACACCAAATGAAGGACTGTTCTGAAAG
                                GGATTTTT T  AATCGGA
                                TTGGCCTTC
                GAAAAT

PK3:  -22.025000(kcal/mol): PK_start=1522 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1556
(fs_start=1514)
                                AAA
TTCTGAAAGGCAGGCTAATTTTTTTAGGGA
                                CCCT    TCCGTTT
                                AGGCCGGGGA
                ACAAGGGG

PK4:  -23.290000(kcal/mol): PK_start=1529 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1566
(fs_start=1514)
                                CCAC
AGGCAGGCTAATTTTTTTAGGGAAAATTTGGCCTTC
                                GGGCCGAGG    GGAA
                                CCTTCA
                GAACTT

PK4B:  -25.145000(kcal/mol): PK_start=1529 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1592
(fs_start=1514)
                                TCCCACAA
AGGCAGGCTAATTTTTTTAGGGAAAATTTGGCCT
                                GGGCCGGA    GGGG

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CCCCAC
GAACTTCCTTCAGAGCAGACCAGAGCCAACAG

=====
(1702) EU839596
=====

PK1: -13.555000(kcal/mol): PK_start=1266 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1294
(fs_start=1286)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1271 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1307
(fs_start=1286)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -26.605000(kcal/mol): PK_start=1294 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1328
(fs_start=1286)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCGGGAA
ACAAGGGG

PK4: -25.075000(kcal/mol): PK_start=1301 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1338
(fs_start=1286)

CCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT
GGGCCGGAG GGGA
TCCTCA
AAACTT

PK4B: -29.725000(kcal/mol): PK_start=1301 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1364
(fs_start=1286)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGGCCGGA GGGG
CCCCAC
AAACTTTCCTCAGAGCAGAACAGAGCCAACAG

=====
(1703) EU839597
=====

PK1: -15.585000(kcal/mol): PK_start=1269 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1297
(fs_start=1289)

C
GAAATGATGGGCATCAAATGAAAGACTGT

GACA GAGAGTC
 TTTTATAGG
 GCTAAT

PK2: -24.750000(kcal/mol): PK_start=1272 sp=0 s1=10 s2=6 l1=1 l2=6 L3=1 PK_end=1310
 (fs_start=1289)

C
 ATGATGGGCATCAAATGAAAGACTGTCCTGAGAGA
 GGGATTTTTT A ATCGGA
 TGGCCTTC
 AAAATC

PK3: -31.920000(kcal/mol): PK_start=1297 sp=0 s1=3 s2=10 l1=5 l2=6 L3=0 PK_end=1333
 (fs_start=1289)

AAAAT
 TCCTGAGAGACAGGCTAATTTTTTAGGG
 CCC CCTTCCGGTC
 GGGAGGCCAGGG
 AAAGGG

PK4: -34.130000(kcal/mol): PK_start=1304 sp=7 s1=11 s2=4 l1=5 l2=25 L3=0 PK_end=1363
 (fs_start=1289)

CCCAA
 AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTCC
 GGACCGGAGG GGGA
 CCCTCA
 GAATTTTCTTCAGAGCAGACCAGAA

PK4B: -33.650000(kcal/mol): PK_start=1304 sp=7 s1=10 s2=4 l1=7 l2=32 L3=0
 PK_end=1370 (fs_start=1289)

CCCCAAA
 AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
 GGACCGGAGG GGGG
 CCCCAC
 GAATTTTCTTCAGAGCAGACCAGAACCCCTCAG

=====
 (1704) EU839598
 =====

PK1: -15.625000(kcal/mol): PK_start=1269 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1297
 (fs_start=1289)

A
 GAAAGGAAGGACACCAAATGAAAGACTGT
 GACA GAAAGTC
 TTTTATAGGA
 GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1310
 (fs_start=1289)

C
 GAAGGACACCAAATGAAAGACTGTACTGAAAGA

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          GATTTTTT A ATCGGA
                                TGGCCTTC
      GAAAAATC
PK3:  -24.015000(kcal/mol): PK_start=1297 sp=0 s1=3 s2=8 l1=4 l2=9 L3=0 PK_end=1331
(fs_start=1289)
          AAAA
TACTGAAAGACAGGCTAATTTTTTTAGGA
          CCT   TCCGGTCT
          AGGCCAGGGA
      CACAAGGGG
PK4:  -28.540000(kcal/mol): PK_start=1304 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1341
(fs_start=1289)
          CCAC
AGACAGGCTAATTTTTTTAGGAAAAATCTGGCCTTC
          GGACCGGAGG   GGAA
          CCTTCA
      GAATTT
PK4B:  -30.395000(kcal/mol): PK_start=1304 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1367
(fs_start=1289)
          TCCCACAA
AGACAGGCTAATTTTTTTAGGAAAAATCTGGCCT
          GGACCGGA   GGGG
          CCCCAC
      GAATTTCTTCAGAGCAGACCAGAGCCAACAG
=====
(1705) EU839599
=====
PK1:  -10.765000(kcal/mol): PK_start=1249 sp=0 s1=3 s2=6 l1=2 l2=7 L3=0 PK_end=1275
(fs_start=1268)
          AG
AAAGGAAGGACACCAAATGAAAGAATGT
          ACA   GAAAGT
          TTTTTAGG
      GGCTAAT
PK2:  -19.600000(kcal/mol): PK_start=1254 sp=0 s1=7 s2=7 l1=1 l2=8 L3=0 PK_end=1290
(fs_start=1268)
          C
AAGGACACCAAATGAAAGAATGTAGTGAAAGA
          ATTTTTT   AATCGGA
          TTGGCCTTC
      GGGAAAAT
PK3:  -20.285000(kcal/mol): PK_start=1277 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1310
(fs_start=1268)
          AAA
AGTGAAAGACAGGCTAATTTTTTTAGGGA

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          CCT      TCCGGTTT
                AGGCCAGGGA
          AACAAAGGG
PK4:  -26.865000(kcal/mol): PK_start=1283 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1321
(fs_start=1268)
                TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA      GGGG
                CCCAG
          GAATTC

PK4B:  -26.865000(kcal/mol): PK_start=1283 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1346
(fs_start=1268)
                TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA      GGGG
                CCCAC
          GAATTTCCCCCAGAGCAGACTGGAGCCAACAG

=====
(1706) EU839600
=====
PK1:  -15.585000(kcal/mol): PK_start=1278 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1306
(fs_start=1298)
                A
GAAGGGATGGACATCAAATGAAAGACTGT
                GACA      GAGAGTC
                TTTTTAGGG
          GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1283 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1319
(fs_start=1298)
                C
GATGGACATCAAATGAAAGACTGTACTGAGAGA
                GATTTTTT  A  ATCGGA
                TGGCCTTC
          GGAAGATC

PK3:  -26.110000(kcal/mol): PK_start=1306 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1340
(fs_start=1298)
                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                CCCTTC      CGGTCT
                GCCAGGGA
          ACAAGGGGAG

PK4:  -28.540000(kcal/mol): PK_start=1313 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1350
(fs_start=1298)
                CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC

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                GGACCGGAGG    GGAA
                                CCTTCA
          GAACTT
PK4B:  -30.395000(kcal/mol): PK_start=1313 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1376
(fs_start=1298)
                                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
                GGACCGGA    GGGG
                                CCCCAC
          GAACTTCCTTCAGAACAGGACAGAGCCAACAG

=====
(1707) EU839601
=====
PK1:  -10.725000(kcal/mol): PK_start=1293 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1321
(fs_start=1313)
                                A
GAAAAGAAGGACACCAAATGAAAGATTGT
                GACA    GAGAGTT
                                TTTTTAGGG
          GCTAAT
PK2:  -18.430000(kcal/mol): PK_start=1298 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1334
(fs_start=1313)
                                C
GAAGGACACCAAATGAAAGATTGTATTGAGAGA
                GATTTTTT    A    ATCGGA
                                TGGCCTTC
          GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1321 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1355
(fs_start=1313)
                                AAA
TATTGAGAGACAGGCTAATTTTTTAGGGA
                CCCT    TCCGGTCT
                                AGGCCAGGAA
          ACAAGGGG
PK4:  -30.530000(kcal/mol): PK_start=1328 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=1366
(fs_start=1313)
                                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCC
                GGACCGG    AGGGG
                                TCCCAG
          AAACTT
PK4B:  -25.710000(kcal/mol): PK_start=1329 sp=8 s1=6 s2=4 l1=9 l2=33 L3=1 PK_end=1390
(fs_start=1313)
                                TCCCACAA
GACAGGCTAATTTTTTAGGGAAAATCTGGCC

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GACCGG A GGGG
CCCCAC
GAAACTTTCCCCAGAGCAGAACAGGCCAACAG

=====
(1708) EU839603
=====

PK1: -12.995000(kcal/mol): PK_start=1269 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1297
(fs_start=1289)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACG GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -18.760000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1310
(fs_start=1289)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -28.850000(kcal/mol): PK_start=1297 sp=0 s1=3 s2=10 l1=5 l2=3 L3=0 PK_end=1330
(fs_start=1289)

AAAAAT
TACTGAAAGGCAGGCTAATTTTTTAGGG
CTC CCTTCCGGTC
GGAAGCCGGGG
AAG

PK4: -25.775000(kcal/mol): PK_start=1304 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1341
(fs_start=1289)

TCCCTCA
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGCCGGA AGGGA
TTCCTCA
GAACT

=====
(1709) EU839604
=====

PK1: -10.640000(kcal/mol): PK_start=1261 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1299
(fs_start=1292)

A
TTGGAAATGTGGAAAGGAAGGACACCAA
GTT AGAAAGT
TTTTTTAGG
CACTGAAAGACAGGCTAA

PK2: -21.98000(kcal/mol): PK_start=1277 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1314
(fs_start=1292)

C
GAAGGACACCAAATGAAAGATTGCACTGAAAGA
GATTTTTT AATCGGA
TTGCCTTT
GGAGAGC

PK3: -17.07000(kcal/mol): PK_start=1300 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1334
(fs_start=1292)

AG
CACTGAAAGACAGGCTAATTTTTTAGGGAG
CTTTC CGGTTC
GCCGGGAA
CAGAAGGGAAG

PK4: -28.85500(kcal/mol): PK_start=1307 sp=7 s1=8 s2=7 l1=5 l2=4 L3=0 PK_end=1345
(fs_start=1292)

TTCCA
AGACAGGCTAATTTTTTAGGGAGAGCTTGGCCT
GGGCCGGA AGGGAAG
TTCCTTCAG
AAAT

=====
(1710) EU839605
=====

PK1: -13.20500(kcal/mol): PK_start=1276 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1303
(fs_start=1295)

A
AAAGGAAGGACACCAGATGAAAGAGTGT
ACA GAGAGTC
TTTTTAGGG
GGCTAAT

PK2: -20.46000(kcal/mol): PK_start=1280 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1316
(fs_start=1295)

C
GAAGGACACCAGATGAAAGAGTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAACTC

PK3: -30.48500(kcal/mol): PK_start=1303 sp=0 s1=4 s2=9 l1=2 l2=8 L3=0 PK_end=1338
(fs_start=1295)

AA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCTC
AGGCCAGGGAA
GACAGGAA

PK4: -26.725000(kcal/mol): PK_start=1309 sp=6 s1=10 s2=4 l1=6 l2=4 L3=0 PK_end=1346
(fs_start=1295)

CCCCGAC
GAGACAGGCTAATTTTTTTAGGGAAACTCTGGCCTT
GGGACCGGAA AGGA
TTCTCC
AATT

=====
(1711) EU839606
=====

PK1: -10.640000(kcal/mol): PK_start=1270 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1308
(fs_start=1301)

A
TTGGAAATGTGGAAGGGAAGGACACCAA
GTT AGAAAGT
TTTTTTAGG
CACTGAGAGACAGGCTAA

PK2: -20.460000(kcal/mol): PK_start=1286 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1322
(fs_start=1301)

C
GAAGGACACCAAATGAAAGATTGCACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -26.605000(kcal/mol): PK_start=1309 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1343
(fs_start=1301)

AAA
CACTGAGAGACAGGCTAATTTTTTTAGGGA
CCCT TCCGGTCT
AGGCCGGGAA
GCAAGGGA

PK4: -25.775000(kcal/mol): PK_start=1316 sp=7 s1=8 s2=5 l1=7 l2=4 L3=0 PK_end=1352
(fs_start=1301)

TCCCGCA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT
GGGCCGGA AGGGA
TTCTCTCC
AAAT

=====
(1712) EU839607
=====

PK1: -14.235000(kcal/mol): PK_start=1269 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1297
(fs_start=1289)

A
GACAGGAGGGACACCAAATGAAAGATTGT
AACA GAGAGTC

TTTTTAGGG
GCTAAT

PK2: -15.820000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=4 l1=3 l2=8 L3=1 PK_end=1308
(fs_start=1289)

CAA
GAGGGACACCAAATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCG
TGGCCT
GGAAAATC

PK3: -31.730000(kcal/mol): PK_start=1297 sp=0 s1=3 s2=10 l1=5 l2=3 L3=0 PK_end=1330
(fs_start=1289)

AAAAT
TACTGAGAGACAAGCTAATTTTTTAGGG

CCC CCTTCCGGTC
GGAAGCCGGGG
AAG

PK4: -28.855000(kcal/mol): PK_start=1304 sp=7 s1=11 s2=4 l1=2 l2=4 L3=0 PK_end=1339
(fs_start=1289)

CC
AGACAAGCTAATTTTTTAGGGAAAATCTGGCCTTCC

GGCCGGAAGG GAAC
TTTGTT
GAAC

=====
(1713) EU839608
=====

PK1: -10.640000(kcal/mol): PK_start=1276 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1314
(fs_start=1307)

A
TTGGAAGTGTGGAAAGGAAGGACACCAA

GTT AGAAAGT
TTTTTTAGG
CACTGAAAGACAGGCTAA

PK2: -20.500000(kcal/mol): PK_start=1292 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1328
(fs_start=1307)

C
GAAGGACACCAAATGAAAGATTGCACTGAAAGA

GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1315 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1349
(fs_start=1307)

AAA
CACTGAAAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT


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                                AGGCCAGGGA
                                ACAAGGGA
PK4:  -29.02000(kcal/mol): PK_start=1322 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1359
(fs_start=1307)
                                CCAC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAAG    GGAA
                                CCTTCA
                                GAATTT

=====
(1714) EU839609
=====
PK1:  -10.12500(kcal/mol): PK_start=1272 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1300
(fs_start=1292)
                                A
GAAAAGAGGGACACCAAATGAAAGATTGT
                                GACG    GAGAGTT
                                TTTTtaggg
                                GCTAAT

PK2:  -16.81000(kcal/mol): PK_start=1278 sp=0 s1=6 s2=6 l1=2 l2=9 L3=2 PK_end=1312
(fs_start=1292)
                                GC
AGGGACACCAAATGAAAGATTGTATTGAGAG
                                ATTTTT    TA    ATCGGA
                                TGGCCTTC
                                GGAAGATC

PK3:  -26.11000(kcal/mol): PK_start=1300 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1334
(fs_start=1292)
                                A
TATTGAGAGGCAGGCTAATTTTTTTAGGGAAG
                                CCCTTC    CGGTCT
                                GCCAGGGA
                                ACAAGGGGAG

PK4:  -24.34500(kcal/mol): PK_start=1307 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1344
(fs_start=1292)
                                TCCCACAA
AGGCAGGCTAATTTTTTTAGGGAAGATCTGGCCT
                                GGACCGGA    GGGG
                                TCTCCA
                                GAATTT

PK4B:  -30.39500(kcal/mol): PK_start=1307 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1370
(fs_start=1292)
                                TCCCACAA
AGGCAGGCTAATTTTTTTAGGGAAGATCTGGCCT
                                GGACCGGA    GGGG

```

CCCCAC
GAATTTTCTCCAGAACAGAACAGAGCCAACAG

=====
(1715) EU839610
=====

PK1: -10.125000(kcal/mol): PK_start=1272 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1300
(fs_start=1292)

A
GAAAGGAGGGACACCAAATGAAAGATTGT
GACG GAGAGTT
TTTTTAGGG
GCTAAT

PK2: -16.810000(kcal/mol): PK_start=1278 sp=0 s1=6 s2=6 l1=2 l2=9 L3=2 PK_end=1312
(fs_start=1292)

GC
AGGGACACCAAATGAAAGATTGTATTGAGAG
ATTTTT TA ATCGGA
TGGCCTTC
GGGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1300 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1334
(fs_start=1292)

A
TATTGAGAGGCAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGGAG

PK4: -24.345000(kcal/mol): PK_start=1307 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1344
(fs_start=1292)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
TCTCCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1307 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1370
(fs_start=1292)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCTCCAGAACAGAACAGAGCCAACAG

=====
(1716) EU861977
=====

PK1: -15.585000(kcal/mol): PK_start=2069 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2097
(fs_start=2089)

A
GAAAGGAAGGCCATCAAATGAAAGACTGT

GACA GAGAGTC
TTTTTAGGG
GCTAAT
PK2: -21.94000(kcal/mol): PK_start=2074 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2111
(fs_start=2089)

C
GAAGGCCATCAAATGAAAGACTGTACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=2098 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2131
(fs_start=2089)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AGCAAGGGG

PK4: -22.215000(kcal/mol): PK_start=2104 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=2141
(fs_start=2089)

CCAGCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGAG GGGA
TCCTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=2104 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2167
(fs_start=2089)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCCTCAGAGCAGACCAGAGCCAACAG

=====
(1717) EU884500
=====

PK1: -12.445000(kcal/mol): PK_start=1492 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=1519
(fs_start=1512)

AA
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAAAGT
TTTTTAGG
GCTAAT

PK2: -18.090000(kcal/mol): PK_start=1498 sp=0 s1=7 s2=7 l1=1 l2=8 L3=0 PK_end=1534
(fs_start=1512)

C
AAGGACACCAAATGAAAGACTGTAATGAAAGG

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          ATTTTTT   AATCGGA
                    TTGGCCTTC
GGGAAAAT
PK3:  -20.285000(kcal/mol): PK_start=1521 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1554
(fs_start=1512)
          AAA
AATGAAAGGCAGGCTAATTTTTTTAGGGA
          CCT   TCCGGTTT
                    AGGCCAGGGA
          AACAAGGGG
PK4:  -25.010000(kcal/mol): PK_start=1527 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1564
(fs_start=1512)
                    CAAC
AGGCAGGCTAATTTTTTTAGGGAAAATTTGGCCTTC
          GGACCGGAGG   GGAA
                    CCTTCA
          GAATTT
PK4B:  -26.865000(kcal/mol): PK_start=1527 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1590
(fs_start=1512)
                    TCCAACAA
AGGCAGGCTAATTTTTTTAGGGAAAATTTGGCCT
          GGACCGGA   GGGG
                    CCCCAC
          GAATTTCTTCAGAACAGACCAGAGCCGACAG
=====
(1718) FB341548
=====
PK1:  -13.555000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2092
(fs_start=2084)
          A
GAAAGGAAGGACACCAAATGAAAGATTGT
          GACA   GAGAGTC
                    TTTTTAGGG
          GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2105
(fs_start=2084)
          C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
          GATTTTTT   A   ATCGGA
                    TGGCCTTC
          GGAAGATC
PK3:  -25.060000(kcal/mol): PK_start=2092 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=2126
(fs_start=2084)
          A
TACTGAGAGACAGGCTAATTTTTTTAGGGAAG

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          TCCTTC   CGGTCT
                    GCCAGGGA
          ACAAGGGAAG

PK4:  -26.715000(kcal/mol): PK_start=2099 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2136
(fs_start=2084)
                    CTAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
                    GGACCGGAAG   GGAA
                    TCTTCA
          GAATTT

=====
(1719) FB675251
=====
PK1:  -13.065000(kcal/mol): PK_start=1617 sp=0 s1=3 s2=8 l1=5 l2=22 L3=0 PK_end=1665
(fs_start=1658)
                    TCAAA
GCTGTTGGAAGTGTGGGCAAGAAGGACA
                    TGT   TAGAAAGT
                    ATTTTTTAGG
          AAAAATGAAGGAAGACAGGCTA

PK2:  -14.180000(kcal/mol): PK_start=1641 sp=0 s1=7 s2=6 l1=4 l2=9 L3=1 PK_end=1679
(fs_start=1658)
                    AGAC
GACATCAAATGAAAGATTGTAAAAATGAAGGA
                    ATTTTTT   A   ATCGGA
                    TGGTCTCC
          GGAAGAGC

PK3:  -28.610000(kcal/mol): PK_start=1668 sp=0 s1=3 s2=10 l1=3 l2=3 L3=0 PK_end=1699
(fs_start=1658)
                    GAG
AAGGAAGACAGGCTAATTTTTTAGGGAA
                    CTT   CCCTCTGGTC
                    GGGAGACCAGGA
          AAA

PK4:  -22.950000(kcal/mol): PK_start=1674 sp=8 s1=6 s2=4 l1=10 l2=6 L3=0 PK_end=1709
(fs_start=1658)
                    TCCCTTCAAA
GACAGGCTAATTTTTTAGGGAAGAGCTGGTC
                    GACCAG   AGGG
                    TCCCCC
          GAAACT

=====
(1720) FB707281
=====

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PK1: -13.555000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2092
(fs_start=2084)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2105
(fs_start=2084)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=2092 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=2126
(fs_start=2084)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=2099 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2136
(fs_start=2084)

CTAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(1721) FJ185228
=====

PK1: -15.100000(kcal/mol): PK_start=1322 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1350
(fs_start=1342)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1327 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1364
(fs_start=1342)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1351 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1384
(fs_start=1342)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGGA
AACAAGGGA

PK4: -21.195000(kcal/mol): PK_start=1357 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1394
(fs_start=1342)

TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA AGGGA
TTCCTCA
GAATT

=====
(1722) FJ185229
=====

PK1: -15.100000(kcal/mol): PK_start=1322 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1350
(fs_start=1342)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1327 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1364
(fs_start=1342)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1351 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1384
(fs_start=1342)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGGA
AACAAGGGA

PK4: -21.195000(kcal/mol): PK_start=1357 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1394
(fs_start=1342)

TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA AGGGA
TTCCTCA
GAATT

=====
(1723) FJ185230
=====

PK1: -15.10000(kcal/mol): PK_start=1322 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1350
(fs_start=1342)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.94000(kcal/mol): PK_start=1327 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1364
(fs_start=1342)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -18.56500(kcal/mol): PK_start=1351 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1384
(fs_start=1342)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGA
AACAAGGGA

PK4: -21.19500(kcal/mol): PK_start=1357 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1394
(fs_start=1342)

TCCAACA
AGACAGGCTAATTTTTTAGGAAAATTTGGCCT
GGCCGGA AGGGA
TTCCTCA
GAATT

=====
(1724) FJ185231
=====

PK1: -15.10000(kcal/mol): PK_start=1322 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1350
(fs_start=1342)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.94000(kcal/mol): PK_start=1327 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1364
(fs_start=1342)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1351 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1384
(fs_start=1342)

AAA

ACTGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT

AGGCCGGGGA

AACAAGGGA

PK4: -21.195000(kcal/mol): PK_start=1357 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1394
(fs_start=1342)

TCCAACA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGGCCGGA AGGGA

TTCCTCA

GAATT

=====
(1725) FJ185232
=====

PK1: -15.100000(kcal/mol): PK_start=1322 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1350
(fs_start=1342)

CA

GGAAGGAAGGACATCAAATGAAAGACTG

GAC AGAGAGTC

TTTTTTTAGGG

GCTAA

PK2: -21.940000(kcal/mol): PK_start=1327 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1364
(fs_start=1342)

C

GAAGGACATCAAATGAAAGACTGCACTGAGAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1351 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1384
(fs_start=1342)

AAA

ACTGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT

AGGCCGGGGA

AACAAGGGA

PK4: -21.195000(kcal/mol): PK_start=1357 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1394
(fs_start=1342)

TCCAACA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGGCCGGA AGGGA

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                                TTCCTCA
                                GAATT
=====
(1726) FJ185233
=====
PK1:  -15.100000(kcal/mol): PK_start=1322 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1350
(fs_start=1342)
                                CA
GGAAGGAAGGACATCAAATGAAAGACTG
                                GAC   AGAGAGTC
                                TTTTTTAGGG
                                GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1327 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1364
(fs_start=1342)
                                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                                GATTTTTT   AATCGGA
                                TTGGCCTTC
                                GGAAAAT

PK3:  -18.565000(kcal/mol): PK_start=1351 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1384
(fs_start=1342)
                                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCT   TCCGGTTT
                                AGGCCGGGGA
                                AACAAGGGA

PK4:  -21.195000(kcal/mol): PK_start=1357 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1394
(fs_start=1342)
                                TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                                GGGCCGGA   AGGGA
                                TTCCTCA
                                GAATT

=====
(1727) FJ185234
=====
PK1:  -15.100000(kcal/mol): PK_start=1322 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1350
(fs_start=1342)
                                CA
GGAAGGAAGGACATCAAATGAAAGACTG
                                GAC   AGAGAGTC
                                TTTTTTAGGG
                                GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1327 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1364
(fs_start=1342)
                                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA

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          GATTTTTT   AATCGGA
                    TTGGCCTTC
      GGAAAAT
PK3:  -18.565000(kcal/mol): PK_start=1351 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1384
(fs_start=1342)
          AAA
ACTGAGAGACAGGCTAATTTTTTTAGGGA
          CCT   TCCGGTTT
                    AGGCCGGGGA
      AACAAGGGA
PK4:  -21.195000(kcal/mol): PK_start=1357 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1394
(fs_start=1342)
                    TCCAACA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
          GGGCCGGA   AGGGA
                    TTCCTCA
      GAATT

=====
(1728) FJ185235
=====
PK1:  -15.100000(kcal/mol): PK_start=1322 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1350
(fs_start=1342)
          CA
GGAAGGAAGGACATCAAATGAAAGACTG
          GAC   AGAGAGTC
                    TTTTTTAGGG
      GCTAA
PK2:  -21.940000(kcal/mol): PK_start=1327 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1364
(fs_start=1342)
          C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
          GATTTTTT   AATCGGA
                    TTGGCCTTC
      GGAAAAT
PK3:  -18.565000(kcal/mol): PK_start=1351 sp=0 s1=3 s2=8 l1=3 l2=6 L3=0 PK_end=1381
(fs_start=1342)
          AAA
ACTGAGAGACAGGCTAATTTTTTTAGGGA
          CCT   TCCGGTTT
                    AGGCCGGGGA
      AAGGGA
PK4:  -21.195000(kcal/mol): PK_start=1357 sp=7 s1=8 s2=5 l1=4 l2=5 L3=0 PK_end=1391
(fs_start=1342)
                    TCCA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT

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GGGCCGGA    AGGGA
              TTCCTCA
GAATT
=====
(1729) FJ185236
=====
PK1:  -15.100000(kcal/mol): PK_start=1322 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1350
(fs_start=1342)
              CA
GGAAGGAAGGACATCAAATGAAAGACTG
              GAC    AGAGAGTC
              TTTTTTAGGG
GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1327 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1364
(fs_start=1342)
              C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
              GATTTTTT    AATCGGA
              TTGGCCTTC
GGAAAAT

PK3:  -18.565000(kcal/mol): PK_start=1351 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1384
(fs_start=1342)
              AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
              CCT    TCCGGTTT
              AGGCCGGGGA
AACAAGGGA

PK4:  -21.195000(kcal/mol): PK_start=1357 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1394
(fs_start=1342)
              TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
              GGGCCGGA    AGGGA
              TTCCTCA
GAATT
=====
(1730) FJ185237
=====
PK1:  -15.100000(kcal/mol): PK_start=1322 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1350
(fs_start=1342)
              CA
GGAAGGAAGGACATCAAATGAAAGACTG
              GAC    AGAGAGTC
              TTTTTTAGGG
GCTAA

```

PK2: -21.940000(kcal/mol): PK_start=1327 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1364 (fs_start=1342)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAGAT

PK3: -17.400000(kcal/mol): PK_start=1351 sp=0 s1=5 s2=6 l1=1 l2=11 L3=0 PK_end=1384 (fs_start=1342)

A
ACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCTTC CGGTTT
GCCGGGGA
AACAAAGGAAG

PK4: -20.745000(kcal/mol): PK_start=1357 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1394 (fs_start=1342)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAGATTGGCCT
GGGCCGGA AGGA
TCCTCA
GAATTT

=====
(1731) FJ185238
=====

PK1: -15.100000(kcal/mol): PK_start=1328 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1356 (fs_start=1348)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1333 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1370 (fs_start=1348)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1357 sp=0 s1=3 s2=8 l1=3 l2=6 L3=0 PK_end=1387 (fs_start=1348)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGGA
AAGGGA

PK4: -21.195000(kcal/mol): PK_start=1363 sp=7 s1=8 s2=5 l1=4 l2=5 L3=0 PK_end=1397
(fs_start=1348)

TCCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA AGGGA
TTCCTCA
GAATT

=====
(1732) FJ185239
=====

PK1: -15.100000(kcal/mol): PK_start=1321 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1349
(fs_start=1341)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1326 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1363
(fs_start=1341)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1350 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1383
(fs_start=1341)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGA
AACAAGGGA

PK4: -21.195000(kcal/mol): PK_start=1356 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1393
(fs_start=1341)

TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA AGGGA
TTCCTCA
GAATT

=====
(1733) FJ185240
=====

PK1: -15.100000(kcal/mol): PK_start=1322 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1350
(fs_start=1342)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC

```

          TTTTTTAGGG
    GCTAA
PK2:  -21.940000(kcal/mol): PK_start=1327 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1364
(fs_start=1342)
          C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
          GATTTTTT   AATCGGA
          TTGGCCTTC
    GGAAAAT
PK3:  -18.565000(kcal/mol): PK_start=1351 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1384
(fs_start=1342)
          AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
          CCT   TCCGGTTT
          AGGCCGGGA
    AACAAGGGA
PK4:  -21.195000(kcal/mol): PK_start=1357 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1394
(fs_start=1342)
          TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
          GGGCCGGA   AGGGA
          TTCCTCA
    GAATT

=====
(1734) FJ185241
=====
PK1:  -15.100000(kcal/mol): PK_start=1322 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1350
(fs_start=1342)
          CA
GGAAGGAAGGACATCAAATGAAAGACTG
          GAC   AGAGAGTC
          TTTTTTAGGG
    GCTAA
PK2:  -21.940000(kcal/mol): PK_start=1327 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1364
(fs_start=1342)
          C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
          GATTTTTT   AATCGGA
          TTGGCCTTC
    GGAAAAT
PK3:  -18.565000(kcal/mol): PK_start=1351 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1384
(fs_start=1342)
          AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
          CCT   TCCGGTTT

```

AGGCCGGGGA

AACAAGGGA

PK4: -21.195000(kcal/mol): PK_start=1357 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1394
(fs_start=1342)

TCCAACA

AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT

GGGCCGGA AGGGA

TTCCTCA

GAATT

=====
(1735) FJ185242
=====

PK1: -15.100000(kcal/mol): PK_start=1322 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1350
(fs_start=1342)

CA

GGAAGGAAGGACATCAAATGAAAGACTG

GAC AGAGAGTC

TTTTTTAGGG

GCTAA

PK2: -21.940000(kcal/mol): PK_start=1327 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1364
(fs_start=1342)

C

GAAGGACATCAAATGAAAGACTGCACTGAGAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1351 sp=0 s1=3 s2=8 l1=3 l2=6 L3=0 PK_end=1381
(fs_start=1342)

AAA

ACTGAGAGACAGGCTAATTTTTTTAGGGA

CCT TCCGGTTT

AGGCCAGGAA

AAGGGA

PK4: -22.915000(kcal/mol): PK_start=1357 sp=7 s1=8 s2=5 l1=4 l2=5 L3=0 PK_end=1391
(fs_start=1342)

TCCA

AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT

GGACCGGA AGGGA

TTCCTCA

AAATT

=====
(1736) FJ185243
=====

PK1: -15.100000(kcal/mol): PK_start=1322 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1350
(fs_start=1342)

CA

GGAAGGAAGGACATCAAATGAAAGACTG

GAC AGAGAGTC
TTTTTTTAGGG
GCTAA
PK2: -21.940000(kcal/mol): PK_start=1327 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1364
(fs_start=1342)
C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA

GATTTTTT AATCGGA
TTGGCCTTC
GGAGATT

PK3: -19.815000(kcal/mol): PK_start=1351 sp=0 s1=3 s2=9 l1=2 l2=9 L3=0 PK_end=1385
(fs_start=1342)
GA
ACTGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTTT
AGGCCAGGGAA
ACAAGGGA

PK4: -22.445000(kcal/mol): PK_start=1356 sp=6 s1=9 s2=5 l1=7 l2=4 L3=0 PK_end=1394
(fs_start=1342)
TCCAACA
GAGACAGGCTAATTTTTTAGGGAGATTTTGGCCT

GGGACCGGA AGGGA
TTCCTCA
AATT

=====
(1737) FJ185244
=====

PK1: -15.100000(kcal/mol): PK_start=1322 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1350
(fs_start=1342)
CA
GAAAGGAAGGACATCAAATGAAGGACTG

GAC AGAGAGTC
TTTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1327 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1364
(fs_start=1342)
C
GAAGGACATCAAATGAAGGACTGCACTGAGAGA

GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1351 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1384
(fs_start=1342)
AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA

```

          CCT   TCCGGTTT
                AGGCCGGGGA
AACAAAGGGA
PK4:  -21.195000(kcal/mol): PK_start=1357 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1394
(fs_start=1342)
                TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGGCCGGA   AGGGA
                TTCCTCA
          GAATT

```

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=====
(1738) FJ185245
=====

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```

PK1:  -15.100000(kcal/mol): PK_start=1322 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1350
(fs_start=1342)
                CA
GGAAGGAAGGACATCAAATGAAAGACTG
                GAC   AGAGAGTC
                TTTTTTAGGG
          GCTAA

```

```

PK2:  -21.940000(kcal/mol): PK_start=1327 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1364
(fs_start=1342)
                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT   AATCGGA
                TTGGCCTTC
          GGAAAAT

```

```

PK3:  -18.565000(kcal/mol): PK_start=1351 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1384
(fs_start=1342)
                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                CCT   TCCGGTTT
                AGGCCGGGGA
          AACAAAGGGA

```

```

PK4:  -21.195000(kcal/mol): PK_start=1357 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1394
(fs_start=1342)
                TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGGCCGGA   AGGGA
                TTCCTCA
          GAATT

```

```

=====
(1739) FJ185246
=====

```

PK1: -15.10000(kcal/mol): PK_start=1322 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1350
(fs_start=1342)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.94000(kcal/mol): PK_start=1327 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1364
(fs_start=1342)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -18.56500(kcal/mol): PK_start=1351 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1384
(fs_start=1342)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGA
AACAAGGGA

PK4: -21.19500(kcal/mol): PK_start=1357 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1394
(fs_start=1342)

TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA AGGGA
TTCCTCA
GAATT

=====
(1740) FJ185247
=====

PK1: -15.10000(kcal/mol): PK_start=1322 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1350
(fs_start=1342)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.94000(kcal/mol): PK_start=1327 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1364
(fs_start=1342)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1351 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1384
(fs_start=1342)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AACAAGGGG

PK4: -22.215000(kcal/mol): PK_start=1357 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1394
(fs_start=1342)

CCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGAG GGGA
TCCTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1357 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1420
(fs_start=1342)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGA GGGG
CCCCAC
GAATTTTCCTCAGAGCAGACCAGAGCCAACAG

=====
(1741) FJ185248
=====

PK1: -15.100000(kcal/mol): PK_start=1322 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1350
(fs_start=1342)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1327 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1364
(fs_start=1342)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1351 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1384
(fs_start=1342)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AACAAGGGA

PK4: -22.915000(kcal/mol): PK_start=1357 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1394
(fs_start=1342)

```

                                TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                                GGACCGGA   AGGGA
                                TTCCTCA
                                GAATT
```

=====
(1742) FJ185249
=====

PK1: -15.100000(kcal/mol): PK_start=1322 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1350
(fs_start=1342)

```

                                CA
GAAAGGAAGGACATCACATGAAAGACTG
                                GAC   AGAGAGTC
                                TTTTTTAGGG
                                GCTAA
```

PK2: -21.940000(kcal/mol): PK_start=1327 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1364
(fs_start=1342)

```

                                C
GAAGGACATCACATGAAAGACTGCACTGAGAGA
                                GATTTTTT   AATCGGA
                                TTGGCCTTC
                                GGAAAAT
```

PK3: -18.565000(kcal/mol): PK_start=1351 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1384
(fs_start=1342)

```

                                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCT   TCCGGTTT
                                AGGCCGGGGA
                                AACAAGGGA
```

PK4: -21.195000(kcal/mol): PK_start=1357 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1394
(fs_start=1342)

```

                                TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                                GGGCCGGA   AGGGA
                                TTCCTCA
                                GAATT
```

=====
(1743) FJ185250
=====

PK1: -15.100000(kcal/mol): PK_start=1322 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1350
(fs_start=1342)

```

                                CA
GGAAGGAAGGACATCAAATGAAAGACTG
                                GAC   AGAGAGTC
```

TTTTTTAGGG

GCTAA

PK2: -21.940000(kcal/mol): PK_start=1327 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1364
(fs_start=1342)

C

GAAGGACATCAAATGAAAGACTGCACTGAGAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1351 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1384
(fs_start=1342)

AAA

ACTGAGAGACAGGCTAATTTTTTTAGGGA

CCT TCCGGTTT

AGGCCGGGA

AACAAGGGA

PK4: -21.195000(kcal/mol): PK_start=1357 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1394
(fs_start=1342)

TCCAACA

AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT

GGGCCGGA AGGGA

TTCCTCA

GAATT

=====

(1744) FJ185251

=====

PK1: -15.100000(kcal/mol): PK_start=1322 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1350
(fs_start=1342)

CA

GAAAGGAAGGACATCAAATGAAAGACTG

GAC AGAGAGTC

TTTTTTAGGG

GCTAA

PK2: -21.940000(kcal/mol): PK_start=1327 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1364
(fs_start=1342)

C

GAAGGACATCAAATGAAAGACTGCACTGAGAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1351 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1384
(fs_start=1342)

AAA

ACTGAGAGACAGGCTAATTTTTTTAGGGA

CCT TCCGGTTT

AGGCCAGGGA

AACAAAGGA

PK4: -22.465000(kcal/mol): PK_start=1357 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1394
(fs_start=1342)

TCCAACAA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA AGGA

TCCTCA

GAATTT

=====
(1745) FJ185252
=====

PK1: -15.100000(kcal/mol): PK_start=1322 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1350
(fs_start=1342)

CA

GGAAGGAAGGACATCAAATGAAAGACTG

GAC AGAGAGTC

TTTTTTAGGG

GCTAA

PK2: -21.940000(kcal/mol): PK_start=1327 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1364
(fs_start=1342)

C

GAAGGACATCAAATGAAAGACTGCACTGAGAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1351 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1384
(fs_start=1342)

AAA

ACTGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT

AGGCCGGGGA

AACAAAGGGA

PK4: -21.195000(kcal/mol): PK_start=1357 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1394
(fs_start=1342)

TCCAACA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGGCCGGA AGGGA

TTCTCA

GAATT

=====
(1746) FJ185253
=====

PK1: -15.100000(kcal/mol): PK_start=1322 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1350
(fs_start=1342)

CA

GGAAGGAAGGACATCAAATGAAAGACTG

```

                GAC    AGAGAGTC
                TTTTTTAGGG
            GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1327 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1364
(fs_start=1342)
                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT    AATCGGA
                TTGGCCTTC
            GGAAAAT

PK3:  -18.565000(kcal/mol): PK_start=1351 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1384
(fs_start=1342)
                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                CCT    TCCGGTTT
                AGGCCGGGGA
            AACAAAGGGA

PK4:  -21.195000(kcal/mol): PK_start=1357 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1394
(fs_start=1342)
                TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGGCCGGA    AGGGA
                TTCCTCA
            GAATT

=====
(1747) FJ185254
=====

PK1:  -15.100000(kcal/mol): PK_start=1322 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1350
(fs_start=1342)
                CA
GGAAGGAAGGACATCAAATGAAAGACTG
                GAC    AGAGAGTC
                TTTTTTAGGG
            GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1327 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1364
(fs_start=1342)
                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT    AATCGGA
                TTGGCCTTC
            GGAAAAT

PK3:  -18.565000(kcal/mol): PK_start=1351 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1384
(fs_start=1342)
                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA

```



```

          CCT   TCCGGTTT
                AGGCCGGGGA
AACAAAGGGA

PK4:  -21.195000(kcal/mol): PK_start=1357 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1394
(fs_start=1342)
                TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGGCCGGA   AGGGA
                TTCCTCA
          GAATT

```

```

=====
(1748) FJ185255
=====

```

```

PK1:  -15.100000(kcal/mol): PK_start=1322 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1350
(fs_start=1342)
                CA
GGAAGGAAGGACATCAAATGAAAGACTG
                GAC   AGAGAGTC
                TTTTTTAGGG
          GCTAA

```

```

PK2:  -21.940000(kcal/mol): PK_start=1327 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1364
(fs_start=1342)
                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT   AATCGGA
                TTGGCCTTC
          GGAAAAT

```

```

PK3:  -18.565000(kcal/mol): PK_start=1351 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1384
(fs_start=1342)
                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                CCT   TCCGGTTT
                AGGCCGGGGA
          AACAAAGGA

```

```

PK4:  -20.745000(kcal/mol): PK_start=1357 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1394
(fs_start=1342)
                TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGGCCGGA   AGGA
                TCCTCA
          GAATTT

```

```

=====
(1749) FJ185256
=====

```

PK1: -15.10000(kcal/mol): PK_start=1322 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1350
(fs_start=1342)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.94000(kcal/mol): PK_start=1327 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1364
(fs_start=1342)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -18.56500(kcal/mol): PK_start=1351 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1384
(fs_start=1342)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGA
AACAAGGGA

PK4: -21.19500(kcal/mol): PK_start=1357 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1394
(fs_start=1342)

TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA AGGGA
TTCCTCA
GAATT

=====
(1750) FJ185257
=====

PK1: -15.10000(kcal/mol): PK_start=1322 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1350
(fs_start=1342)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.94000(kcal/mol): PK_start=1327 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1364
(fs_start=1342)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1351 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1384
(fs_start=1342)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGGA
AACAAGGGA

PK4: -21.195000(kcal/mol): PK_start=1357 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1394
(fs_start=1342)

TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA AGGGA
TTCCTCA
GAATT

=====
(1751) FJ185258
=====

PK1: -15.100000(kcal/mol): PK_start=1322 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1350
(fs_start=1342)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1327 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1364
(fs_start=1342)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAACT

PK3: -21.775000(kcal/mol): PK_start=1351 sp=0 s1=3 s2=9 l1=2 l2=9 L3=0 PK_end=1385
(fs_start=1342)

AA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTTC
AGGCCGGGGA
AACAAGGGA

PK4: -23.805000(kcal/mol): PK_start=1356 sp=6 s1=9 s2=5 l1=7 l2=4 L3=0 PK_end=1394
(fs_start=1342)

TCCAACA
GAGACAGGCTAATTTTTTAGGGAAACTTTGGCCT
GGGGCCGGA AGGGA
TTCCTCA
AATT

=====
(1752) FJ185259
=====

PK1: -15.10000(kcal/mol): PK_start=1322 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1350
(fs_start=1342)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.94000(kcal/mol): PK_start=1327 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1364
(fs_start=1342)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -18.56500(kcal/mol): PK_start=1351 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1384
(fs_start=1342)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGA
AACAAGGGA

PK4: -21.19500(kcal/mol): PK_start=1357 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1394
(fs_start=1342)

TCCAACA
AGACAGGCTAATTTTTTAGGAAAATTTGGCCT
GGCCGGA AGGGA
TTCCTCA
GAATT

=====
(1753) FJ185260
=====

PK1: -15.10000(kcal/mol): PK_start=1322 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1350
(fs_start=1342)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.94000(kcal/mol): PK_start=1327 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1364
(fs_start=1342)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1351 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1384
(fs_start=1342)

AAA

ACTGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT

AGGCCGGGAA

AACAAGGGA

PK4: -21.195000(kcal/mol): PK_start=1357 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1394
(fs_start=1342)

TCCAACA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGGCCGGA AGGGA

TTCCTCA

AAATT

=====
(1754) FJ195088
=====

PK1: -13.555000(kcal/mol): PK_start=1476 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1504
(fs_start=1496)

A

GAAAGGAAGGACATCAGATGAAAGATTGT

GACA GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1481 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1517
(fs_start=1496)

C

GAAGGACATCAGATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1504 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1538
(fs_start=1496)

AAA

TACTGAGAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT

AGGCCAGGGA

ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1511 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1548
(fs_start=1496)

CCAC

AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAAG GGAA

TCTTCA

GAATTT

=====
(1755) FJ195089
=====

PK1: -13.205000(kcal/mol): PK_start=1518 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1545
(fs_start=1537)

A

AAAGGAAGGACACCAAATAAAAGAGTGT

ACA GAGAGTC

TTTTTAGGG

GGCTAAT

PK2: -20.460000(kcal/mol): PK_start=1522 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1558
(fs_start=1537)

C

GAAGGACACCAAATAAAAGAGTGTACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1545 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1579
(fs_start=1537)

AAA

TACTGAGAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT

AGGCCAGGGA

ACAAGGGA

PK4: -24.995000(kcal/mol): PK_start=1552 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1589
(fs_start=1537)

TCCCACAA

AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT

GGACCGGA AGGG

TCTCCA

GAATTT

=====
(1756) FJ195090
=====

PK1: -15.585000(kcal/mol): PK_start=1522 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1550
(fs_start=1542)

A

GAAAGGAAGGACACCAGATGAAAGACTGT

GACA GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1527 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1563
(fs_start=1542)

C

GAAGGACACCAGATGAAAGACTGTACTGAGAGA

GATTTTTT A ATCGGA
TGGCCTTC
GGAGGATC

PK3: -31.275000(kcal/mol): PK_start=1551 sp=0 s1=6 s2=7 l1=1 l2=6 L3=0 PK_end=1583
(fs_start=1542)

T
ACTGAGAGACAGGCTAATTTTTTAGGGAGGA
CCTCCT TCCGGTC
AGGCCAGGG
AAGGGA

PK4: -29.020000(kcal/mol): PK_start=1557 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1594
(fs_start=1542)

CTCC
AGACAGGCTAATTTTTTAGGGAGGATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

PK4B: -26.530000(kcal/mol): PK_start=1557 sp=7 s1=8 s2=4 l1=1 l2=40 L3=7 PK_end=1621
(fs_start=1542)

T
AGACAGGCTAATTTTTTAGGGAGGATCTGGCCT
GGACCGGA AGGGAAC CTCC
GAGGAG
GAATTTCTTCAGAGCAGACCAGGCCATCAGCCCCACCA

=====
(1757) FJ195091
=====

PK1: -14.235000(kcal/mol): PK_start=1568 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1596
(fs_start=1588)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
AACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -15.820000(kcal/mol): PK_start=1573 sp=0 s1=8 s2=4 l1=3 l2=8 L3=1 PK_end=1607
(fs_start=1588)

CAA
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCG
TGGCCT
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1596 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1630
(fs_start=1588)

AAA
TACTGAGAGACAAGCTAATTTTTTAGGGA

```

          CCCT   TCCGGTCT
                AGGCCAGGGA
ACAAGGGG
PK4:  -28.540000(kcal/mol): PK_start=1603 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1640
(fs_start=1588)
                CCAC
AGACAAGCTAATTTTTTTAGGGAAAATCTGGCCTTC
                GGACCGGAGG   GGAA
                                CCTTCA
                GAATTT

PK4B:  -30.395000(kcal/mol): PK_start=1603 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1666
(fs_start=1588)
                TCCCACAA
AGACAAGCTAATTTTTTTAGGGAAAATCTGGCCT
                GGACCGGA   GGGG
                                CCCCAC
                GAATTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(1758) FJ213780
=====
PK1:  -12.360000(kcal/mol): PK_start=1464 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1502
(fs_start=1495)
                A
TTGGAAATGTGGAAGAGAGGGACACCAG
                GTC   AGAAAGT
                                TTTTTTAGG
                CACAGAAAGACAAGCTAA

PK2:  -14.060000(kcal/mol): PK_start=1482 sp=0 s1=6 s2=5 l1=3 l2=9 L3=0 PK_end=1515
(fs_start=1495)
                CAA
GGGACACCAGATGAAAGACTGCACAGAAAGA
                TTTTTT   AATCG
                                TTGGCCT
                AGGGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1504 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1537
(fs_start=1495)
                AAA
ACAGAAAGACAAGCTAATTTTTTTAGGGA
                CCT   TCCGGTTT
                                AGGCCAGGAA
                AACAAGGGG

PK4:  -25.010000(kcal/mol): PK_start=1510 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1547
(fs_start=1495)
                CAAC
AGACAAGCTAATTTTTTTAGGGAAAATTTGGCCTTC

```


GGACCGGAGG GGAA
 CCTTCA
 AAATTT

PK4B: -26.865000(kcal/mol): PK_start=1510 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1573
 (fs_start=1495)

TCCAACAA
 AGACAAGCTAATTTTTTAGGGAAAATTTGGCCT
 GGACCGGA GGGG
 CCCCAC
 AAATTTCC TTCAGAACAGGCCAGAGCCAACAG

=====
 (1759) FJ213781
 =====

PK1: -15.140000(kcal/mol): PK_start=1476 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1504
 (fs_start=1496)

CA
 GAAGAGAGGGACACCAAATGAAAGACTG
 GAC AGAAAGTC
 TTTTTTAGGG
 GTTAA

PK2: -18.490000(kcal/mol): PK_start=1481 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1518
 (fs_start=1496)

C
 GAGGGACACCAAATGAAAGACTGCACTGAAAGA
 GATTTTTT AATTGGA
 TTGGCCTTC
 GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1505 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1538
 (fs_start=1496)

AAA
 ACTGAAAGACAGGTTAATTTTTTAGGGA
 CCT TCCGGTTT
 AGGCCGGGAA
 AACAAGGGA

PK4: -23.770000(kcal/mol): PK_start=1511 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1548
 (fs_start=1496)

CAAC
 AGACAGGTTAATTTTTTAGGGAAAATTTGGCCTTC
 GGGCCGGAAG GGAA
 CCTTCA
 AAATTT

=====
 (1760) FJ213782
 =====

PK1: -15.60000(kcal/mol): PK_start=1474 sp=0 s1=3 s2=9 l1=1 l2=5 l3=0 PK_end=1503
(fs_start=1494)

C
GAGGAGAAGGACACCAAATGAAAGACTG
GAC AGGAGGTCC
TTTTTTAGGGA
GCTAA

PK2: -25.40000(kcal/mol): PK_start=1477 sp=0 s1=10 s2=7 l1=1 l2=5 l3=0 PK_end=1516
(fs_start=1494)

C
GAGAAGGACACCAAATGAAAGACTGCCCTGGAGGA
GGGATTTTTT AATCGGA
TTGGCCTTC
AAAAT

PK3: -18.72000(kcal/mol): PK_start=1503 sp=0 s1=4 s2=4 l1=5 l2=10 l3=0 PK_end=1533
(fs_start=1494)

AATTT
CCTGGAGGACAGGCTAATTTTTTTAGGGAA
CCTT CCGG
GGCCTG
AACAAGGGGA

PK4: -22.82000(kcal/mol): PK_start=1512 sp=10 s1=7 s2=4 l1=4 l2=9 l3=0 PK_end=1546
(fs_start=1494)

CAAC
CAGGCTAATTTTTTTAGGGAAAATTTGGCCTC
CCGGAGG GGAA
CCTTCA
TGGAAATTT

PK4B: -24.675000(kcal/mol): PK_start=1512 sp=10 s1=5 s2=4 l1=8 l2=33 l3=0
PK_end=1570 (fs_start=1494)

TCCAACAA
CAGGCTAATTTTTTTAGGGAAAATTTGGCCT
CCGGA GGGG
CCCCAC
TGGAAATTTCTTCAGAACAGGACAGAGCCCAG

=====
(1761) FJ213783
=====

PK1: -15.140000(kcal/mol): PK_start=1475 sp=0 s1=3 s2=8 l1=2 l2=5 l3=0 PK_end=1503
(fs_start=1495)

CA
GAAGAGAAGGACACCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -21.98000(kcal/mol): PK_start=1480 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1517
(fs_start=1495)

C
GAAGGACACCAAATGAAAGACTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -22.02500(kcal/mol): PK_start=1503 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1537
(fs_start=1495)

AAA
CACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCGGGAA
ACAAGGGG

PK4: -23.29000(kcal/mol): PK_start=1510 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1547
(fs_start=1495)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGGCCGGAGG GGAA
CCTTCA
AAATTT

PK4B: -25.14500(kcal/mol): PK_start=1510 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1573
(fs_start=1495)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA GGGG
CCCCAC
AAATTTTCCTTCAGAGCAGGCCAGCCATCAG

=====
(1762) FJ238521
=====

PK1: -15.14000(kcal/mol): PK_start=1254 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1282
(fs_start=1274)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -21.98000(kcal/mol): PK_start=1259 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1296
(fs_start=1274)

C
GAAGGACATCAAATGAAAGACTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1283 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1316
(fs_start=1274)

AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGGA
AACAAAGGA

PK4: -20.745000(kcal/mol): PK_start=1289 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1326
(fs_start=1274)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA AGGA
TCCTCA
GAATTT

=====
(1763) FJ358521
=====

PK1: -15.140000(kcal/mol): PK_start=1506 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1534
(fs_start=1526)

CA
GGAAAGAAGGACATCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -21.980000(kcal/mol): PK_start=1511 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1548
(fs_start=1526)

C
GAAGGACATCAAATGAAAGACTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1535 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1568
(fs_start=1526)

AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AACAAAGGGG

PK4: -25.075000(kcal/mol): PK_start=1541 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1578
(fs_start=1526)

TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGGA
TCCCTCA
AAATT

PK4B: -26.865000(kcal/mol): PK_start=1541 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1604
(fs_start=1526)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTCCCTCAGAACAGACTAGAGCCAACAG

=====
(1764) FJ388890
=====

PK1: -13.555000(kcal/mol): PK_start=1281 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1309
(fs_start=1301)

A
GACAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1286 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1322
(fs_start=1301)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -26.605000(kcal/mol): PK_start=1309 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1343
(fs_start=1301)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCGGGGA
ACAAGGGG

PK4: -26.845000(kcal/mol): PK_start=1316 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1354
(fs_start=1301)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGGCCGGA GGGG
CTCCAG
GAATTTTC

PK4B: -29.725000(kcal/mol): PK_start=1316 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1379
(fs_start=1301)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGGCCGGA GGGG
CCCCAC
GAATTTCCCTCCAGAGGAGACCAGAACCAACAG

=====
(1765) FJ388892
=====

PK1: -12.520000(kcal/mol): PK_start=1278 sp=0 s1=3 s2=7 l1=3 l2=5 l3=0 PK_end=1305
(fs_start=1298)

CAA
GAAAGGAAGGCCATCAAATGAAAGACTG
GAC AGAGAGT
TTTTTTAGG
GCTAA

PK2: -19.660000(kcal/mol): PK_start=1284 sp=0 s1=7 s2=7 l1=1 l2=8 l3=0 PK_end=1320
(fs_start=1298)

C
AAGGCCATCAAATGAAAGACTGCAATGAGAGA
ATTTTTT AATCGGA
TTGGCCTTC
GGGAGAAT

PK3: -18.840000(kcal/mol): PK_start=1306 sp=0 s1=5 s2=6 l1=2 l2=11 l3=0 PK_end=1340
(fs_start=1298)

AA
CAATGAGAGACAGGCTAATTTTTTTAGGGAG
CCTTC CGGTTT
GCCAGGAA
AACAAAGGGAG

PK4: -21.815000(kcal/mol): PK_start=1313 sp=7 s1=8 s2=4 l1=8 l2=6 l3=0 PK_end=1350
(fs_start=1298)

TCCAACAA
AGACAGGCTAATTTTTTTAGGGAGAATTTGGCCT
GGACCGGA GGGG
TCCTCA
AAATTT

=====
(1766) FJ388893
=====

PK1: -15.140000(kcal/mol): PK_start=1272 sp=0 s1=3 s2=8 l1=2 l2=5 l3=0 PK_end=1300
(fs_start=1292)

CA
GGAAGGAGGGACACCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -21.980000(kcal/mol): PK_start=1277 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1314
(fs_start=1292)

C
GAGGGACACCAAATGAAAGACTGCACTGAAAGA
GATTTTTT AATCGGA

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                                TTGGCCTTC
                GGAAAAAT
PK3:  -20.285000(kcal/mol): PK_start=1301 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1334
(fs_start=1292)
                                AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
                                CCT   TCCGGTTT
                                AGGCCAGGAA
                AACAAAGGGG
PK4:  -22.215000(kcal/mol): PK_start=1307 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1344
(fs_start=1292)
                                CCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
                                GGACCGGAG   GGGG
                                TCCTCA
                AAATTT
PK4B:  -26.865000(kcal/mol): PK_start=1307 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1370
(fs_start=1292)
                                TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                                GGACCGGA   GGGG
                                CCCCAC
                AAATTTTCCTCAGAGCAGACCGGTGCCAACAG
=====
(1767) FJ388894
=====
PK1:  -15.140000(kcal/mol): PK_start=1272 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1300
(fs_start=1292)
                                CA
GGAAGGAGGGACACCAAATGAAAGACTG
                                GAC   AGAAAGTC
                                TTTTTTAGGG
                GCTAA
PK2:  -21.980000(kcal/mol): PK_start=1277 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1314
(fs_start=1292)
                                C
GAGGGACACCAAATGAAAGACTGCACTGAAAGA
                                GATTTTTT   AATCGGA
                                TTGGCCTTC
                GGAAAAAT
PK3:  -20.285000(kcal/mol): PK_start=1301 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1334
(fs_start=1292)
                                AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
                                CCT   TCCGGTTT

```

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                                AGGCCAGGAA
                AGCAAGGGG
PK4:  -22.215000(kcal/mol): PK_start=1307 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1344
(fs_start=1292)
                                CCAGCA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTT
                                GGACCGGAG    GGGA
                                TCCTCA
                AAATTT

PK4B:  -26.865000(kcal/mol): PK_start=1307 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1370
(fs_start=1292)
                                TCCAGCAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
                                GGACCGGA    GGGG
                                CCCCAC
                AAATTTTCCTCAGAGCAGACCAGTGCCAACAG

=====
(1768) FJ388895
=====
PK1:  -15.585000(kcal/mol): PK_start=1275 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1303
(fs_start=1295)
                                A
GAAAGGAAGGACACCAAATGAAAGACTGT
                                GACA    GAGAGTC
                                TTTTTAGGG
                GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1280 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1316
(fs_start=1295)
                                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
                                GATTTTTT    A    ATCGGA
                                TGGCCTTC
                GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1303 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1337
(fs_start=1295)
                                AAA
TACTGAGAGACAGGCTAATTTTTTTAGGGA
                                CCCT    TCCGGTCT
                                AGGCCAGGGA
                ACAAGGGG

PK4:  -28.540000(kcal/mol): PK_start=1310 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1347
(fs_start=1295)
                                CCAC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAGG    GGAA

```


CCTTCA

GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1310 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1373
(fs_start=1295)

TCCCACAA

AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT

GGACCGGA GGGG

CCCCAC

GAATTTCCCTCAGAGCAGACCAGAGCCAACAG

=====

(1769) FJ388896

=====

PK1: -10.975000(kcal/mol): PK_start=1266 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1294
(fs_start=1286)

A

GACAGGAAGGACACCAAATGAAAGATTGT

GACA AAAAGTT

TTTTTAGGG

GCTAAT

PK2: -18.510000(kcal/mol): PK_start=1271 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1307
(fs_start=1286)

C

GAAGGACACCAAATGAAAGATTGTATTGAAAAA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAAGTC

PK3: -27.275000(kcal/mol): PK_start=1294 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1328
(fs_start=1286)

AAG

TATTGAAAAACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT

AGGCCAGGGA

ACAAGGGG

PK4: -28.540000(kcal/mol): PK_start=1301 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1338
(fs_start=1286)

CCAC

AAACAGGCTAATTTTTTAGGGAAAGTCTGGCCTTC

GGACCGGAGG GGAA

CCTTCA

GAACTT

PK4B: -30.395000(kcal/mol): PK_start=1301 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1364
(fs_start=1286)

TCCCACAA

AAACAGGCTAATTTTTTAGGGAAAGTCTGGCCT

GGACCGGA GGGG

CCCCAC
GAACTTCCTTCAGAGCAGACCAGAGCCAACAG

=====
(1770) FJ388898
=====

PK1: -8.215000(kcal/mol): PK_start=1275 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=1302
(fs_start=1295)

GA
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGGGT
TTTTTAGG
GCTAAT

PK2: -15.420000(kcal/mol): PK_start=1281 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1316
(fs_start=1295)

C
AAGGACACCAAATGAAAGATTGTGATGGGAGA
ATTTTTT A ATCGGA
TGGCCTTC
GGGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1303 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1337
(fs_start=1295)

AAA
TGATGGGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -27.515000(kcal/mol): PK_start=1310 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1348
(fs_start=1295)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CTCCAG
GAATTC

PK4B: -30.395000(kcal/mol): PK_start=1310 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1373
(fs_start=1295)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTCCTCCAGAACAGACCAGAGCCAACAG

=====
(1771) FJ388899
=====

PK1: -13.555000(kcal/mol): PK_start=1281 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1309
(fs_start=1301)

A
GAAAGGAAGGACACCAAATGAAAGATTGT

GACA GAGAGTC
TTTTTAGGG
GCTAAT
PK2: -20.460000(kcal/mol): PK_start=1286 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1322
(fs_start=1301)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -26.605000(kcal/mol): PK_start=1309 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1343
(fs_start=1301)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCGGGAA
ACAAGGGG

PK4: -25.075000(kcal/mol): PK_start=1316 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1353
(fs_start=1301)

CCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT
GGGCCGGAG GGGA
TCCTCA
AAATTT

PK4B: -29.725000(kcal/mol): PK_start=1316 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1379
(fs_start=1301)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGGCCGGA GGGG
CCCCAC
AAATTTTCCTCAGAAGAGACTAGAGCCAACAG

=====
(1772) FJ388901
=====

PK1: -17.225000(kcal/mol): PK_start=1266 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1294
(fs_start=1286)

A
GAAAGGAAGGACACCAGATGAAAGACTGC
GACG GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -18.760000(kcal/mol): PK_start=1271 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1307
(fs_start=1286)

C
GAAGGACACCAGATGAAAGACTGCACTGAAAGG

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          GATTTTTT A ATCGGA
                    TGGCCTTC
    GGAAAATC
PK3:  -23.815000(kcal/mol): PK_start=1295 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1328
(fs_start=1286)
          AAA
ACTGAAAGGCAGGCTAATTTTTTTAGGGA
          CCT   TCCGGTCT
                    AGGCCAGGGA
    AGCAAGGGG
PK4:  -28.540000(kcal/mol): PK_start=1301 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1338
(fs_start=1286)
                    CAGC
AGGCAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
          GGACCGGAGG   GGAA
                    CCTTCA
    GAATTT
PK4B: -30.395000(kcal/mol): PK_start=1301 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1364
(fs_start=1286)
                    TCCAGCAA
AGGCAGGCTAATTTTTTTAGGGAAAATCTGGCCT
          GGACCGGA   GGGG
                    CCCCAT
    GAATTTCTTCAGAGCAGACCAGAGCCAACAG
=====
(1773) FJ388902
=====
PK1:  -12.560000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=7 l1=3 l2=5 L3=0 PK_end=1290
(fs_start=1283)
          CAA
GGAAGGAAGGACACCAAATGAAAGACTG
          GAC   AGAAAGT
                    TTTTTTAGG
    GCTAA
PK2:  -19.700000(kcal/mol): PK_start=1269 sp=0 s1=7 s2=7 l1=1 l2=8 L3=0 PK_end=1305
(fs_start=1283)
          C
AAGGACACCAAATGAAAGACTGCAATGAAAGA
          ATTTTTT   AATCGGA
                    TTGGCCTTC
    GGGAAAAT
PK3:  -20.285000(kcal/mol): PK_start=1292 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1325
(fs_start=1283)
          AAA
AATGAAAGACAGGCTAATTTTTTTAGGGA

```

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          CCT      TCCGGTTT
                AGGCCAGGAA
          AACAAAGGG

PK4:  -22.215000(kcal/mol): PK_start=1298 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1335
(fs_start=1283)
                CCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
                GGACCGGAG      GGGA
                                TCCTCA
          AAATTT

PK4B:  -26.865000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1361
(fs_start=1283)
                TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA      GGGG
                                CCCAC
          AAATTTTCCTCAGAGCAGACCGGAGCCGACAG

=====
(1774) FJ388903
=====
PK1:  -15.140000(kcal/mol): PK_start=1272 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1300
(fs_start=1292)
                CA
GGAAGGAGGGACACCAAATGAAAGACTG
                GAC      AGAAAGTC
                                TTTTTTAGGG
          GCTAA

PK2:  -21.980000(kcal/mol): PK_start=1277 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1314
(fs_start=1292)
                C
GAGGGACACCAAATGAAAGACTGCACTGAAAGA
                GATTTTTT      AATCGGA
                                TTGGCCTTC
          GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1301 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1334
(fs_start=1292)
                AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
                CCT      TCCGGTTT
                                AGGCCAGGGA
          AGCAAGGGG

PK4:  -22.215000(kcal/mol): PK_start=1307 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1344
(fs_start=1292)
                CCAGCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT

```

GGACCGGAG GGGA
 TCCTCA
 GAACTT

PK4B: -26.865000(kcal/mol): PK_start=1307 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1370
 (fs_start=1292)

TCCAGCAA
 AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG
 CCCCAC
 GAACTTTCCTCAGAGCAGACCAGAGCCAACAG

=====
 (1775) FJ388904
 =====

PK1: -13.555000(kcal/mol): PK_start=1287 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1315
 (fs_start=1307)

A
 GAAGGGAAGGACACCAAATGAAAGATTGT

GACA GAGAGTC
 TTTTTAGGG
 GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1292 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1328
 (fs_start=1307)

C
 GAAGGACACCAAATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA
 TGGCCTTC
 GGAAGATC

PK3: -28.190000(kcal/mol): PK_start=1314 sp=0 s1=7 s2=6 l1=1 l2=9 L3=0 PK_end=1349
 (fs_start=1307)

A
 GTACTGAGAGACAGGCTAATTTTTTAGGGAAG

TCCCTTC CGGTCT
 GCCAGGGA
 CAAGGGGAG

PK4: -27.515000(kcal/mol): PK_start=1322 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1360
 (fs_start=1307)

TCCCTCAA
 AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT

GGACCGGA GGGG
 CTCCAG
 GAATTTC

PK4B: -30.395000(kcal/mol): PK_start=1322 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1385
 (fs_start=1307)

TCCCTCAA
 AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT

GGACCGGA GGGG
CCCCAC
GAATTTCCCTCCAGAACAGACCAGGCCATCAG

=====
(1776) FJ388905
=====

PK1: -16.530000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=10 l1=2 l2=12 L3=0 PK_end=1302
(fs_start=1295)

AA
GTTGGAATGTGGAAGGGAAGGACACCA
GGT ATTAGAAAGT
TAATTTTTTAGG
GAAGAGACAGGT

PK2: -12.990000(kcal/mol): PK_start=1282 sp=0 s1=6 s2=4 l1=2 l2=5 L3=2 PK_end=1308
(fs_start=1295)

CA
AGGACACCAAATGAAAGATTATGGGAAGAGA
TTTTTT AA TTGG
AGCCAG
AGGGA

PK3: -20.725000(kcal/mol): PK_start=1304 sp=0 s1=4 s2=5 l1=5 l2=8 L3=0 PK_end=1334
(fs_start=1295)

GCCAG
GGGAAGAGACAGGTTAATTTTTTAGGGAA
CCTT TCCGG
AGGCCAG
ACAAGGGA

PK4: -21.655000(kcal/mol): PK_start=1313 sp=10 s1=5 s2=6 l1=6 l2=7 L3=0 PK_end=1347
(fs_start=1295)

TTCCAC
CAGGTTAATTTTTTAGGGAAGCCAGGGCCT
CCGGA AGGGAA
TTCCTTCA
AGGGAAT

=====
(1777) FJ388906
=====

PK1: -15.100000(kcal/mol): PK_start=1269 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1297
(fs_start=1289)

CA
GAAAGGAAGGCCATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1311
(fs_start=1289)

C
GAAGGCCATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAGAAT

PK3: -18.840000(kcal/mol): PK_start=1297 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1331
(fs_start=1289)

AA
CACTGAGAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTTT
GCCAGGAA
AGCAAAGGGAG

PK4: -21.815000(kcal/mol): PK_start=1304 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1341
(fs_start=1289)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
GGACCGGA GGG
TCCTCA
AAATTT

=====
(1778) FJ388908
=====

PK1: -11.460000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=1289
(fs_start=1283)

CACA
GGAAGGAGGGACATCAAATGAAGGACTG
GAC AGAAAG
TTTTTTAG
GCTAA

PK2: -18.700000(kcal/mol): PK_start=1270 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1305
(fs_start=1283)

C
GGGACATCAAATGAAGGACTGCACAGAAAGA
TTTTTT AATCGGA
TTGGCCTTC
AGGGAGAAT

PK3: -18.840000(kcal/mol): PK_start=1291 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1325
(fs_start=1283)

AA
CACAGAAAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTTT
GCCAGGGA
AGCAAAGGGAG

PK4: -22.705000(kcal/mol): PK_start=1298 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1335
(fs_start=1283)

CAGC
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCTC
GGACCGGAGG GGAA
TCTTCA
GAACTT

PK4B: -26.865000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1361
(fs_start=1283)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAACTTTCTTCAGAACAGGCCAGAGCCAACAG

=====
(1779) FJ388909
=====

PK1: -15.100000(kcal/mol): PK_start=1276 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1304
(fs_start=1296)

CA
GGAAGGAGGGACACCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1281 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1318
(fs_start=1296)

C
GAGGGACACCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAAT

PK3: -20.285000(kcal/mol): PK_start=1305 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1338
(fs_start=1296)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AGCAAGGGG

PK4: -26.865000(kcal/mol): PK_start=1311 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1374
(fs_start=1296)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTTCCACAGAGCAGACCAGAGCCAACAG

=====
(1780) FJ388911
=====

PK1: -13.595000(kcal/mol): PK_start=1287 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1315
(fs_start=1307)

G
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.200000(kcal/mol): PK_start=1292 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1328
(fs_start=1307)

C
GAAGGACACCAAATGAAAGATTGTGCTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1315 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=1349
(fs_start=1307)

AAA
TGCTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -29.020000(kcal/mol): PK_start=1322 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1359
(fs_start=1307)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(1781) FJ388914
=====

PK1: -9.405000(kcal/mol): PK_start=1275 sp=0 s1=4 s2=6 l1=2 l2=5 l3=0 PK_end=1301
(fs_start=1295)

CA
GAAAGGAAGGACAACAAATGAAAGATTGT
GACA GAGAGG
TTTTTTAG
GCTAA

PK2: -17.280000(kcal/mol): PK_start=1282 sp=0 s1=6 s2=6 l1=1 l2=10 l3=1 PK_end=1316
(fs_start=1295)

C
AGGACAACAAATGAAAGATTGTGTCAGGAGAGA
TTTTTT A ATCGGA

TGGCCTTC

AGGGAAAATC

PK3: -26.605000(kcal/mol): PK_start=1303 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1337
(fs_start=1295)

AAA

TCAGGAGAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT

AGGCCGGGGA

ACAAGGGA

PK4: -28.350000(kcal/mol): PK_start=1310 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1347
(fs_start=1295)

CCAC

AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

GGGCCGGAAG GGAA

CCTTCA

GAATTT

=====
(1782) FJ388915
=====

PK1: -15.585000(kcal/mol): PK_start=1281 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1309
(fs_start=1301)

A

GAAAGGAAGGGCACCAAATGAAAGACTGT

GACA GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1286 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1322
(fs_start=1301)

C

GAAGGGCACCAAATGAAAGACTGTACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1309 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1343
(fs_start=1301)

A

TACTGAGAGACAGGCTAATTTTTTAGGGAAG

CCCTTC CGGTCT

GCCAGGGA

ACAAGGGGAG

PK4: -28.540000(kcal/mol): PK_start=1316 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1353
(fs_start=1301)

CCAC

AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC

GGACCGGAGG GGAA

CCTTCA

GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1316 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1379
(fs_start=1301)

TCCCACAA

AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT

GGACCGGA GGGG

CCCCAC

GAATTTCCCTCAGAACAGACCAGAGCCAACAG

=====

(1783) FJ388916

=====

PK1: -13.555000(kcal/mol): PK_start=1275 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1303
(fs_start=1295)

A

GAAGGGAAGGACACCAAATGAAAGATTGT

GACA GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1280 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1316
(fs_start=1295)

C

GAAGGACACCAAATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1303 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1337
(fs_start=1295)

A

TACTGAGAGACAGGCTAATTTTTTAGGGAAG

CCCTTC CGGTCT

GCCAGGGA

ACAAGGGGAG

PK4: -28.540000(kcal/mol): PK_start=1310 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1347
(fs_start=1295)

CCAC

AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC

GGACCGGAGG GGAA

CCTTCA

GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1310 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1373
(fs_start=1295)

TCCCACAA

AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT

GGACCGGA GGGG

CCCCAC
GAATTTCCCTTCAGAGCAGACCAGAGCCAACAG

=====
(1784) FJ388917
=====

PK1: -15.100000(kcal/mol): PK_start=1278 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1306
(fs_start=1298)

CA
GAAAGGAGGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -20.460000(kcal/mol): PK_start=1283 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1319
(fs_start=1298)

C
GAGGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAGAATG

PK3: -21.005000(kcal/mol): PK_start=1307 sp=0 s1=3 s2=6 l1=5 l2=9 L3=0 PK_end=1338
(fs_start=1298)

GAATG
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGT
AGGCCAGG
AGCAAAGGG

PK4: -20.695000(kcal/mol): PK_start=1315 sp=9 s1=8 s2=4 l1=4 l2=5 L3=0 PK_end=1347
(fs_start=1298)

CAGC
ACAGGCTAATTTTTTAGGGAGAATGTGGCCTTC
ACCGGAGG GAAA
TTTTCT
GGGAA

=====
(1785) FJ388918
=====

PK1: -15.585000(kcal/mol): PK_start=1275 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1303
(fs_start=1295)

A
GAAAGGAAGGGCACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1280 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1316
(fs_start=1295)

C
GAAGGGCACCAAATGAAAGACTGTACTGAGAGA

```

          GATTTTTT A ATCGGA
                    TGGCCTTC
      GGAAGATC
PK3:  -26.110000(kcal/mol): PK_start=1303 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1337
(fs_start=1295)
          A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
          CCCTTC   CGGTCT
                    GCCAGGGA
      ACAAGGGAAG
PK4:  -26.715000(kcal/mol): PK_start=1310 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1347
(fs_start=1295)
                    CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
          GGACCGGAAG   GGAA
                    TCTTCA
      GAATTT
=====
(1786) FJ388919
=====
PK1:  -13.535000(kcal/mol): PK_start=1282 sp=0 s1=3 s2=8 l1=3 l2=7 L3=0 PK_end=1313
(fs_start=1304)
          ACA
AAGAGAGGGACACCAAATGAAAGAATGT
          ACA   GAGAGTCT
                    TTTTTAGGGA
      GGCTAAT
PK2:  -21.490000(kcal/mol): PK_start=1288 sp=0 s1=9 s2=6 l1=1 l2=7 L3=1 PK_end=1325
(fs_start=1304)
          C
GGGACACCAAATGAAAGAATGTACATCTGAGAGA
          GGATTTTTT A ATCGGA
                    TGGCCTTC
      GAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1312 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1346
(fs_start=1304)
          AAA
ATCTGAGAGACAGGCTAATTTTTTAGGGA
          CCCT   TCCGGTCT
                    AGGCCAGGGA
      ACAAGGGA
PK4:  -27.875000(kcal/mol): PK_start=1319 sp=7 s1=8 s2=4 l1=8 l2=5 L3=0 PK_end=1355
(fs_start=1304)
                    TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT

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                GGACCGGA    AGGG
                                TCCCCC
        GAATT
=====
(1787) FJ388920
=====
PK1:  -13.535000(kcal/mol): PK_start=1282 sp=0 s1=3 s2=8 l1=3 l2=7 L3=0 PK_end=1313
(fs_start=1304)
                ACA
AAGAGAGGGACACCAAATGAAAGAATGT
                ACA    GAGAGTCT
                                TTTTTAGGGA
        GGCTAAT

PK2:  -21.490000(kcal/mol): PK_start=1288 sp=0 s1=9 s2=6 l1=1 l2=7 L3=1 PK_end=1325
(fs_start=1304)
                C
GGGACACCAAATGAAAGAATGTACATCTGAGAGA
                GGATTTTTT    A    ATCGGA
                                TGGCCTTC
        GAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1312 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1346
(fs_start=1304)
                AAA
ATCTGAGAGACAGGCTAATTTTTTAGGGA
                CCCT    TCCGGTCT
                                AGGCCAGGGA
        ACAAGGGA

PK4:  -27.875000(kcal/mol): PK_start=1319 sp=7 s1=8 s2=4 l1=8 l2=5 L3=0 PK_end=1355
(fs_start=1304)
                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                GGACCGGA    AGGG
                                TCCCCC
        GAATT

=====
(1788) FJ388921
=====
PK1:  -15.195000(kcal/mol): PK_start=1263 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1291
(fs_start=1283)
                A
GGAAGGAAGGACATCAAATGAAAGATTGC
                GACG    GAAAGTC
                                TTTTTAGGG
        GCGAAT

```

PK2: -13.905000(kcal/mol): PK_start=1268 sp=0 s1=7 s2=5 l1=5 l2=5 L3=0 PK_end=1301
(fs_start=1283)

GCAGG
GAAGGACATCAAATGAAAGATTGCACTGAAAG
GATTTTT TAAGC
ATTTGGC
GGAAA

PK3: -23.745000(kcal/mol): PK_start=1291 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1325
(fs_start=1283)

AAA
CACTGAAAGGCAGGCCAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGAA
AGAGTGGG

PK4: -21.510000(kcal/mol): PK_start=1299 sp=8 s1=7 s2=4 l1=7 l2=26 L3=1 PK_end=1353
(fs_start=1283)

TCCCAGA
GGCAGGCCAATTTTTTAGGGAAAATTTGGCCT
GACCGGA G GGTG
CCATCA
GAAACTTCCTCCAGAGCAGACCAGAG

PK4B: -24.270000(kcal/mol): PK_start=1299 sp=8 s1=6 s2=5 l1=8 l2=34 L3=1 PK_end=1362
(fs_start=1283)

TTCCCAGA
GGCAGGCCAATTTTTTAGGGAAAATTTGGCC
GACCGG A GGGTG
CCCACCA
GAAACTTCCTCCAGAGCAGACCAGCCATCAGC

=====
(1789) FJ388924
=====

PK1: -13.785000(kcal/mol): PK_start=1281 sp=0 s1=4 s2=8 l1=3 l2=6 L3=0 PK_end=1313
(fs_start=1304)

ACA
GAAGGGAGGGACACCAAATGAAAGATTGT
GACA GAGAGTCT
TTTTTAGGGA
GCTAAT

PK2: -21.490000(kcal/mol): PK_start=1288 sp=0 s1=9 s2=6 l1=1 l2=7 L3=1 PK_end=1325
(fs_start=1304)

C
GGGACACCAAATGAAAGATTGTACATCTGAGAGA
GGATTTTTT A ATCGGA
TGGCCTTC
GAAAATC

PK3: -27.275000(kcal/mol): PK_start=1312 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1346
(fs_start=1304)

AAA
ATCTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -27.875000(kcal/mol): PK_start=1319 sp=7 s1=8 s2=4 l1=8 l2=5 L3=0 PK_end=1355
(fs_start=1304)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA AGGG
TCCCCC
GAATT

=====
(1790) FJ388925
=====

PK1: -15.140000(kcal/mol): PK_start=1272 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1300
(fs_start=1292)

CA
GAAAGGAGGGACACCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -21.980000(kcal/mol): PK_start=1277 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1314
(fs_start=1292)

C
GAGGGACACCAAATGAAAGACTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1301 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1334
(fs_start=1292)

AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AGCAAGGGG

PK4: -22.215000(kcal/mol): PK_start=1307 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1344
(fs_start=1292)

CCAGCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGAG GGGG
TCCTCA
AAATTT

PK4B: -26.865000(kcal/mol): PK_start=1307 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1370
(fs_start=1292)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTTCCTCAGAGCAGACCGGAGCCAACAG

=====
(1791) FJ388927
=====

PK1: -11.015000(kcal/mol): PK_start=1275 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=1302
(fs_start=1295)

AG
GAAAAGAAGGACACCAAATGAAAGATTGT
GACA GAAAGT
TTTTTAGG
GCTAAT

PK2: -18.120000(kcal/mol): PK_start=1281 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1316
(fs_start=1295)

C
AAGGACACCAAATGAAAGATTGTAGTGAAAGA
ATTTTTT A ATCGGA
TGGCCTTC
GGGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1303 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1337
(fs_start=1295)

AAA
TAGTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=1310 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1347
(fs_start=1295)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1310 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1373
(fs_start=1295)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(1792) FJ388928
=====

PK1: -13.490000(kcal/mol): PK_start=1255 sp=0 s1=3 s2=10 l1=4 l2=10 L3=2 PK_end=1294
(fs_start=1289)

CTGCTGGAAATGTGGGAAGGAAGGACAT
 CAAA
 GTA AC GTTAGAAAGT
 TAATTTTTTAGG
 AGAGACAGGC

PK2: -19.660000(kcal/mol): PK_start=1275 sp=0 s1=7 s2=7 l1=1 l2=8 L3=0 PK_end=1311
(fs_start=1289)

AAGGACATCAAATGAAAGATTGCAATGAGAGA
 C
 ATTTTTT AATCGGA
 TTGGCCTTC
 GGGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1298 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1331
(fs_start=1289)

AATGAGAGACAGGCTAATTTTTTTAGGGA
 AAA
 CCT TCCGGTTT
 AGGCCAGGGA
 AGCAAGGGG

PK4: -27.000000(kcal/mol): PK_start=1304 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=1342
(fs_start=1289)

AGACAGGCTAATTTTTTTAGGGAAAATTTGGCC
 TTCCAGCAA
 GGACCGG AGGGG
 TCCCCAG
 GAACTT

PK4B: -24.080000(kcal/mol): PK_start=1305 sp=8 s1=6 s2=4 l1=9 l2=33 L3=1 PK_end=1366
(fs_start=1289)

GACAGGCTAATTTTTTTAGGGAAAATTTGGCC
 TTCCAGCAA
 GACCGG A GGGG
 CCCCAC
 GGAACCTTCCCCAGAGCAGACCGGAGCCATCAG

=====
(1793) FJ388929
=====

PK1: -10.440000(kcal/mol): PK_start=1258 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1296
(fs_start=1289)

CTGGAAATGTGGGAAGGAAGGACATCAA
 A
 GTT AGAAAGT

TTTTTTAGG
CACTGAGAGACAGGCTAA

PK2: -21.940000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1311
(fs_start=1289)

C
GAAGGACATCAAATGAAAGATTGCACTGAGAGA

GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAAT

PK3: -20.285000(kcal/mol): PK_start=1298 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1331
(fs_start=1289)

AAA
ACTGAGAGACAGGCTAATTTTTTTAGGGA

CCT TCCGGTTT
AGGCCAGGGA
AGCAAGGGG

PK4: -27.000000(kcal/mol): PK_start=1304 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=1342
(fs_start=1289)

TTCCAGCAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCC

GGACCGG AGGGG
TCCCCAG
GAACTT

PK4B: -24.080000(kcal/mol): PK_start=1305 sp=8 s1=6 s2=4 l1=9 l2=33 L3=1 PK_end=1366
(fs_start=1289)

TTCCAGCAA
GACAGGCTAATTTTTTTAGGGAAAATTTGGCC

GACCGG A GGGG
CCCCAC
GGAACTTTCCCCAGAGCAGACCGGAGCCATCAG

=====
(1794) FJ388930
=====

PK1: -10.725000(kcal/mol): PK_start=1276 sp=0 s1=3 s2=6 l1=2 l2=7 L3=0 PK_end=1302
(fs_start=1295)

AA
AAAGGAAGGACACCAAATGAAAGAATGT

ACA GAGAGT
TTTTTAGG
GGCTAAT

PK2: -18.180000(kcal/mol): PK_start=1281 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1316
(fs_start=1295)

C
AAGGACACCAAATGAAAGAATGTAATGAGAGA

ATTTTTT A ATCGGA

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                                TGGCCTTC
          GGAAGATC
PK3:  -26.110000(kcal/mol): PK_start=1303 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1337
(fs_start=1295)
                                A
TAATGAGAGACAGGCTAATTTTTTAGGGAAG
                                CCCTTC   CGGTCT
                                GCCAGGGA
          ACAAGGGGAG
PK4:  -18.545000(kcal/mol): PK_start=1310 sp=7 s1=8 s2=6 l1=6 l2=4 l3=0 PK_end=1347
(fs_start=1295)
                                TCCCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
                                GGACCGGA   GGGGAA
                                TTTTTTCA
          GAAC
PK4B: -30.395000(kcal/mol): PK_start=1310 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=1373
(fs_start=1295)
                                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
                                GGACCGGA   GGGG
                                CCCCAC
          GAACTTTTTTCAGAGCAGACCAGAGCCATCAG

=====
(1795) FJ388931
=====
PK1:  -13.135000(kcal/mol): PK_start=1263 sp=0 s1=4 s2=7 l1=4 l2=20 l3=0 PK_end=1308
(fs_start=1301)
                                CAAA
GCTGTTGGAAATGTGGAAAGGAAGGACAT
                                TGTG   AGAAAGT
                                TTTTTTAGG
          ACTAATGAGAGACAGGCTAA
PK2:  -18.180000(kcal/mol): PK_start=1287 sp=0 s1=7 s2=6 l1=1 l2=9 l3=1 PK_end=1322
(fs_start=1301)
                                C
GACATCAAATGAAAGAGTG TACTAATGAGAGA
                                ATTTTTT A  ATCGGA
                                TGGCCTTC
          GGGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1309 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=1343
(fs_start=1301)
                                AAA
TAATGAGAGACAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTCT

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                                AGGCCAGGGA
                                ACAAAGGA
PK4:  -26.925000(kcal/mol): PK_start=1316 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1353
(fs_start=1301)
                                TCCCACA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT
                                GGACCGGA    AGGAA
                                TCCTTCA
                                GAATT

=====
(1796) FJ388932
=====
PK1:  -15.140000(kcal/mol): PK_start=369 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=397
(fs_start=389)
                                CA
GGAAGGAGGGACACCAAATGAAAGACTG
                                GAC    AGAAAGTC
                                TTTTTTAGGG
                                GCTAA

PK2:  -21.980000(kcal/mol): PK_start=374 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=411
(fs_start=389)
                                C
GAGGGACACCAAATGAAAGACTGCACTGAAAGA
                                GATTTTTT    AATCGGA
                                TTGGCCTTC
                                GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=398 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=431
(fs_start=389)
                                AAA
ACTGAAAGACAGGCTAATTTTTTTAGGGA
                                CCT    TCCGGTTT
                                AGGCCAGGGA
                                AGCAAGGGA

PK4:  -22.915000(kcal/mol): PK_start=404 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=441
(fs_start=389)
                                TCCAGCA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
                                GGACCGGA    AGGGA
                                TTCCTCA
                                GAATT

=====
(1797) FJ388933
=====
PK1:  -13.555000(kcal/mol): PK_start=1275 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1303
(fs_start=1295)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT

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GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.46000(kcal/mol): PK_start=1280 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1316
(fs_start=1295)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1303 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1337
(fs_start=1295)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1310 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1347
(fs_start=1295)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(1798) FJ388934
=====

PK1: -15.585000(kcal/mol): PK_start=1290 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1318
(fs_start=1310)

A
GAAAAGAAGGACATCAAATAAAAGACTGT

GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1295 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1331
(fs_start=1310)

C
GAAGGACATCAAATAAAAGACTGTACTGAGAGA

GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1318 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1352
(fs_start=1310)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT
 AGGCCAGGGA
 ACAAGGGA

PK4: -26.445000(kcal/mol): PK_start=1325 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1362
 (fs_start=1310)

TCCCACA
 AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT

GGACCGGA AGGGA
 TTCCTCA
 GAATT

=====
 (1799) FJ388935
 =====

PK1: -13.555000(kcal/mol): PK_start=1275 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1303
 (fs_start=1295)

A
 GACAGGAAGGACATCAAATGAAAGATTGT

GACA GAGAGTC
 TTTTTAGGG
 GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1280 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1316
 (fs_start=1295)

C
 GAAGGACATCAAATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA
 TGGCCTTC
 GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1303 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1337
 (fs_start=1295)

AAA
 TACTGAGAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT
 AGGCCAGGGA
 ACAAGGGA

PK4: -26.445000(kcal/mol): PK_start=1310 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1347
 (fs_start=1295)

TCCCACA
 AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT

GGACCGGA AGGGA
 TTCCTCA
 GAACT

PK4B: -26.445000(kcal/mol): PK_start=1310 sp=7 s1=8 s2=5 l1=7 l2=29 L3=0 PK_end=1371
 (fs_start=1295)

TCCCACA
 AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT

GGACCGGA AGGGA
TTCCTCG
GAACTTTCCTCAGAGCAGACCAGAGCACT

=====
(1800) FJ388936
=====

PK1: -13.555000(kcal/mol): PK_start=1275 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1303
(fs_start=1295)

A
GAAAGGAAGGACACCAAATGAGAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1280 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1316
(fs_start=1295)

C
GAAGGACACCAAATGAGAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1303 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1337
(fs_start=1295)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -29.020000(kcal/mol): PK_start=1310 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1347
(fs_start=1295)

CCAC
AGACAGGCTAATTTTTTAGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(1801) FJ388938
=====

PK1: -15.140000(kcal/mol): PK_start=1266 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1294
(fs_start=1286)

CA
GGAAGGAGGGACACCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -21.980000(kcal/mol): PK_start=1271 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1308
(fs_start=1286)

C
GAGGGACACCAAATGAAAGACTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAATT

PK3: -22.355000(kcal/mol): PK_start=1295 sp=0 s1=3 s2=9 l1=2 l2=9 L3=0 PK_end=1329
(fs_start=1286)

AA
ACTGAAAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTTT
AGGCCAGGAAA
AGCAAGGGG

PK4: -25.690000(kcal/mol): PK_start=1300 sp=6 s1=8 s2=5 l1=9 l2=5 L3=0 PK_end=1339
(fs_start=1286)

TTCCAGCAA
AAGACAGGCTAATTTTTTAGGGAAATTTTGCC
AGGACCGG AGGGG
TCCTCAG
AATTT

PK4B: -20.730000(kcal/mol): PK_start=1301 sp=7 s1=7 s2=4 l1=9 l2=32 L3=1 PK_end=1363
(fs_start=1286)

TTCCAGCAA
AGACAGGCTAATTTTTTAGGGAAATTTTGCC
GGACCGG A GGGG
CTCCAC
AAATTTTCCTCAGAGCAGACCAGAGCCATCAG

=====
(1802) FJ388939
=====

PK1: -15.585000(kcal/mol): PK_start=1290 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1318
(fs_start=1310)

A
GAAAAGAAGGACATCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1295 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1331
(fs_start=1310)

C
GAAGGACATCAAATGAAAGACTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1318 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1352
(fs_start=1310)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.445000(kcal/mol): PK_start=1325 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1362
(fs_start=1310)

TCCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(1803) FJ388940
=====

PK1: -10.640000(kcal/mol): PK_start=1261 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1299
(fs_start=1292)

A
TTGGAAATGTGGAAAGGAAGGACACCAA
GTT AGAAAGT
TTTTTTAGG
CACTGAGAGACAGGCTAA

PK2: -21.940000(kcal/mol): PK_start=1277 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1314
(fs_start=1292)

C
GAAGGACACCAAATGAAAGATTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1300 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1334
(fs_start=1292)

AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -22.705000(kcal/mol): PK_start=1307 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1344
(fs_start=1292)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

=====
(1804) FJ388941
=====

PK1: -13.065000(kcal/mol): PK_start=1260 sp=0 s1=3 s2=8 l1=5 l2=19 l3=0 PK_end=1305
(fs_start=1298)

TCAAA
GCTGTTGGAAATGTGGAAAGGAAGGACA

TGT TAGAAAGT

ATTTTTTAGG
AGTAGTGAGAGACAGGCTA

PK2: -18.080000(kcal/mol): PK_start=1284 sp=0 s1=7 s2=6 l1=1 l2=9 l3=1 PK_end=1319
(fs_start=1298)

C
GACATCAAATGAAAGATTGTAGTAGTGAGAGA

ATTTTTT A ATCGGA

TGGCCTTC
GGGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1306 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1340
(fs_start=1298)

A
TAGTGAGAGACAGGCTAATTTTTTAGGGAAG

CCCTTC CGGTCT

GCCAGGGA
ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1313 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1350
(fs_start=1298)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC

GGACCGGAAG GGAA

TCTTCA
GAACTT

=====
(1805) FJ388942
=====

PK1: -15.140000(kcal/mol): PK_start=1269 sp=0 s1=3 s2=8 l1=2 l2=5 l3=0 PK_end=1297
(fs_start=1289)

CA
GGAAAGAGGGACACCAAATGAAAGACTG

GAC AGAAAGTC

TTTTTTAGGG
GCTAA

PK2: -21.980000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1311
(fs_start=1289)

C
GAGGGACACCAAATGAAAGACTGCACTGAAAGA

GATTTTTT AATCGGA

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                                TTGGCCTTC
                                GGAAAAT
PK3:  -20.285000(kcal/mol): PK_start=1298 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1331
(fs_start=1289)
                                AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
                                CCT   TCCGGTTT
                                AGCCAGGAA
                                AGCAAGGGG
PK4:  -22.215000(kcal/mol): PK_start=1304 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1341
(fs_start=1289)
                                CCAGCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
                                GGACCGGAG   GGGG
                                TCCTCA
                                AAATTT
PK4B: -26.865000(kcal/mol): PK_start=1304 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1367
(fs_start=1289)
                                TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                                GGACCGGA   GGGG
                                CCCCAC
                                AAATTTTCCTCAGAGCAGACCAGAGCCAACAG
=====
(1806) FJ388943
=====
PK1:  -15.100000(kcal/mol): PK_start=1260 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1288
(fs_start=1280)
                                CA
GAAAGGAAGGACACCAAATGAAAGACTG
                                GAC   AGAGAGTC
                                TTTTTTAGGG
                                GCTAA
PK2:  -21.940000(kcal/mol): PK_start=1265 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1302
(fs_start=1280)
                                C
GAAGGACACCAAATGAAAGACTGCACTGAGAGA
                                GATTTTTT   AATCGGA
                                TTGGCCTTC
                                GGAAAAT
PK3:  -20.285000(kcal/mol): PK_start=1289 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1322
(fs_start=1280)
                                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCT   TCCGGTTT

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                                AGGCCAGGGA
                                AGCAAAGGG
PK4:  -24.220000(kcal/mol): PK_start=1295 sp=7 s1=7 s2=5 l1=9 l2=5 L3=0 PK_end=1332
(fs_start=1280)
                                TTCCAGCAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCC
                                GGACCGG    AGGGA
                                TCCCTCA
                                GAATT

PK4B:  -22.840000(kcal/mol): PK_start=1295 sp=7 s1=7 s2=4 l1=10 l2=33 L3=0
PK_end=1359 (fs_start=1280)
                                TTCCAGCAAAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCC
                                GGACCGG    AGGG
                                TCCCCC
                                GAATTTCCCTCAGAGCAGACCAGAACCATCAGC

=====
(1807) FJ388944
=====
PK1:  -15.100000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
(fs_start=1283)
                                CA
GGAAGGAAGGACACCAAATGAAAGACTG
                                GAC    AGAGAGTC
                                TTTTTTAGGG
                                GCAAA

PK2:  -14.310000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=4 l1=4 l2=6 L3=0 PK_end=1301
(fs_start=1283)
                                CAGG
GAAGGACACCAAATGAAAGACTGCACTGAGAGA
                                GATTTTTT    AAAC
                                TTTGGC
                                GGAAAA

PK3:  -20.285000(kcal/mol): PK_start=1292 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1325
(fs_start=1283)
                                AAA
ACTGAGAGACAGGCAAATTTTTTTAGGGA
                                CCT    TCCGGTTT
                                AGGCCAGGAA
                                AACAAGGGA

PK4:  -24.345000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1335
(fs_start=1283)
                                TCCAACAA
AGACAGGCAAATTTTTTTAGGGAAAATTTGGCCT
                                GGACCGGA    AGGG

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                                TCCCCA
                                AAATTT
=====
(1808) FJ388945
=====
PK1:  -15.140000(kcal/mol): PK_start=1275 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1303
(fs_start=1295)
                                CA
GAAAGGAAGGACATCAAATGAAAGACTG
                                GAC   AGAAAGTC
                                TTTTTTAGGG
                                GCTAA

PK2:  -19.340000(kcal/mol): PK_start=1280 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1317
(fs_start=1295)
                                C
GAAGGACATCAAATGAAAGACTGCACTGAAAGA
                                GATTTTTT   AATCGGA
                                TTGGTCTTC
                                GGAAGAT

PK3:  -20.805000(kcal/mol): PK_start=1303 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1337
(fs_start=1295)
                                A
CACTGAAAGACAGGCTAATTTTTTAGGGAAG
                                CCCTTC   TGGTTT
                                GCCAGGGA
                                ACAAGGGAAG

PK4:  -20.545000(kcal/mol): PK_start=1310 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1347
(fs_start=1295)
                                CCAC
AGACAGGCTAATTTTTTAGGGAAGATTGGTCTTC
                                GGACCGGAAG   GGAA
                                TCTTCA
                                GAATTT

=====
(1809) FJ388946
=====
PK1:  -15.140000(kcal/mol): PK_start=1268 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1296
(fs_start=1288)
                                CA
GGAAGGAGGGACACCAAATGAAAGACTG
                                GAC   AGAAAGTC
                                TTTTTTAGGG
                                GCTAA

PK2:  -21.980000(kcal/mol): PK_start=1273 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1310
(fs_start=1288)
                                C
GAGGGACACCAAATGAAAGACTGCACTGAAAGA

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          GATTTTTT   AATCGGA
                    TTGGCCTTC
      GGAAAAT
PK3:  -20.285000(kcal/mol): PK_start=1297 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1330
(fs_start=1288)
          AAA
ACTGAAAGACAGGCTAATTTTTTTAGGGA
          CCT   TCCGGTTT
                    AGGCCAGGGA
      AGCAAGGGA
PK4:  -22.915000(kcal/mol): PK_start=1303 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1340
(fs_start=1288)
                    TCCAGCA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
          GGACCGGA   AGGGA
                    TTCCTCA
      GAATT

=====
(1810) FJ388947
=====
PK1:  -13.555000(kcal/mol): PK_start=1278 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1306
(fs_start=1298)
          T
GAAAAGAAGGACACCAAATGAAAGATTGT
          GACA   GAGAGTC
                    TTTTTAGGG
      GTTAAT
PK2:  -19.010000(kcal/mol): PK_start=1281 sp=0 s1=10 s2=7 l1=1 l2=5 L3=0 PK_end=1320
(fs_start=1298)
          C
AAGAAGGACACCAAATGAAAGATTGTTCTGAGAGA
          GGGATTTTTT   AATTGGA
                    TTGGCCTTC
      AAAGT
PK3:  -22.025000(kcal/mol): PK_start=1306 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1340
(fs_start=1298)
          AAG
TTCTGAGAGACAGGTTAATTTTTTTAGGGA
          CCCT   TCCGGTTT
                    AGGCCGGGGA
      ACAAGGGA
PK4:  -24.005000(kcal/mol): PK_start=1313 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1350
(fs_start=1298)
                    TCCCACA
AGACAGGTTAATTTTTTTAGGGAAAGTTTGGCCT

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GGGCCGGA    AGGGA
              TCCCTCA
GAATT
PK4B: -23.025000(kcal/mol): PK_start=1313 sp=7 s1=8 s2=4 l1=8 l2=41 L3=0 PK_end=1385
(fs_start=1298)
              TCCCACAA
AGACAGGTTAATTTTTTAGGGAAAGTTTGGCCT
              GGGCCGGA    AGGG
              TCCCTC
GAATTTCCCTCAGAGCAGACTAGATCCAACAGCGGGAATT

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=====
(1811) FJ388948
=====

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PK1: -15.025000(kcal/mol): PK_start=1260 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1288
(fs_start=1280)

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              A
GAAAAGAGGGACACCAAATGAAAGACTGT
              GACG    GAAAGTC
              TTTTTAGGG
GCTAAT

```

```

PK2: -20.370000(kcal/mol): PK_start=1265 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1302
(fs_start=1280)

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              C
GAGGGACACCAAATGAAAGACTGTACTGAAAGG
              GATTTTTT    AATCGGA
              TTGGCCTTC
GGAAAAT

```

```

PK3: -23.745000(kcal/mol): PK_start=1288 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1322
(fs_start=1280)

```

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              AAA
TACTGAAAGGCAGGCTAATTTTTTAGGGA
              CCCT    TCCGGTTT
              AGGCCAGGGA
ACAAGGGA

```

```

PK4: -25.490000(kcal/mol): PK_start=1295 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1332
(fs_start=1280)

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              CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
              GGACCGGAAG    GGAA
              CCTTCA
GAATTT

```

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=====
(1812) FJ388949
=====

```

PK1: -13.555000(kcal/mol): PK_start=1274 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1302 (fs_start=1294)

A
GTAGGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1279 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1315 (fs_start=1294)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1302 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1336 (fs_start=1294)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAAGGA

PK4: -24.115000(kcal/mol): PK_start=1309 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1346 (fs_start=1294)

TCCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA AGGAA
TTCTTCA
GAATT

=====
(1813) FJ388950
=====

PK1: -15.100000(kcal/mol): PK_start=1269 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1297 (fs_start=1289)

CA
GAAAGGAAGGCCATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1311 (fs_start=1289)

C
GAAGGCCATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAGAAT

PK3: -18.840000(kcal/mol): PK_start=1297 sp=0 s1=5 s2=6 l1=2 l2=11 l3=0 PK_end=1331
(fs_start=1289)

AA
CACTGAGAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTTT
GCCAGGAA
AGCAAAGGGAG

PK4: -21.815000(kcal/mol): PK_start=1304 sp=7 s1=8 s2=4 l1=8 l2=6 l3=0 PK_end=1341
(fs_start=1289)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
GGACCGGA GGG
TCCTCA
AAATTT

=====
(1814) FJ388951
=====

PK1: -15.100000(kcal/mol): PK_start=1269 sp=0 s1=3 s2=8 l1=2 l2=5 l3=0 PK_end=1297
(fs_start=1289)

CA
GAAAGGAAGGCCATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1311
(fs_start=1289)

C
GAAGGCCATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAGAAT

PK3: -18.840000(kcal/mol): PK_start=1297 sp=0 s1=5 s2=6 l1=2 l2=11 l3=0 PK_end=1331
(fs_start=1289)

AA
CACTGAGAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTTT
GCCAGGAA
AGCAAAGGGAG

PK4: -21.815000(kcal/mol): PK_start=1304 sp=7 s1=8 s2=4 l1=8 l2=6 l3=0 PK_end=1341
(fs_start=1289)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
GGACCGGA GGG
TCCTCA
AAATTT

=====
(1815) FJ388952
=====

PK1: -12.505000(kcal/mol): PK_start=1270 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1297
(fs_start=1289)

A
AAAGGAAGGACACCAAATGAAAGACTGT
ACG GAGAGTC
TTTTTAGGG
AGCTAAT

PK2: -14.080000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=4 l1=3 l2=8 L3=1 PK_end=1308
(fs_start=1289)

CAA
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT A ATCG
TGGCCT
GGAAAATC

PK3: -23.815000(kcal/mol): PK_start=1298 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1331
(fs_start=1289)

AAA
ACTGAGAGGCAAGCTAATTTTTTAGGGA
CCT TCCGGTCT
AGGCCAGGGA
AACAAGGGG

PK4: -28.540000(kcal/mol): PK_start=1304 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1341
(fs_start=1289)

CAAC
AGGCAAGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1304 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1367
(fs_start=1289)

TCCAACAA
AGGCAAGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCCCTTCAGAGCAGACCAGAACCAACAG

=====
(1816) FJ388953
=====

PK1: -15.370000(kcal/mol): PK_start=1275 sp=0 s1=3 s2=9 l1=1 l2=5 L3=0 PK_end=1304
(fs_start=1295)

C
GAAAGGAGGGACACCAAATGAAAGACTG
GAC AGAAAGTCT

TTTTTTAGGGA
 GCTAA

PK2: -25.320000(kcal/mol): PK_start=1278 sp=0 s1=10 s2=7 l1=1 l2=5 l3=0 PK_end=1317
 (fs_start=1295)

C
 AGGAGGGACACCAAATGAAAGACTGCTCTGAAAGA

GGGATTTTTT AATCGGA
 TTGGCCTCC
 AGGAT

PK3: -21.650000(kcal/mol): PK_start=1303 sp=0 s1=5 s2=6 l1=2 l2=11 l3=0 PK_end=1337
 (fs_start=1295)

GA
 CTCTGAAAGACAGGCTAATTTTTTAGGGAG

CCCTC CGGTTT
 GCCAGGGA
 AACAAAGGGAG

PK4: -21.815000(kcal/mol): PK_start=1310 sp=7 s1=8 s2=4 l1=8 l2=6 l3=0 PK_end=1347
 (fs_start=1295)

CCCAACAA
 AGACAGGCTAATTTTTTAGGGAGGATTTGGCCT

GGACCGGA GGA
 TCCTCA
 GAATTT

=====
 (1817) FJ388954
 =====

PK1: -15.100000(kcal/mol): PK_start=1269 sp=0 s1=3 s2=8 l1=2 l2=5 l3=0 PK_end=1297
 (fs_start=1289)

CA
 GAAAGGAAGGACATCAAATGAAAGACTG

GAC AGAGAGTC
 TTTTTTAGGG
 GCTAA

PK2: -21.940000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1311
 (fs_start=1289)

C
 GAAGGACATCAAATGAAAGACTGCACTGAGAGA

GATTTTTT AATCGGA
 TTGGCCTTC
 GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1298 sp=0 s1=3 s2=8 l1=3 l2=9 l3=0 PK_end=1331
 (fs_start=1289)

AAA
 ACTGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT

```

                                AGGCCGGGGA
                AACAAGGGA

PK4:  -21.195000(kcal/mol): PK_start=1304 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1341
(fs_start=1289)
                                TCCAACA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT

                                GGGCCGGA    AGGGA
                                TTCCTCA

                GAATT

=====
(1818) FJ388955
=====
PK1:  -13.555000(kcal/mol): PK_start=1275 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1303
(fs_start=1295)
                                A
GAAAGGAAGGACACCAGATGAAAGATTGT

                                GACA    GAGAGTC
                                TTTTtaggg
                GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1280 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1316
(fs_start=1295)
                                C
GAAGGACACCAGATGAAAGATTGTACTGAGAGA

                                GATTTTTT  A  ATCGGA
                                TGGCCTTC
                GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1303 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1337
(fs_start=1295)
                                AAA
TACTGAGAGACAGGCTAATTTTTTTAGGGA

                                CCCT    TCCGGTCT
                                AGGCCAGGGA
                ACAAGGGA

PK4:  -26.715000(kcal/mol): PK_start=1310 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1347
(fs_start=1295)
                                CCAC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC

                                GGACCGGAAG    GGAA
                                TCTTCA
                GAATTT

=====
(1819) FJ388957
=====
PK1:  -13.555000(kcal/mol): PK_start=1278 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1306
(fs_start=1298)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT

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          GACA    GAGAGTC
                TTTTtaggg
    GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1283 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1319
(fs_start=1298)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT A  ATCGGA
                                TGGCCTTC
                GGAAAATC

PK3:  -26.605000(kcal/mol): PK_start=1306 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1340
(fs_start=1298)
                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                CCCT    TCCGGTCT
                                AGGCCGGGAA
                ACAAGGGA

PK4:  -25.775000(kcal/mol): PK_start=1313 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1350
(fs_start=1298)
                TCCCACA
AGACAGGCTAATTTTTTAGGAAAATCTGGCCT
                GGGCCGGA    AGGGA
                                TTCCTCA
                AAATT

=====
(1820) FJ388958
=====
PK1:  -9.470000(kcal/mol): PK_start=1262 sp=0 s1=3 s2=6 l1=2 l2=22 L3=0 PK_end=1303
(fs_start=1295)
                AA
TGTTGAAATGTGGAAAGGAGGGACATC
                TAG    AAAGTT
                                TTTTtaggg
                TGCACTGAGAGACAGGCTAATT

PK2:  -20.460000(kcal/mol): PK_start=1280 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1316
(fs_start=1295)
                C
GAGGGACATCAATTGAAAGATTGCACTGAGAGA
                GATTTTTT A  ATCGGA
                                TGGCCTTC
                GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1303 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1337
(fs_start=1295)
                AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA

```

CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA
PK4: -26.715000(kcal/mol): PK_start=1310 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1347
(fs_start=1295)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(1821) FJ388959
=====

PK1: -13.205000(kcal/mol): PK_start=1276 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1303
(fs_start=1295)

A
AAAGGAAGGACACCAAATGAAAGAGTGT
ACA GAGAGTC
TTTTTAGGG
GGCTAAT

PK2: -20.460000(kcal/mol): PK_start=1280 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1316
(fs_start=1295)

C
GAAGGACACCAAATGAAAGAGTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAGGATC

PK3: -31.275000(kcal/mol): PK_start=1304 sp=0 s1=6 s2=7 l1=1 l2=6 L3=0 PK_end=1336
(fs_start=1295)

T
ACTGAGAGACAGGCTAATTTTTTAGGGAGGA
CCTCCT TCCGGTC
AGGCCAGGG
AAGGGA

PK4: -26.715000(kcal/mol): PK_start=1310 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1347
(fs_start=1295)

CTCC
AGACAGGCTAATTTTTTAGGGAGGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(1822) FJ388961
=====

PK1: -13.555000(kcal/mol): PK_start=1266 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1294
(fs_start=1286)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1271 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1307
(fs_start=1286)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -26.605000(kcal/mol): PK_start=1294 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1328
(fs_start=1286)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCGGGGA
ACAAGGGA

PK4: -28.350000(kcal/mol): PK_start=1301 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1338
(fs_start=1286)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGGCCGGAAG GGAA
CCTTCA
GAATTT

=====
(1823) FJ388962
=====

PK1: -13.555000(kcal/mol): PK_start=1281 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1309
(fs_start=1301)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1286 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1322
(fs_start=1301)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -26.605000(kcal/mol): PK_start=1309 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1343
(fs_start=1301)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCGGGGA
ACAAGGGA

PK4: -28.350000(kcal/mol): PK_start=1316 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1353
(fs_start=1301)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGGCCGGAAG GGAA
CCTTCA
GAATTT

=====
(1824) FJ388963
=====

PK1: -13.555000(kcal/mol): PK_start=1275 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1303
(fs_start=1295)

A
GAAAGGAGGGACATCAATTGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1280 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1316
(fs_start=1295)

C
GAGGGACATCAATTGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1303 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1337
(fs_start=1295)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1310 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1347
(fs_start=1295)

CTAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

PK4B: -24.150000(kcal/mol): PK_start=1310 sp=7 s1=7 s2=4 l1=1 l2=41 L3=9 PK_end=1373
(fs_start=1295)

T
AGACAGGCTAATTTTTTAGGGAAGATCTGGCC
GGACCGG AAGGGAACA TCCT
AGGAGA
GAATTTTCTTCAGAGCAGACCAGAGCCAACAGCCCCACCAG

=====
(1825) FJ388964
=====

PK1: -13.205000(kcal/mol): PK_start=1276 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1303
(fs_start=1295)

A
AAAGGAAGGACACCAAATGAAAGAGTGT
ACA GAGAGTC
TTTTTAGGG
GGCTAAT

PK2: -20.460000(kcal/mol): PK_start=1280 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1316
(fs_start=1295)

C
GAAGGACACCAAATGAAAGAGTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1303 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1337
(fs_start=1295)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1310 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1347
(fs_start=1295)

CCAC
AGACAGGCTAATTTTTTAGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(1826) FJ388965
=====

PK1: -13.555000(kcal/mol): PK_start=1287 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1315
(fs_start=1307)

A
GAAAGGAAGGGCACCAAATGAAAGATTGT
GACA GAGAGTC

TTTTTAGGG
GCTAAT
PK2: -20.460000(kcal/mol): PK_start=1292 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1328
(fs_start=1307)

C
GAAGGGCACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1315 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1349
(fs_start=1307)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGAA
ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1322 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1359
(fs_start=1307)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
AAACTT

PK4B: -30.395000(kcal/mol): PK_start=1322 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1385
(fs_start=1307)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CCCCAC
AAACTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(1827) FJ389363
=====

PK1: -10.440000(kcal/mol): PK_start=1577 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1615
(fs_start=1608)

A
TTGGAAATGTGGAAAGGAGGGACATCAA
GTT AGAAAGT
TTTTTTAGG
CACAGAGAGACAGGCTAA

PK2: -18.660000(kcal/mol): PK_start=1595 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1630
(fs_start=1608)

C
GGGACATCAAATGAAAGATTGCACAGAGAGA
TTTTTT AATCGGA

```

                                TTGGCCTTC
          AGGAAGAAT
PK3:  -19.320000(kcal/mol): PK_start=1616 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1650
(fs_start=1608)
                                AA
CACAGAGAGACAGGCTAATTTTTTTAGGAAG
                                CCTTC   CGGTTT
                                GCCAGGGA
          AACAAAGGGAG
PK4:  -19.885000(kcal/mol): PK_start=1623 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1660
(fs_start=1608)
                                CCAACA
AGACAGGCTAATTTTTTTAGGAAGAATTTGGCCTT
                                GGACCGGAG   GGAA
                                TCTTCA
          GAATTT
=====
(1828) FJ389364
=====
PK1:  -11.420000(kcal/mol): PK_start=1594 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=1620
(fs_start=1614)
                                CACA
GAAAGGAGGGACATCAAATGAAAGACTG
                                GAC   AGAGAG
                                TTTTTTAG
          GCTAA
PK2:  -18.660000(kcal/mol): PK_start=1601 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1636
(fs_start=1614)
                                C
GGGACATCAAATGAAAGACTGCACAGAGAGA
                                TTTTTT   AATCGGA
                                TTGGCCTTC
          AGGGAAAAT
PK3:  -18.565000(kcal/mol): PK_start=1623 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1656
(fs_start=1614)
                                AAA
ACAGAGAGACAGGCTAATTTTTTTAGGGA
                                CCT   TCCGGTTT
                                AGGCCGGGGA
          AACAAAGGGG
PK4:  -20.985000(kcal/mol): PK_start=1629 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1666
(fs_start=1614)
                                CAAC
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTTC
                                GGGCCGGAGG   GGAA

```

TCTTCA

GAATTT

PK4B: -25.145000(kcal/mol): PK_start=1629 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1692
(fs_start=1614)

TCCAACAA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGGCCGGA GGGG

CCCCAC

GAATTTTCTTCAGAACAGGCCAGAGCCAACAG

=====

(1829) FJ389367

=====

PK1: -11.460000(kcal/mol): PK_start=1600 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=1626
(fs_start=1620)

CACA

GAAAAGAGGGACATCAAATGAAAGACTG

GAC AGAAAG

TTTTTTAG

GCTAA

PK2: -17.220000(kcal/mol): PK_start=1607 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=1641
(fs_start=1620)

C

GGGACATCAAATGAAAGACTGCACAGAAAGA

TTTTTT A ATCGGA

TGGCCTTC

AGGGAAAATC

PK3: -23.815000(kcal/mol): PK_start=1629 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1662
(fs_start=1620)

AAA

ACAGAAAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTCT

AGGCCAGGGA

AACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=1635 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1672
(fs_start=1620)

CAAC

AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAGG GGAA

TCTTCA

GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1635 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1698
(fs_start=1620)

TCCAACAA

AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT

GGACCGGA GGGG

CCCCAC
GAATTTTCTTCAGAACAGGCCAGAGCCAACAG

=====
(1830) FJ441290
=====

PK1: -15.100000(kcal/mol): PK_start=1269 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1297
(fs_start=1289)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1311
(fs_start=1289)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -22.025000(kcal/mol): PK_start=1297 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1331
(fs_start=1289)

AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCGGGGA
ACAAGGGA

PK4: -21.195000(kcal/mol): PK_start=1304 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1341
(fs_start=1289)

TCCCACA
AGACAGGCTAATTTTTTAGGAAAATTTGGCCT
GGGCCGGA AGGGA
TTCCTCA
GAACT

=====
(1831) FJ460499
=====

PK1: -14.970000(kcal/mol): PK_start=1390 sp=0 s1=3 s2=9 l1=1 l2=5 L3=0 PK_end=1419
(fs_start=1410)

C
GACAAGAAGGACATCAAATGAAAGATTG
GAC AGAAGGTCC
TTTTTTAGGGA
GCTAA

PK2: -23.940000(kcal/mol): PK_start=1393 sp=0 s1=10 s2=5 l1=2 l2=6 L3=1 PK_end=1430
(fs_start=1410)

CA
AAGAAGGACATCAAATGAAAGATTGCCCTGGAAGA

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GGGATTTTTT A ATCGG
                                TGGCCCT
AAAATC
PK3: -24.730000(kcal/mol): PK_start=1418 sp=0 s1=4 s2=7 l1=3 l2=9 L3=1 PK_end=1451
(fs_start=1410)
                                AAA
CCCTGGAAGACAGGCTAATTTTTTAGGGA
                                CCGGTCT
CCCT C
                                GGCCAGGGA
ACAAGGGAA
PK4: -23.190000(kcal/mol): PK_start=1425 sp=7 s1=7 s2=6 l1=8 l2=4 L3=0 PK_end=1462
(fs_start=1410)
                                CTCCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCC
                                AAGGGA
GGACCGG
                                TTTCTTCA
GAAT

=====
(1832) FJ460500
=====
PK1: -13.595000(kcal/mol): PK_start=1422 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1450
(fs_start=1442)
                                A
GACAGGAAGGACATCAAATGAAAGATTGT
                                GAAAGTC
GACA
                                TTTTTAGGG
GCTAAT
PK2: -19.120000(kcal/mol): PK_start=1427 sp=0 s1=8 s2=5 l1=2 l2=8 L3=1 PK_end=1462
(fs_start=1442)
                                CA
GAAGGACATCAAATGAAAGATTGTACTGAAAGA
                                ATCGG
GATTTTTT
                                TGGCCCT
GGAAAATC
PK3: -24.730000(kcal/mol): PK_start=1450 sp=0 s1=4 s2=7 l1=3 l2=9 L3=1 PK_end=1483
(fs_start=1442)
                                AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
                                CCGGTCT
CCCT C
                                GGCCAGGGA
ACAAGGGAA
PK4: -23.190000(kcal/mol): PK_start=1457 sp=7 s1=7 s2=6 l1=8 l2=4 L3=0 PK_end=1494
(fs_start=1442)
                                CTCCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCC

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                GGACCGG    AAGGGA
                                TTTCTTCA
        GAAT
=====
(1833) FJ460501
=====
PK1:  -13.595000(kcal/mol): PK_start=1423 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1451
(fs_start=1443)
                                A
GACAGGAAGGACATCAAATGAAAGATTGT
                GACA    GAAAGTC
                                TTTTTAGGG
        GCTAAT

PK2:  -20.500000(kcal/mol): PK_start=1428 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1464
(fs_start=1443)
                                C
GAAGGACATCAAATGAAAGATTGTACTGAAAGA
                GATTTTTT  A  ATCGGA
                                TGGCCTTC
        GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1451 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1485
(fs_start=1443)
                                AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
                CCCT    TCCGGTCT
                                AGGCCAGGGA
        ACAAGGGA

PK4:  -26.715000(kcal/mol): PK_start=1458 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1495
(fs_start=1443)
                                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                GGACCGGAAG    GGAA
                                TCTTCA
        GAATTT

=====
(1834) FJ469682
=====
PK1:  -13.595000(kcal/mol): PK_start=1299 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1327
(fs_start=1319)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                GACA    GAAAGTC
                                TTTTTAGGG
        GCTAAT

```

PK2: -20.50000(kcal/mol): PK_start=1304 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1340
(fs_start=1319)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1327 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1361
(fs_start=1319)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=1334 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1371
(fs_start=1319)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1334 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1397
(fs_start=1319)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(1835) FJ469683
=====

PK1: -13.555000(kcal/mol): PK_start=1297 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1325
(fs_start=1317)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1302 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1338
(fs_start=1317)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1325 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1359
(fs_start=1317)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -24.995000(kcal/mol): PK_start=1332 sp=7 s1=8 s2=4 l1=8 l2=6 l3=0 PK_end=1369
(fs_start=1317)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGG
TCTCCA
GAATTT

=====
(1836) FJ469684
=====

PK1: -13.555000(kcal/mol): PK_start=1307 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1335
(fs_start=1327)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1312 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1348
(fs_start=1327)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1335 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1369
(fs_start=1327)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1342 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1379
(fs_start=1327)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(1837) FJ469685
=====

PK1: -13.555000(kcal/mol): PK_start=1289 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1317
(fs_start=1309)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1294 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1330
(fs_start=1309)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1317 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1351
(fs_start=1309)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -28.545000(kcal/mol): PK_start=1324 sp=7 s1=9 s2=4 l1=6 l2=25 L3=0 PK_end=1380
(fs_start=1309)

CCCACA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTT
GGACCGGAA GGGA
CCCTCA
GAATTTTCTTCAGAGCAGGCCAGAG

=====
(1838) FJ469686
=====

PK1: -13.245000(kcal/mol): PK_start=1290 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1317
(fs_start=1309)

A
AAAGGAAGGACACCAAATGAAAGAGTGT
ACA GAAAGTC
TTTTTAGGG
GGCTAAT

PK2: -20.500000(kcal/mol): PK_start=1294 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1330
(fs_start=1309)

C
GAAGGACACCAAATGAAAGAGTGTACTGAAAGA
GATTTTTT A ATCGGA

```

                                TGGCCTTC
          GGAAAGTC
PK3:  -27.275000(kcal/mol): PK_start=1317 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1351
(fs_start=1309)
                                AAG
TACTGAAAGACAGGCTAATTTTTTTAGGGA
                                CCCT   TCCGGTCT
                                AGGCCAGGGA
          ACAAGGGG
PK4:  -26.235000(kcal/mol): PK_start=1324 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1361
(fs_start=1309)
                                CCAC
AGACAGGCTAATTTTTTTAGGGAAAGTCTGGCCTTC
                                GGACCGGAGG   GGAA
                                TCTTCA
          GAATTT
PK4B:  -30.395000(kcal/mol): PK_start=1324 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1387
(fs_start=1309)
                                TCCCACAA
AGACAGGCTAATTTTTTTAGGGAAAGTCTGGCCT
                                GGACCGGA   GGGG
                                CCCCAC
          GAATTTTCTTCAGAGCAGACTAGAGCCAACAG

=====
(1839) FJ469687
=====
PK1:  -13.555000(kcal/mol): PK_start=1297 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1325
(fs_start=1317)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                                GACA   GAGAGTC
                                TTTTTAGGG
          GTTAAT
PK2:  -16.970000(kcal/mol): PK_start=1302 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1338
(fs_start=1317)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                                GATTTTTT   A   ATGGA
                                TGGCCTTC
          GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1325 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1359
(fs_start=1317)
                                AAA
TACTGAGAGACAGGTTAATTTTTTTAGGGA
                                CCCT   TCCGGTCT

```

AGGCCAGGGA

ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1332 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1369
(fs_start=1317)

CCAC

AGACAGGTTAATTTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAAG GGAA

TCTTCA

GAACTT

=====
(1840) FJ469688
=====

PK1: -13.555000(kcal/mol): PK_start=1297 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1325
(fs_start=1317)

A

GAAAGGAAGGACATCAGATGAAAGATTGT

GACA GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1302 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1338
(fs_start=1317)

C

GAAGGACATCAGATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1325 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1359
(fs_start=1317)

AAA

TACTGAGAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT

AGGCCAGGGA

ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1332 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1369
(fs_start=1317)

CCAC

AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAAG GGAA

TCTTCA

GAATTT

=====
(1841) FJ469689
=====

PK1: -13.555000(kcal/mol): PK_start=1307 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1335
(fs_start=1327)

A

GAAAGGAAGGACACCAAATGAAAGATTGT

```

          GACA    GAGAGTC
                TTTTATAGGG
      GTTAAT
PK2:  -16.970000(kcal/mol): PK_start=1312 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1348
(fs_start=1327)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT  A  ATTGGA
                        TGGCCTTC
          GGAAGATC
PK3:  -26.110000(kcal/mol): PK_start=1335 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1369
(fs_start=1327)
                A
TACTGAGAGACAGGTTAATTTTTATAGGGAAG
                CCCTTC    CGGTCT
                        GCCAGGGA
          ACAAGGGGAG
PK4:  -28.540000(kcal/mol): PK_start=1342 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1379
(fs_start=1327)
                CCAC
AGACAGGTTAATTTTTATAGGGAAGATCTGGCCTTC
                GGACCGGAGG    GGAA
                        CCTTCA
          GAATTT
PK4B:  -30.395000(kcal/mol): PK_start=1342 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1405
(fs_start=1327)
                TCCCACAA
AGACAGGTTAATTTTTATAGGGAAGATCTGGCCT
                GGACCGGA    GGGG
                        CCCCAT
          GAATTTCTTCAGAACAGACTAGAGCCAACAG

=====
(1842) FJ469690
=====
PK1:  -10.795000(kcal/mol): PK_start=1289 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1317
(fs_start=1309)
                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                GACA    GAGGGTC
                        TTTTATAGGG
          GCTAAT
PK2:  -17.700000(kcal/mol): PK_start=1294 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1330
(fs_start=1309)
                C
GAAGGACACCAAATGAAAGATTGTACTGGGAGA

```

GATTTTTT A ATCGGA
 TGGCCTTC
 GGAAAATC
 PK3: -27.275000(kcal/mol): PK_start=1317 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1351
 (fs_start=1309)
 AAA
 TACTGGGAGACAGGCTAATTTTTTAGGGA
 CCCT TCCGGTCT
 AGGCCAGGGA
 ACAGGGAA
 PK4: -24.695000(kcal/mol): PK_start=1324 sp=7 s1=9 s2=5 l1=5 l2=5 L3=0 PK_end=1361
 (fs_start=1309)
 CCCAC
 AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT
 GGACCGGAA AGGGA
 TTCTTCA
 GAATT
 =====
 (1843) FJ469691
 =====
 PK1: -13.555000(kcal/mol): PK_start=1297 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1325
 (fs_start=1317)
 A
 GAAAGGAAGGACACCAAATGAAAGATTGT
 GACA GAGAGTC
 TTTTTAGGG
 GCTAAT
 PK2: -20.460000(kcal/mol): PK_start=1302 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1338
 (fs_start=1317)
 C
 GAAGGACACCAAATGAAAGATTGTACTGAGAGA
 GATTTTTT A ATCGGA
 TGGCCTTC
 GGAAGATC
 PK3: -25.060000(kcal/mol): PK_start=1325 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1359
 (fs_start=1317)
 A
 TACTGAGAGACAGGCTAATTTTTTAGGGAAG
 TCCTTC CGGTCT
 GCCAGGGA
 CCAAGGGAAG
 PK4: -26.715000(kcal/mol): PK_start=1332 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1369
 (fs_start=1317)
 CTCC
 AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC


```

                GGACCGGAAG    GGAA
                                TCTTCA
          GAATTT

=====
(1844) FJ469692
=====
PK1:  -10.795000(kcal/mol): PK_start=1288 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1316
(fs_start=1308)
                                A
GACAGGAAGGACACCAAATGAAAGATTGT

                GACA    GAGGGTC
                                TTTTtaggg
          GCTAAT

PK2:  -17.700000(kcal/mol): PK_start=1293 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1329
(fs_start=1308)
                                C
GAAGGACACCAAATGAAAGATTGTACTGGGAGA

                GATTTTTT  A  ATCGGA
                                TGGCCTTC
          GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1316 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1350
(fs_start=1308)
                                AAA
TACTGGGAGACAGGCTAATTTTTTAGGGA

                CCCT    TCCGGTCT
                                AGGCCAGGGA
          ACAAGGGA

PK4:  -26.715000(kcal/mol): PK_start=1323 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1360
(fs_start=1308)
                                CCAC
AGACAGGCTAATTTTTTAGGAAAATCTGGCCTTC

                GGACCGGAAG    GGAA
                                TCTTCA
          GAATTT

=====
(1845) FJ469693
=====
PK1:  -13.555000(kcal/mol): PK_start=1289 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1317
(fs_start=1309)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT

                GACA    GAGAGTC
                                TTTTtaggg
          GCTAAT

```

PK2: -20.460000(kcal/mol): PK_start=1294 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1330
(fs_start=1309)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAGACTC

PK3: -30.485000(kcal/mol): PK_start=1317 sp=0 s1=4 s2=9 l1=2 l2=8 L3=0 PK_end=1352
(fs_start=1309)

GA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCTC
AGGCCAGGGAA
ACAAGGGA

PK4: -27.605000(kcal/mol): PK_start=1323 sp=6 s1=9 s2=4 l1=8 l2=5 L3=0 PK_end=1361
(fs_start=1309)

TCCCACAA
GAGACAGGCTAATTTTTTAGGGAGACTCTGGCCT
GGGACCGGA AGGG
TCTCCA
AATTT

=====
(1846) FJ469694
=====

PK1: -13.555000(kcal/mol): PK_start=1445 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1473
(fs_start=1465)

A
GAAGGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1450 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1486
(fs_start=1465)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1473 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1507
(fs_start=1465)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1480 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1517
(fs_start=1465)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

PK4B: -28.775000(kcal/mol): PK_start=1480 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=1543
(fs_start=1465)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGG
TCCCGA
GAATTTTCTTCAGAACAGACCAGAGCCAACAG

=====
(1847) FJ469695
=====

PK1: -13.555000(kcal/mol): PK_start=1298 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1326
(fs_start=1318)

A
GAAAGGAGGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1303 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1339
(fs_start=1318)

C
GAGGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1326 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=1360
(fs_start=1318)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -29.020000(kcal/mol): PK_start=1333 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1370
(fs_start=1318)

CCAC
AGACAGGCTAATTTTTTAGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(1848) FJ469696
=====

PK1: -13.305000(kcal/mol): PK_start=1298 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1325
(fs_start=1317)

A
AAAGGAAGGACACCAAATGAAAGAATGT
ACA GAGAGTC
TTTTTAGGG
GGCTAAT

PK2: -20.460000(kcal/mol): PK_start=1302 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1338
(fs_start=1317)

C
GAAGGACACCAAATGAAAGAATGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1325 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1359
(fs_start=1317)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGGAG

PK4: -28.540000(kcal/mol): PK_start=1332 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1369
(fs_start=1317)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1332 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1395
(fs_start=1317)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCTTCAGAGCAGACCCGAGCCAACAG

=====
(1849) FJ469697
=====

PK1: -13.555000(kcal/mol): PK_start=1300 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1328
(fs_start=1320)

T
GAAAGGAGGGACACCAAATGAAAGATTGT
GACA GAGAGTC

```

                TTTT TAGGG
      GCTAAT
PK2:  -21.020000(kcal/mol): PK_start=1303 sp=0 s1=10 s2=6 l1=1 l2=6 L3=1 PK_end=1341
(fs_start=1320)
                C
AGGAGGGACACCAAATGAAAGATTGTTCTGAGAGA
                GGGATTTTTT A ATCGGA
                TGGCCTTC
      AAAATC
PK3:  -27.275000(kcal/mol): PK_start=1328 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1362
(fs_start=1320)
                AAA
TTCTGAGAGACAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTCT
                AGGCCAGGAA
      ACAAGGGG
PK4:  -25.745000(kcal/mol): PK_start=1335 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1372
(fs_start=1320)
                CCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT
                GGACCGGAG   GGGA
                TCCTCA
      AAATTT
PK4B:  -30.395000(kcal/mol): PK_start=1335 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1398
(fs_start=1320)
                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                GGACCGGA   GGGG
                CCCCAC
      AAATTTTCCTCAGAGCAGACCAGGCCATCAG

=====
(1850) FJ469698
=====
PK1:  -13.595000(kcal/mol): PK_start=1295 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1323
(fs_start=1315)
                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                GACA   GAAAGTC
                TTTT TAGGG
      GCTAAT
PK2:  -20.500000(kcal/mol): PK_start=1300 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1336
(fs_start=1315)
                C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
                GATTTTTT A ATCGGA

```

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                                TGGCCTTC
                GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1323 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1357
(fs_start=1315)
                                AAA
TACTGAAAGACAGGCTAATTTTTTTAGGGA
                                CCCT   TCCGGTCT
                                AGGCCAGGGA
                ACAAGGGG
PK4:  -26.235000(kcal/mol): PK_start=1330 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1367
(fs_start=1315)
                                CCAC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAGG   GGAA
                                TCTTCA
                GAACTT
PK4B:  -30.395000(kcal/mol): PK_start=1330 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1393
(fs_start=1315)
                                TCCCACAA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT
                                GGACCGGA   GGGG
                                CCCCAC
                GAACTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(1851) FJ469699
=====
PK1:  -10.465000(kcal/mol): PK_start=1300 sp=0 s1=4 s2=6 l1=2 l2=5 L3=0 PK_end=1326
(fs_start=1320)
                                AC
GAAAGGAAGGACACCAAATGAAAGATTGT
                                GACA   GAAAGA
                                TTTTTTAG
                GCTAA
PK2:  -17.220000(kcal/mol): PK_start=1307 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=1341
(fs_start=1320)
                                C
AGGACACCAAATGAAAGATTGTACAGAAAGA
                                TTTTTT   A   ATCGGA
                                TGGCCTTC
                AGGGAAGATC
PK3:  -25.060000(kcal/mol): PK_start=1328 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1362
(fs_start=1320)
                                A
TACAGAAAGACAGGCTAATTTTTTTAGGGAAG
                                TCCTTC   CGGTCT

```

GCCAGGGA

CCAGGGGGAG

PK4: -25.885000(kcal/mol): PK_start=1335 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1372
(fs_start=1320)

CTCC

AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCTTC

GGACCGGAGG GGGG

TCTTCA

GAATTT

PK4B: -31.255000(kcal/mol): PK_start=1335 sp=7 s1=9 s2=4 l1=6 l2=32 L3=0 PK_end=1398
(fs_start=1320)

CCTCCA

AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCTTC

GGACCGGAG GGGG

CCCCAT

GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(1852) FJ469700
=====

PK1: -12.955000(kcal/mol): PK_start=1297 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1325
(fs_start=1317)

A

GAAGGGAAGGACACCAAATGAAAGATTGT

GACG GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -18.720000(kcal/mol): PK_start=1302 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1338
(fs_start=1317)

C

GAAGGACACCAAATGAAAGATTGTACTGAGAGG

GATTTTTT A ATCGGA

TGGCCTTC

GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1325 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1359
(fs_start=1317)

A

TACTGAGAGGCAGGCTAATTTTTTTAGGGAAG

TCCTTC CGGTCT

GCCAGGGA

CCAAGGGAAG

PK4: -26.445000(kcal/mol): PK_start=1332 sp=7 s1=8 s2=5 l1=7 l2=4 L3=0 PK_end=1368
(fs_start=1317)

TCCTCCA

AGGCAGGCTAATTTTTTTAGGGAAGATCTGGCCTTC

GGACCGGA AGGGA

TTCCTCC

GAAT

PK4B: -26.53000(kcal/mol): PK_start=1332 sp=7 s1=8 s2=4 l1=1 l2=40 L3=7 PK_end=1396
(fs_start=1317)

T

AGGCAGGCTAATTTTTTTAGGGAAGATCTGGCCT

GGACCGGA AGGGAAC CTCC

GAGGAG

GAATTTCTCCAGAACAGACCAGAACCAACAGCCCCACCA

=====
(1853) FJ469701
=====

PK1: -10.64000(kcal/mol): PK_start=1292 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1330
(fs_start=1323)

A

TTGGAATGTGGAAGGAAGGACACCAA

GTT AGAAAGT

TTTTTTAGG

CACTGAGAGACAGGCTAA

PK2: -20.46000(kcal/mol): PK_start=1308 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1344
(fs_start=1323)

C

GAAGGACACCAAATGAAAGATTGCACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAAATC

PK3: -27.27500(kcal/mol): PK_start=1331 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1365
(fs_start=1323)

AAA

CACTGAGAGACAGGCTAATTTTTTTAGGGA

CCCT TCCGGTCT

AGGCCAGGGA

ACAAGGGA

PK4: -24.99500(kcal/mol): PK_start=1338 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1375
(fs_start=1323)

TCCCACAA

AGACAGGCTAATTTTTTTAGGAAAATCTGGCCT

GGACCGGA AGGG

TCTCCA

GAATTT

=====
(1854) FJ469702
=====

PK1: -13.20500(kcal/mol): PK_start=1290 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1317
(fs_start=1309)

A

AAAGGAAGGACACCAAATGAAAGAGTGT


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          ACA      GAGAGTC
                TTTTTAGGG
      GGCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1294 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1330
(fs_start=1309)
                C
GAAGGACACCAAATGAAAGAGTGTACTGAGAGA
                GATTTTTT  A  ATCGGA
                                TGGCCTTC
      GGAAGATC
PK3:  -26.110000(kcal/mol): PK_start=1317 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1351
(fs_start=1309)
                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                CCCTTC      CGGTCT
                                GCCAGGGA
      ACAAGGGGAG
PK4:  -28.540000(kcal/mol): PK_start=1324 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1361
(fs_start=1309)
                CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
                GGACCGGAGG      GGAA
                                CCTTCA
      GAACTT
PK4B:  -30.395000(kcal/mol): PK_start=1324 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1387
(fs_start=1309)
                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
                GGACCGGA      GGGG
                                CCCAC
      GAACTTCTTCAGAGCAGACCAGAGCCAACAG
=====
(1855) FJ469703
=====
PK1:  -10.975000(kcal/mol): PK_start=1297 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=1324
(fs_start=1317)
                AA
GAAAGGAAGGACATCAAATGAAAGATTGT
                GACA      GAGAGT
                                TTTTTAGG
      GCTAAT
PK2:  -17.180000(kcal/mol): PK_start=1303 sp=0 s1=7 s2=5 l1=1 l2=10 L3=2 PK_end=1337
(fs_start=1317)
                C
AAGGACATCAAATGAAAGATTGTAATGAGAGA

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          ATTTTTT AA TCGGA
                    GGCCTTC
          GGAAGATCC

PK3:  -22.680000(kcal/mol): PK_start=1325 sp=0 s1=5 s2=4 l1=5 l2=9 L3=0 PK_end=1356
(fs_start=1317)
                    GATCC
TAATGAGAGACAGGCTAATTTTTTTAGGGAA
                    CCCTT   CCGG
                    GGCCAG
          ACAAGGGGA

PK4:  -23.120000(kcal/mol): PK_start=1335 sp=10 s1=7 s2=4 l1=4 l2=9 L3=0 PK_end=1369
(fs_start=1317)
                    CCAC
CAGGCTAATTTTTTTAGGGGAAGATCCGGCCTTC
                    CCGGAGG   GGAA
                    CCTTCA
          AGGAAACTT

PK4B:  -24.975000(kcal/mol): PK_start=1335 sp=10 s1=5 s2=4 l1=8 l2=35 L3=0
PK_end=1395 (fs_start=1317)
                    TCCCACAA
CAGGCTAATTTTTTTAGGGGAAGATCCGGCCT
                    CCGGA   GGGG
                    CCCCAC
          AGGAAACTTCCTTCAGAGCAGACCAGAGCCAACAG

=====
(1856) FJ469704
=====
PK1:  -13.555000(kcal/mol): PK_start=1296 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1324
(fs_start=1316)
                    A
GAAAGGAAGGACACCAAATGAAAGATTGT
                    GACA   GAGAGTC
                    TTTTTAGGG
          GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1301 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1337
(fs_start=1316)
                    C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                    GATTTTTT A ATCGGA
                    TGGCCTTC
          GGAAGATC

PK3:  -26.110000(kcal/mol): PK_start=1324 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1358
(fs_start=1316)
                    A
TACTGAGAGACAGGCTAATTTTTTTAGGGGAAG

```

CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG
PK4: -26.715000(kcal/mol): PK_start=1331 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1368
(fs_start=1316)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(1857) FJ469705
=====

PK1: -13.595000(kcal/mol): PK_start=1299 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1327
(fs_start=1319)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1304 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1340
(fs_start=1319)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1327 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1361
(fs_start=1319)

A
TACTGAAAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGGAG

PK4: -28.540000(kcal/mol): PK_start=1334 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1371
(fs_start=1319)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1334 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1397
(fs_start=1319)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT

GGACCGGA GGGG
CCCCAC
GAATTTCCCTTCAGAGCAGACCAGAACCAACGG

=====
(1858) FJ469706
=====

PK1: -13.555000(kcal/mol): PK_start=1297 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1325
(fs_start=1317)

A
GACAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1302 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1338
(fs_start=1317)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1325 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1359
(fs_start=1317)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -29.020000(kcal/mol): PK_start=1332 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1369
(fs_start=1317)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAACTT

=====
(1859) FJ469707
=====

PK1: -10.425000(kcal/mol): PK_start=1288 sp=0 s1=4 s2=6 l1=2 l2=5 L3=0 PK_end=1314
(fs_start=1308)

TC
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGA
TTTTTTAG
GCTAA

PK2: -17.180000(kcal/mol): PK_start=1295 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=1329 (fs_start=1308)

C
AGGACACCAAATGAAAGATTGTTTCAGAGAGA
TTTTTT A ATCGGA
TGGCCTTC
AGGGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1316 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1350 (fs_start=1308)

A
TTCAGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGAA
ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1323 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1360 (fs_start=1308)

CTAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
AAATTT

PK4B: -24.150000(kcal/mol): PK_start=1323 sp=7 s1=7 s2=4 l1=1 l2=41 L3=9 PK_end=1386 (fs_start=1308)

T
AGACAGGCTAATTTTTTAGGGAAGATCTGGCC
GGACCGG AAGGGAACA TCCT
AGGAGA
AAATTTTCTTCAGAGCAGACCAGAGCCAACAGCCCCACCAG

=====
(1860) FJ469708
=====

PK1: -10.425000(kcal/mol): PK_start=1296 sp=0 s1=4 s2=6 l1=2 l2=5 L3=0 PK_end=1322 (fs_start=1316)

AC
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGA
TTTTTTAG
GCTAA

PK2: -17.180000(kcal/mol): PK_start=1303 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=1337 (fs_start=1316)

C
AGGACACCAAATGAAAGATTGTACAGAGAGA
TTTTTT A ATCGGA
TGGCCTTC
AGGGAAGATC

PK3: -25.06000(kcal/mol): PK_start=1324 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1358 (fs_start=1316)

A
TACAGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
CCAAGGGAAG

PK4: -26.445000(kcal/mol): PK_start=1331 sp=7 s1=8 s2=5 l1=7 l2=5 l3=0 PK_end=1368 (fs_start=1316)

TCCTCCA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAATT

PK4B: -29.790000(kcal/mol): PK_start=1331 sp=7 s1=8 s2=5 l1=1 l2=39 l3=6 PK_end=1396 (fs_start=1316)

T
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGGAA CCTCC
GGAGGAG
GAATTTTCCTCAGAGCAGGCTAGAGCCAACAGCCCCACC

=====
(1861) FJ469709
=====

PK1: -13.555000(kcal/mol): PK_start=1297 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1325 (fs_start=1317)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1302 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1338 (fs_start=1317)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1325 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1359 (fs_start=1317)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1332 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1369
(fs_start=1317)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(1862) FJ469710
=====

PK1: -13.205000(kcal/mol): PK_start=1298 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1325
(fs_start=1317)

T
AAAGGAAGGACACCAAATGAAAGAGTGT
ACA GAGAGTC
TTTTTAGGG
GGCTAAT

PK2: -21.020000(kcal/mol): PK_start=1300 sp=0 s1=10 s2=6 l1=1 l2=6 L3=1 PK_end=1338
(fs_start=1317)

C
AGGAAGGACACCAAATGAAAGAGTGTCTGAGAGA
GGGATTTTTT A ATCGGA
TGGCCTTC
AAAATC

PK3: -27.275000(kcal/mol): PK_start=1325 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1359
(fs_start=1317)

AAA
TTCTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1332 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1369
(fs_start=1317)

CCAC
AGACAGGCTAATTTTTTAGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAACTT

=====
(1863) FJ469711
=====

PK1: -10.975000(kcal/mol): PK_start=1290 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=1317
(fs_start=1310)

GA
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGT

```

                TTTT TAGG
      GCTAAT
PK2:  -18.180000(kcal/mol): PK_start=1296 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1331
(fs_start=1310)
                C
AAGGACACCAAATGAAAGATTGTGATGAGAGA
                A   ATCGGA
      ATTTTTT
                TGGCCTTC
      GGGAAGATC

PK3:  -26.110000(kcal/mol): PK_start=1318 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1352
(fs_start=1310)
                A
TGATGAGAGACAGGCTAATTTTTTAGGGAAG
                CCCTTC   CGGTCT
                GCCAGGGA
      ACAAGGGGAG

PK4:  -26.235000(kcal/mol): PK_start=1325 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1362
(fs_start=1310)
                CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
                GGACCGGAGG   GGAA
                TCTTCA
      GAATTT

PK4B:  -30.395000(kcal/mol): PK_start=1325 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1388
(fs_start=1310)
                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
                GGACCGGA   GGGG
                CCCCAC
      GAATTTTCTTCAGAGCAGACCAGAGCCATCAG

=====
(1864) FJ469712
=====
PK1:  -13.205000(kcal/mol): PK_start=1285 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1312
(fs_start=1304)
                A
AAAGGAAGGACACCAAATGAAAGAGTGT
                ACA   GAGAGTC
                TTTTTAGGG
      GGCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1289 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1325
(fs_start=1304)
                C
GAAGGACACCAAATGAAAGAGTGTACTGAGAGA
                GATTTTTT   A   ATCGGA

```


TGGCCTTC

GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1312 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1346
(fs_start=1304)

AAA

TACTGAGAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT

AGGCCAGGGA

AGAAGGGA

PK4: -26.445000(kcal/mol): PK_start=1319 sp=7 s1=8 s2=5 l1=7 l2=4 L3=0 PK_end=1355
(fs_start=1304)

TCCCAGA

AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT

GGACCGGA AGGGA

TTCCTCC

GAAT

=====
(1865) FJ469713
=====

PK1: -13.555000(kcal/mol): PK_start=1300 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1328
(fs_start=1320)

A

GAAAGGAAGGACACCAAATGAAAGATTGT

GACA GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1305 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1341
(fs_start=1320)

C

GAAGGACACCAAATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1328 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1362
(fs_start=1320)

A

TACTGAGAGACAGGCTAATTTTTTAGGGAAG

CCCTTC CGGTCT

GCCAGGGA

ACAAGGGGAG

PK4: -28.540000(kcal/mol): PK_start=1335 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1372
(fs_start=1320)

CCAC

AGACAGGCTAATTTTTTAGGGAAAGATCTGGCCTTC

GGACCGGAGG GGAA

CCTTCA

GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1335 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1398
(fs_start=1320)

TCCCACAA

AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT

GGACCGGA GGGG

CCCCAC

GAATTTCCCTTCAGAGCAGACCAGAGCCATCAG

=====
(1866) FJ469714
=====

PK1: -13.555000(kcal/mol): PK_start=1287 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1315
(fs_start=1307)

T

GAAAGGAAGGACATCAAATGAAAGATTGT

GACA GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -21.020000(kcal/mol): PK_start=1290 sp=0 s1=10 s2=6 l1=1 l2=6 L3=1 PK_end=1328
(fs_start=1307)

C

AGGAAGGACATCAAATGAAAGATTGTTCTGAGAGA

GGGATTTTTT A ATCGGA

TGGCCTTC

AAAATC

PK3: -27.275000(kcal/mol): PK_start=1315 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1349
(fs_start=1307)

AAA

TTCTGAGAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT

AGGCCAGGGA

ACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=1322 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1359
(fs_start=1307)

CCAC

AGACAGGCTAATTTTTTAGGAAAATCTGGCCTTC

GGACCGGAGG GGAA

TCTTCA

GAACTT

PK4B: -30.395000(kcal/mol): PK_start=1322 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1385
(fs_start=1307)

TCCCACAA

AGACAGGCTAATTTTTTAGGAAAATCTGGCCT

GGACCGGA GGGG

CCCCAC
GAACTTTCTTCAGAGCAGACTAGAGCCAACAG

=====
(1867) FJ469716
=====

PK1: -15.100000(kcal/mol): PK_start=1295 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1323
(fs_start=1315)

CA
GAAAGGAAGGACACCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -20.460000(kcal/mol): PK_start=1300 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1336
(fs_start=1315)

C
GAAGGACACCAAATGAAAGACTGCACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1323 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1357
(fs_start=1315)

A
CACTGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
CCAAGGGAAG

PK4: -26.760000(kcal/mol): PK_start=1330 sp=7 s1=9 s2=4 l1=1 l2=21 L3=5 PK_end=1377
(fs_start=1315)

C
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTT
GGACCGGAA GGGAA CCTC
GGAGCC
GAATTTTCTTCAGAGCAGACC

=====
(1868) FJ469717
=====

PK1: -13.555000(kcal/mol): PK_start=1442 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1470
(fs_start=1462)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1447 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1483
(fs_start=1462)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA

```

          GATTTTTT A ATCGGA
                    TGGCCTTC
          GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1470 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1504
(fs_start=1462)
                    AAA
TACTGAGAGACAGGCTAATTTTTTTAGGGA
                    CCCT   TCCGGTCT
                    AGGCCAGGGA
          ACAAGGGA

PK4:  -26.715000(kcal/mol): PK_start=1477 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1514
(fs_start=1462)
                    CCAC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
                    GGACCGGAAG   GGAA
                    TCTTCA
          GAATTT

=====
(1869) FJ469718
=====
PK1:  -13.555000(kcal/mol): PK_start=1289 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1317
(fs_start=1309)
                    A
GAAAGGAAGGACACCAAATGAAAGATTGT
                    GACA   GAGAGTC
                    TTTTTAGGG
          GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1294 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1330
(fs_start=1309)
                    C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                    GATTTTTT A ATCGGA
                    TGGCCTTC
          GGAAAATC

PK3:  -26.775000(kcal/mol): PK_start=1315 sp=0 s1=5 s2=8 l1=4 l2=7 L3=0 PK_end=1351
(fs_start=1309)
                    AAAA
TG TACTGAGAGACAGGCTAATTTTTTTAGGG
                    ATCCT   TCCGGTCT
                    AGGCCAGGGA
          CAAGGGA

PK4:  -26.715000(kcal/mol): PK_start=1324 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1361
(fs_start=1309)
                    CTAC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC

```

```

                GGACCGGAAG    GGAA
                                TCTTCA
          GAATTT

=====
(1870) FJ469719
=====
PK1:  -13.025000(kcal/mol): PK_start=1281 sp=0 s1=3 s2=8 l1=5 l2=19 L3=0 PK_end=1326
(fs_start=1319)
                CCAAA
GCTGTTGGAAATGTGGAAAGGAAGGACA

                TGT    TAGAGAGT

                ATTTTTTAGG
          AATAATGAAAGACAGGCTA

PK2:  -18.220000(kcal/mol): PK_start=1305 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1340
(fs_start=1319)
                C
GACACCAAATGAGAGATTGTAATAATGAAAGA

                ATTTTTT  A  ATCGGA

                TGGCCTTC

          GGGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1327 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1361
(fs_start=1319)
                AAA
TAATGAAAGACAGGCTAATTTTTTAGGGA

                CCCT    TCCGGTCT

                AGGCCAGGAA

          ACAAGGAA

PK4:  -25.045000(kcal/mol): PK_start=1334 sp=7 s1=9 s2=5 l1=5 l2=5 L3=0 PK_end=1371
(fs_start=1319)
                CCCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT

                GGACCGGAA    AGGAA

                                TTCTTCA

          AAATT

=====
(1871) FJ469720
=====
PK1:  -13.595000(kcal/mol): PK_start=1293 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1321
(fs_start=1313)
                A
GAAAGGAAGGACACCAAATGAAAGATTGT

                GACA    GAAAGTC

                TTTTTTAGGG

          GCTAAT

```

PK2: -20.50000(kcal/mol): PK_start=1298 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1334
(fs_start=1313)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.27500(kcal/mol): PK_start=1321 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1355
(fs_start=1313)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.71500(kcal/mol): PK_start=1328 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1365
(fs_start=1313)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(1872) FJ469721
=====

PK1: -10.44000(kcal/mol): PK_start=1278 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1316
(fs_start=1309)

A
CTGGAAATGCGGAAAGGAAGGACATCAA
GTT AGAAAGT
TTTTTTAGG
CACTGAGAGACAGGCTAA

PK2: -20.46000(kcal/mol): PK_start=1294 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1330
(fs_start=1309)

C
GAAGGACATCAAATGAAAGATTGCACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.11000(kcal/mol): PK_start=1317 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1351
(fs_start=1309)

A
CACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGAA
ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1324 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1361
(fs_start=1309)

```
CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
AAACTT
```

PK4B: -30.395000(kcal/mol): PK_start=1324 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1387
(fs_start=1309)

```
TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CCCCAC
AAACTTTCTTCAGAGCAGACCAGAGCCATCAG
```

=====
(1873) FJ469722
=====

PK1: -13.555000(kcal/mol): PK_start=1300 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1328
(fs_start=1320)

```
A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT
```

PK2: -20.460000(kcal/mol): PK_start=1305 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1341
(fs_start=1320)

```
C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC
```

PK3: -26.110000(kcal/mol): PK_start=1328 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1362
(fs_start=1320)

```
A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG
```

PK4: -26.715000(kcal/mol): PK_start=1335 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1372
(fs_start=1320)

```
CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT
```

=====
(1874) FJ469723
=====

PK1: -10.640000(kcal/mol): PK_start=1292 sp=0 s1=3 s2=7 l1=1 l2=18 l3=0 PK_end=1330
(fs_start=1323)

A
TTGGAAATGTGGAAAGGAAGGACACCAA
GTT AGAAAGT
TTTTTTAGG
TATGGAAAGACAGGCTAA

PK2: -17.320000(kcal/mol): PK_start=1310 sp=0 s1=6 s2=6 l1=1 l2=10 l3=1 PK_end=1344
(fs_start=1323)

C
AGGACACCAAATGAAAGATTGTATGGAAAGA
TTTTTT A ATCGGA
TGGCCTC
AGGGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1331 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=1365
(fs_start=1323)

AAA
TATGGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -24.995000(kcal/mol): PK_start=1338 sp=7 s1=8 s2=4 l1=8 l2=6 l3=0 PK_end=1375
(fs_start=1323)

TCCCACAA
AGACAGGCTAATTTTTTAGGAAAATCTGGCCT
GGACCGGA AGGG
TCTCCA
GAATTT

=====
(1875) FJ469724
=====

PK1: -13.595000(kcal/mol): PK_start=1304 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1332
(fs_start=1324)

A
GAAGGGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1309 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1345
(fs_start=1324)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA


```

                                TGGCCTTC
                GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1332 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1366
(fs_start=1324)
                                AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
                                CCCT    TCCGGTCT
                                AGGCCAGGGA
                ACAAGGGG
PK4:  -26.235000(kcal/mol): PK_start=1339 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1376
(fs_start=1324)
                                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAGG    GGAA
                                TCTTCA
                GAATTT
PK4B:  -30.395000(kcal/mol): PK_start=1339 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1402
(fs_start=1324)
                                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                                GGACCGGA    GGGG
                                CCCCAC
                GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(1876) FJ469725
=====
PK1:  -13.595000(kcal/mol): PK_start=1301 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1329
(fs_start=1321)
                                A
GAAGGGAAGGACATCAAATGAAAGATTGT
                                GACA    GAAAGTC
                                TTTTTAGGG
                GCTAAT
PK2:  -20.500000(kcal/mol): PK_start=1306 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1342
(fs_start=1321)
                                C
GAAGGACATCAAATGAAAGATTGTACTGAAAGA
                                GATTTTTT    A    ATCGGA
                                TGGCCTTC
                GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1329 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1363
(fs_start=1321)
                                AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
                                CCCT    TCCGGTCT

```

AGGCCAGGAA

ACAAGGGG

PK4: -28.540000(kcal/mol): PK_start=1336 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1373
(fs_start=1321)

CCAC

AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAGG GGAA

CCTTCA

AAACTT

PK4B: -29.075000(kcal/mol): PK_start=1336 sp=7 s1=9 s2=4 l1=6 l2=32 L3=0 PK_end=1399
(fs_start=1321)

CCCACA

AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAG GGGA

CCCTAG

AAACTTCCTTCAGAGCAGACCAGAGCCAACAG

=====
(1877) FJ469726
=====

PK1: -13.555000(kcal/mol): PK_start=1318 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1346
(fs_start=1338)

A

GAAAGGAAGGACACCAAATGAAAGATTGT

GACA GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1323 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1359
(fs_start=1338)

C

GAAGGACACCAAATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1346 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1380
(fs_start=1338)

AAA

TACTGAGAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT

AGGCCAGGGA

ACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=1353 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1390
(fs_start=1338)

CCAC

AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAGG GGAA

TCTTCA

GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1353 sp=7 s1=8 s2=4 l1=8 l2=41 L3=0 PK_end=1425
(fs_start=1338)

TCCCACAA

AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT

GGACCGGA GGGG

CCCCAC

GAATTTTCTTCAGAACAGACCAGAGCCAACAGTGCCAACAG

=====
(1878) FJ469727
=====

PK1: -15.585000(kcal/mol): PK_start=1289 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1317
(fs_start=1309)

A

GAAGGGAAGGACACCAAATGAAAGACTGT

GACA GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1294 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1330
(fs_start=1309)

C

GAAGGACACCAAATGAAAGACTGTACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1317 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1351
(fs_start=1309)

AAA

TACTGAGAGACAGGCTAATTTTTTTAGGGA

CCCT TCCGGTCT

AGGCCAGGGA

ACAAGGGA

PK4: -26.445000(kcal/mol): PK_start=1324 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1361
(fs_start=1309)

TCCCACA

AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT

GGACCGGA AGGGA

TTCCTCA

GAATT

=====
(1879) FJ469729
=====

PK1: -13.205000(kcal/mol): PK_start=1301 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1328
(fs_start=1320)

A

AAAGGAAGGACACCAAATGAAAGAGTGT

ACA GAGAGTC
TTTTTAGGG
GGCTAAT
PK2: -20.460000(kcal/mol): PK_start=1305 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1341
(fs_start=1320)

C
GAAGGACACCAAATGAAAGAGTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -24.395000(kcal/mol): PK_start=1328 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1362
(fs_start=1320)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CTCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=1335 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1372
(fs_start=1320)

TCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAACTT

PK4B: -30.395000(kcal/mol): PK_start=1335 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1398
(fs_start=1320)

TCTCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAACTTCTTCAGAGCAGGCCAGAGCCAACAG

=====
(1880) FJ469730
=====

PK1: -14.235000(kcal/mol): PK_start=1289 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1317
(fs_start=1309)

A
GAAAGGAAGGACACCAGATGAAAGATTGT
AACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -14.210000(kcal/mol): PK_start=1294 sp=0 s1=8 s2=4 l1=3 l2=8 L3=1 PK_end=1328
(fs_start=1309)

CAA
GAAGGACACCAGATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCG
TGGTCT
GGAAAATC

PK3: -24.635000(kcal/mol): PK_start=1317 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1351
(fs_start=1309)

AAA
TACTGAGAGACAAGCTAATTTTTTAGGGA

CCCT TCTGGTCT
AGGCCAGGGA
AGAAGGGA

PK4: -30.330000(kcal/mol): PK_start=1324 sp=7 s1=11 s2=4 l1=2 l2=7 L3=0 PK_end=1362
(fs_start=1309)

CA
AGACAAGCTAATTTTTTAGGGAAAATCTGGTCTTCC

GGACCGGAAGG GAAG
CTTCAG
GAATTTT

=====
(1881) FJ469731
=====

PK1: -13.555000(kcal/mol): PK_start=1309 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1337
(fs_start=1329)

A
GAAAGGAGGGACACCAAATGAAAGATTGT

GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1314 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1350
(fs_start=1329)

C
GAGGGACACCAAATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1337 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1371
(fs_start=1329)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=1344 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1381
(fs_start=1329)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

```

GGACCGGAGG   GGAA
              TCTTCA
    GAACTT
PK4B:  -30.395000(kcal/mol): PK_start=1344 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1407
(fs_start=1329)
              TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
              GGACCGGA   GGGG
              CCCCAC
    GAACTTTCTTCAGAACAGGCCAGAGCCATCAG

```

```

=====
(1882) FJ469732
=====

```

```

PK1:  -13.555000(kcal/mol): PK_start=1298 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1326
(fs_start=1318)

```

```

              A
GAAAGGAAGGACACCAAATGAAAGATTGT
              GACA   GAGAGTC
              TTTTTAGGG
    GCTAAT

```

```

PK2:  -20.460000(kcal/mol): PK_start=1303 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1339
(fs_start=1318)

```

```

              C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
              GATTTTTT   A   ATCGGA
              TGGCCTTC
    GGAAAATC

```

```

PK3:  -27.275000(kcal/mol): PK_start=1326 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1360
(fs_start=1318)

```

```

              AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
              CCCT   TCCGGTCT
              AGGCCAGGGA
    ACAAGGGA

```

```

PK4:  -26.715000(kcal/mol): PK_start=1333 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1370
(fs_start=1318)

```

```

              CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
              GGACCGGAAG   GGAA
              TCTTCA
    GAATTT

```

```

=====
(1883) FJ469734
=====

```

PK1: -13.065000(kcal/mol): PK_start=1278 sp=0 s1=3 s2=8 l1=5 l2=16 l3=0 PK_end=1320
(fs_start=1313)

 CCAAA
GCTGTTGGAAATGTGGAAAGGAAGGACA
 TGT TAGAAAGT
 ATTTTTTAGG
 ACCGAGAGACAGGCTA

PK2: -17.180000(kcal/mol): PK_start=1300 sp=0 s1=6 s2=6 l1=1 l2=10 l3=1 PK_end=1334
(fs_start=1313)

 C
AGGACACCAAATGAAAGATTGTACCGAGAGA
 TTTTTT A ATCGGA
 TGGCCTTC
 AGGGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1321 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=1355
(fs_start=1313)

 AAA
TACCGAGAGACAGGCTAATTTTTTAGGGA
 CCCT TCCGGTCT
 AGGCCAGGGA
 ACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=1328 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1365
(fs_start=1313)

 CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTC
 GGACCGGAGG GGAA
 TCTTCA
 GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1328 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=1391
(fs_start=1313)

 TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
 GGACCGGA GGGG
 CCCCAC
 GAATTTTCTTCAGAGCAGACCAGAGCCATCAG

=====
(1884) FJ469735
=====

PK1: -13.555000(kcal/mol): PK_start=1290 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1318
(fs_start=1310)

 A
GAAGAGAAGGACACCAAATGAAAGATTGT
 GACA GAGAGTC
 TTTTTAGGG
 GCTAAT

PK2: -20.46000(kcal/mol): PK_start=1295 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1331
(fs_start=1310)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.27500(kcal/mol): PK_start=1318 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1352
(fs_start=1310)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGAA
ACTCGGGG

PK4: -21.64500(kcal/mol): PK_start=1325 sp=7 s1=8 s2=4 l1=8 l2=5 L3=0 PK_end=1361
(fs_start=1310)

TCCCCTC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
TTCTTC
AAATT

PK4B: -30.39500(kcal/mol): PK_start=1325 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1388
(fs_start=1310)

TCCCCTC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(1885) FJ469737
=====

PK1: -12.95500(kcal/mol): PK_start=1288 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1316
(fs_start=1308)

A
GAAAGGAAGGGCACCAAATGAAAGATTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -18.72000(kcal/mol): PK_start=1293 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1329
(fs_start=1308)

C
GAAGGGCACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAGAATC

PK3: -22.370000(kcal/mol): PK_start=1316 sp=0 s1=5 s2=6 l1=2 l2=11 l3=0 PK_end=1350
(fs_start=1308)

AA
TACTGAGAGGCAGGCTAATTTTTTAGGGAG
CCTTC CGGTCT
GCCAGGGA
CACAAAGGAAG

PK4: -26.715000(kcal/mol): PK_start=1323 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1360
(fs_start=1308)

CCAC
AGGCAGGCTAATTTTTTAGGGAGAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(1886) FJ469738
=====

PK1: -14.235000(kcal/mol): PK_start=1300 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1328
(fs_start=1320)

A
GAAGGGAAGGACACCAAATGAAAGATTGT
AACAA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -15.820000(kcal/mol): PK_start=1305 sp=0 s1=8 s2=4 l1=3 l2=8 l3=1 PK_end=1339
(fs_start=1320)

CAA
GAAGGACACCAAATGAAAGATTGTTACTGAGAGA
GATTTTTT A ATCG
TGGCCT
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1328 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=1362
(fs_start=1320)

AAA
TACTGAGAGACAAGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -28.540000(kcal/mol): PK_start=1335 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1372
(fs_start=1320)

CCAC
AGACAAGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAACTT

PK4B: -30.395000(kcal/mol): PK_start=1335 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1398
(fs_start=1320)

TCCCACAA
AGACAAGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAACTTCCTTCAGAGCAGACCAGAGCCAACAG

=====
(1887) FJ469739
=====

PK1: -12.640000(kcal/mol): PK_start=1295 sp=0 s1=3 s2=7 l1=4 l2=18 L3=0 PK_end=1336
(fs_start=1329)

CAAA
CTGTTGGAAATGTGGAAAGGAAGGACAC
GTG AGAAAGT
TTTTTTAGG
CACTGAAAGACAGGCTAA

PK2: -20.500000(kcal/mol): PK_start=1314 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1350
(fs_start=1329)

C
GAAGGACACCAAATGAAAGAGTGCCTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGGTC

PK3: -26.110000(kcal/mol): PK_start=1337 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1371
(fs_start=1329)

G
CACTGAAAGACAGGCTAATTTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1344 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1381
(fs_start=1329)

CCAC
AGACAGGCTAATTTTTTTAGGGAAGGTCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(1888) FJ469740
=====

PK1: -11.845000(kcal/mol): PK_start=1290 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1317
(fs_start=1309)

A
AAAGGAAGGACACCAAATGAAAGAGTGT
ACA GGAAGTC

```

                TTTTtaggg
      GGCTAAT
PK2:  -19.100000(kcal/mol): PK_start=1294 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1330
(fs_start=1309)
                C
GAAGGACACCAAATGAAAGAGTGTACTGAAGGA
                GATTTTTT A ATCGGA
                TGGCCTTC
      GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1317 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1351
(fs_start=1309)
                AAA
TACTGAAGGACAGGCTAATTTTTTtaggga
                CCCT   TCCGGTCT
                AGGCCAGGGA
      ACAAGGGG
PK4:  -28.540000(kcal/mol): PK_start=1324 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1361
(fs_start=1309)
                CCAC
GGACAGGCTAATTTTTTtaggaaaatctggccttc
                GGACCGGAGG   GGAA
                CCTTCA
      GAATTT
PK4B: -30.395000(kcal/mol): PK_start=1324 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1387
(fs_start=1309)
                TCCCACAA
GGACAGGCTAATTTTTTtaggaaaatctggcct
                GGACCGGA   GGGG
                CCCCAC
      GAATTTCTTCAGAGCAGACCAGAGCCAACAG
=====
(1889) FJ469741
=====
PK1:  -13.555000(kcal/mol): PK_start=1300 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1328
(fs_start=1320)
                T
GAAAGGAAGGACACCAAATGAAAGATTGT
                GACA   GAGAGTC
                TTTTtaggg
      GCTAAT
PK2:  -21.020000(kcal/mol): PK_start=1303 sp=0 s1=10 s2=6 l1=1 l2=6 L3=1 PK_end=1341
(fs_start=1320)
                C
AGGAAGGACACCAAATGAAAGATTGTTCTGAGAGA
                GGGATTTTTT A ATCGGA

```

TGGCCTTC

AAGATC

PK3: -26.110000(kcal/mol): PK_start=1328 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1362
(fs_start=1320)

A

TTCTGAGAGACAGGCTAATTTTTTAGGGAAG

CCCTTC CGGTCT

GCCAGGGA

ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1335 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1372
(fs_start=1320)

CCAC

AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC

GGACCGGAAG GGAA

TCTTCA

GAATTT

=====
(1890) FJ469742
=====

PK1: -13.555000(kcal/mol): PK_start=1292 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1320
(fs_start=1312)

A

GAAAGGAAGGACACCAAATGAAAGATTGT

GACA GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1297 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1333
(fs_start=1312)

C

GAAGGACACCAAATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAGAATC

PK3: -22.370000(kcal/mol): PK_start=1320 sp=0 s1=5 s2=6 l1=2 l2=11 l3=0 PK_end=1354
(fs_start=1312)

AA

TACTGAGAGACAGGCTAATTTTTTAGGGAG

CCTTC CGGTCT

GCCAGGGA

CACAAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1327 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1364
(fs_start=1312)

CCAC

AGACAGGCTAATTTTTTAGGGAGAATCTGGCCTTC

GGACCGGAAG GGAA

TCTTCA

GAATTT

=====
(1891) FJ469743
=====

PK1: -15.100000(kcal/mol): PK_start=1308 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1336
(fs_start=1328)

CA

GGAAGGAAGGACATCAAATGAAAGACTG

GAC AGAGAGTC

TTTTTTAGGG

GCTAA

PK2: -20.460000(kcal/mol): PK_start=1313 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1349
(fs_start=1328)

C

GAAGGACATCAAATGAAAGACTGCACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAAATC

PK3: -26.605000(kcal/mol): PK_start=1336 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1370
(fs_start=1328)

AAA

CACTGAGAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT

AGGCCGGGGA

ACAAGGGA

PK4: -25.775000(kcal/mol): PK_start=1343 sp=7 s1=8 s2=5 l1=7 l2=4 L3=0 PK_end=1379
(fs_start=1328)

TCCCACA

AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT

GGGCCGGA AGGGA

TTCCTCC

GAAT

=====
(1892) FJ469744
=====

PK1: -13.555000(kcal/mol): PK_start=1299 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1327
(fs_start=1319)

A

GAAAGGAAGGACACCAAATGAAAGATTGT

GACA GAGAGTC

TTTTTAGGG

GCCAAT

PK2: -22.720000(kcal/mol): PK_start=1304 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1340
(fs_start=1319)

C

GAAGGACACCAAATGAAAGATTGTACTGAGAGA

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          GATTTTTT A ACCGGA
                                TGGCCTTC
      GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1327 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1361
(fs_start=1319)
          AAA
TACTGAGAGACAGGCCAATTTTTTAGGGA
          CCCT   TCCGGTCT
                                AGGCCAGGGA
          ACAAGGGG
PK4:  -26.235000(kcal/mol): PK_start=1334 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1371
(fs_start=1319)
                                CCAC
AGACAGGCCAATTTTTTAGGGAAAATCTGGCCTTC
          GGACCGGAGG   GGAA
                                TCTTCA
          GAATTT
PK4B:  -30.395000(kcal/mol): PK_start=1334 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1397
(fs_start=1319)
                                TCCCACAA
AGACAGGCCAATTTTTTAGGGAAAATCTGGCCT
          GGACCGGA   GGGG
                                CCCCAC
          GAATTTTCTTCAGAGCAGACCAGAGCCAACAG
=====
(1893) FJ469745
=====
PK1:  -13.555000(kcal/mol): PK_start=1282 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1310
(fs_start=1302)
          A
GAAAGGAAGGACACCAAATGAAAGATTGT
          GACA   GAGAGTC
                                TTTTTAGGG
          GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1287 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1323
(fs_start=1302)
          C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
          GATTTTTT A ATCGGA
                                TGGCCTTC
          GGAAGATC
PK3:  -25.060000(kcal/mol): PK_start=1310 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1344
(fs_start=1302)
          A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG

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          TCCTTC   CGGTCT
                    GCCAGGGA
          CCAAGGGAAG

PK4:  -26.715000(kcal/mol): PK_start=1317 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1354
(fs_start=1302)
                    CTCC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
                    GGACCGGAAG   GGAA
                    TCTTCA
          GAATTT

=====
(1894) FJ469746
=====
PK1:  -13.555000(kcal/mol): PK_start=1289 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1317
(fs_start=1309)
                    A
GAAGGGAAGGACACCAGATGAAAGATTGT
                    GACA   GAGAGTC
                    TTTTTAGGG
          GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1294 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1330
(fs_start=1309)
                    C
GAAGGACACCAGATGAAAGATTGTACTGAGAGA
                    GATTTTTT   A   ATCGGA
                    TGGCCTTC
          GGAAGATC

PK3:  -26.110000(kcal/mol): PK_start=1317 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1351
(fs_start=1309)
                    A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                    CCCTTC   CGGTCT
                    GCCAGGGA
          ACAAGGGGAG

PK4:  -26.235000(kcal/mol): PK_start=1324 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1361
(fs_start=1309)
                    CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
                    GGACCGGAGG   GGAA
                    TCTTCA
          GAATTT

PK4B:  -30.395000(kcal/mol): PK_start=1324 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1387
(fs_start=1309)
                    TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT

```

GGACCGGA GGG
CCCCAC
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(1895) FJ469747
=====

PK1: -15.10000(kcal/mol): PK_start=1294 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1322
(fs_start=1314)

CA
GAAAGGAAGGACACCAAATGAAAGACTG

GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -20.46000(kcal/mol): PK_start=1299 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1335
(fs_start=1314)

C
GAAGGACACCAAATGAAAGACTGCACTGAGAGA

GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.27500(kcal/mol): PK_start=1322 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1356
(fs_start=1314)

AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -29.32500(kcal/mol): PK_start=1329 sp=7 s1=11 s2=4 l1=2 l2=4 L3=0 PK_end=1364
(fs_start=1314)

CA
AGACAGGCTAATTTTTTAGGAAAATCTGGCCTTCC

GGACCGGAAGG GAAC
TTTGCT
GAAT

=====
(1896) FJ469748
=====

PK1: -10.97500(kcal/mol): PK_start=1324 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=1351
(fs_start=1344)

AA
GAAAGGAAGGACACCAAATGAAAGATTGT

GACA GAGAGT
TTTTTAGG
GCTAAT

PK2: -18.180000(kcal/mol): PK_start=1330 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1365
(fs_start=1344)

C
AAGGACACCAAATGAAAGATTGTAATGAGAGA
ATTTTTT A ATCGGA
TGGCCTTC
GGGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1352 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1386
(fs_start=1344)

AAA
TAATGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=1359 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1396
(fs_start=1344)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1359 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1422
(fs_start=1344)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCTTCAGAGCAGACCAGAGCCATCAG

=====
(1897) FJ469749
=====

PK1: -13.555000(kcal/mol): PK_start=1294 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1322
(fs_start=1314)

A
GAAAGGAAGGACACCAGATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1299 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1335
(fs_start=1314)

C
GAAGGACACCAGATGAAAGATTGTAATGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1322 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1356 (fs_start=1314)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
CCAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1329 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1366 (fs_start=1314)

CTCC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(1898) FJ469750
=====

PK1: -15.585000(kcal/mol): PK_start=1289 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1317 (fs_start=1309)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1294 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1330 (fs_start=1309)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1317 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1351 (fs_start=1309)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
CCAAAGGAAG

PK4: -24.115000(kcal/mol): PK_start=1324 sp=7 s1=8 s2=5 l1=7 l2=5 l3=0 PK_end=1361 (fs_start=1309)

TCCTCCA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGAA
TTCTTCA
GAATT

=====
(1899) FJ469751
=====

PK1: -13.595000(kcal/mol): PK_start=1310 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1338
(fs_start=1330)

A
GAAGGGAAGGACACCAGATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1315 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1351
(fs_start=1330)

C
GAAGGACACCAGATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAGAATC

PK3: -22.370000(kcal/mol): PK_start=1338 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1372
(fs_start=1330)

AA
TACTGAAAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTCT
GCCAGGGA
CACAAAGGAAG

PK4: -29.020000(kcal/mol): PK_start=1345 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1382
(fs_start=1330)

CCAC
AGACAGGCTAATTTTTTAGGGAGAATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(1900) FJ469752
=====

PK1: -15.585000(kcal/mol): PK_start=1303 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1331
(fs_start=1323)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1308 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1344
(fs_start=1323)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT A ATCGGA

TGGCCTTC

GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1331 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1365
(fs_start=1323)

A

TACTGAGAGACAGGCTAATTTTTTAGGGAAG

CCCTTC CGGTCT

GCCAGGGA

ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1338 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1375
(fs_start=1323)

CCAC

AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC

GGACCGGAGG GGAA

TCTTCA

GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1338 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=1401
(fs_start=1323)

TCCCACAA

AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT

GGACCGGA GGGG

CCCCAC

GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====

(1901) FJ469753

=====

PK1: -13.595000(kcal/mol): PK_start=1290 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1318
(fs_start=1310)

A

GAGGGGAAGGACACCAAATGAAAGATTGT

GACA GAAAGTC

TTTTTAGGG

GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1295 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1331
(fs_start=1310)

C

GAAGGACACCAAATGAAAGATTGTACTGAAAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1318 sp=0 s1=4 s2=8 l1=3 l2=11 l3=0 PK_end=1355
(fs_start=1310)

AAA

TACTGAAAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT

AGGCCAGGAA

ACAAGGGGGGG

PK4: -37.390000(kcal/mol): PK_start=1325 sp=7 s1=12 s2=4 l1=3 l2=33 L3=0 PK_end=1392
(fs_start=1310)

ACA

AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTCCC

GGACCGGAGGGG GGGA

CCCTCC

AAATTTCCCTTCAGAGCAGACCAGAGCCAACAGC

=====

(1902) FJ469754

=====

PK1: -13.065000(kcal/mol): PK_start=1285 sp=0 s1=3 s2=8 l1=5 l2=16 L3=0 PK_end=1327
(fs_start=1320)

CCAAA

GCTGTTGGAAATGTGGAAAGGAAGGACA

TGT TAGAAAGT

ATTTTTTAGG

ACCGAGAGACAGGCTA

PK2: -17.180000(kcal/mol): PK_start=1307 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=1341
(fs_start=1320)

C

AGGACACCAAATGAAAGATTGTACCGAGAGA

TTTTTT A ATCGGA

TGGCCTTC

AGGGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1328 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1362
(fs_start=1320)

AAA

TACCGAGAGACAGGCTAATTTTTTTAGGGA

CCCT TCCGGTCT

AGGCCAGGGA

ACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=1335 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1372
(fs_start=1320)

CCAC

AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAGG GGAA

TCTTCA

GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1335 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1398
(fs_start=1320)

TCCCACAA

AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT

GGACCGGA GGGG

CCCCAC
GAATTTTCTTCAGAGCAGACCAGAGCCATCAG

=====
(1903) FJ469755
=====

PK1: -12.640000(kcal/mol): PK_start=1276 sp=0 s1=3 s2=7 l1=4 l2=18 L3=0 PK_end=1317
(fs_start=1310)

CTGTTGGAAATGTGGAAAGGAAGGACAC CAAA
GTG AGAAAGT
TTTTTTAGG
CTCTGAAAAACAGGCTAA

PK2: -23.880000(kcal/mol): PK_start=1293 sp=0 s1=10 s2=6 l1=1 l2=6 L3=1 PK_end=1331
(fs_start=1310)

AGGAAGGACACCAAATGAAAGAGTGCTCTGAAAAA C
GGGATTTTTT A ATCGGA
TGGCCTTC
AAAGTC

PK3: -27.275000(kcal/mol): PK_start=1318 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1352
(fs_start=1310)

CTCTGAAAAACAGGCTAATTTTTTTAGGGA AAG
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=1325 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1362
(fs_start=1310)

AAACAGGCTAATTTTTTTAGGGAAAGTCTGGCCTTC CCAC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1325 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1388
(fs_start=1310)

AAACAGGCTAATTTTTTTAGGGAAAGTCTGGCCT TCCCACAA
GGACCGGA GGGG
CCCCAC
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(1904) FJ469756
=====

PK1: -10.375000(kcal/mol): PK_start=1291 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=1318
(fs_start=1311)

GAAAGGAAGGACACCAAATGAAAGATTGT GA

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          GACG   GAGAGT
                TTTTTAGG
    GCTAAT
PK2:  -16.440000(kcal/mol): PK_start=1297 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1332
(fs_start=1311)
                C
AAGGACACCAAATGAAAGATTGTGATGAGAGG
                A   ATCGGA
                TGGCCTTC
    GGGAAAATC
PK3:  -23.815000(kcal/mol): PK_start=1320 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1353
(fs_start=1311)
                AAA
GATGAGAGGCAGGCTAATTTTTTAGGGA
                CCT   TCCGGTCT
                AGGCCAGGGA
    AACAAGGGG
PK4:  -26.235000(kcal/mol): PK_start=1326 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1363
(fs_start=1311)
                CAAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                GGACCGGAGG   GGAA
                TCTTCA
    GAACTT
PK4B:  -30.395000(kcal/mol): PK_start=1326 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1389
(fs_start=1311)
                TCCAACAA
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCT
                GGACCGGA   GGGG
                CCCAC
    GAACTTCTTCAGAACAGACCAGAGCCAACAG

=====
(1905) FJ469757
=====
PK1:  -13.595000(kcal/mol): PK_start=1286 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1314
(fs_start=1306)
                A
GACAGGACGGACACCAGATGAAGGATTGT
                GACA   GAAAGTC
                TTTTTAGGG
    GCTAAT
PK2:  -20.500000(kcal/mol): PK_start=1291 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1327
(fs_start=1306)
                C
GACGGACACCAGATGAAGGATTGTACTGAAAGA

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          GATTTTTT A ATCGGA
                                TGGCCTTC
      GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1314 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1348
(fs_start=1306)
          AAA
TACTGAAAGACAGGCTAATTTTTTTAGGGA
          CCCT   TCCGGTCT
                                AGGCCAGGGA
          ACAAGGGG
PK4:  -26.235000(kcal/mol): PK_start=1321 sp=7 s1=10 s2=4 l1=4 l2=5 L3=0 PK_end=1357
(fs_start=1306)
                                CCAC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
          GGACCGGAGG   GGAA
                                TCTTTC
          GAACT
PK4B:  -30.395000(kcal/mol): PK_start=1321 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1384
(fs_start=1306)
                                TCCCACAA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT
          GGACCGGA   GGGG
                                CCCCAC
          GAACTTCTTTCAGAGCAGACCAGAGCCAACAG
=====
(1906) FJ469758
=====
PK1:  -13.555000(kcal/mol): PK_start=1292 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1320
(fs_start=1312)
          A
GAAAGGAAGGACACCAAATGAAAGATTGT
          GACA   GAGAGTC
                                TTTTTTAGGG
          GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1297 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1333
(fs_start=1312)
          C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
          GATTTTTT A ATCGGA
                                TGGCCTTC
          GGAGAATC
PK3:  -22.370000(kcal/mol): PK_start=1320 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1354
(fs_start=1312)
          AA
TACTGAGAGACAGGCTAATTTTTTTAGGGAG

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CCTTC CGGTCT
GCCAGGGA
CACAAAGGGAAG
PK4: -26.715000(kcal/mol): PK_start=1327 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1364
(fs_start=1312)

CCAC
AGACAGGCTAATTTTTTAGGGAGAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAACTT

=====
(1907) FJ469759
=====

PK1: -15.585000(kcal/mol): PK_start=1292 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1320
(fs_start=1312)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1297 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1333
(fs_start=1312)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1320 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1354
(fs_start=1312)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1327 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1364
(fs_start=1312)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(1908) FJ469760
=====

PK1: -13.595000(kcal/mol): PK_start=1294 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1322
(fs_start=1314)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GTTAAT

PK2: -17.010000(kcal/mol): PK_start=1299 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1335
(fs_start=1314)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATTGGA
TGGCCTTC
GGAAAATC

PK3: -26.605000(kcal/mol): PK_start=1322 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1356
(fs_start=1314)

AAA
TACTGAAAGACAGGTTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCGGGGA
ACAAGGGA

PK4: -28.350000(kcal/mol): PK_start=1329 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1366
(fs_start=1314)

CCAC
AGACAGGTTAATTTTTTAGGGAAAATCTGGCCTTC
GGGCCGGAAG GGAA
CCTTCA
GAATTT

=====
(1909) FJ469761
=====

PK1: -13.555000(kcal/mol): PK_start=1291 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1319
(fs_start=1311)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1296 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1332
(fs_start=1311)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1319 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1353
(fs_start=1311)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -24.995000(kcal/mol): PK_start=1326 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1363
(fs_start=1311)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA AGGG
TCTCCA
GAATTT

=====
(1910) FJ469762
=====

PK1: -11.845000(kcal/mol): PK_start=1298 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1325
(fs_start=1317)

A
AAAGGAAGGACACCAAATGAAAGAGTGT
ACA GGAAGTC
TTTTTAGGG
GGCTAAT

PK2: -19.100000(kcal/mol): PK_start=1302 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1338
(fs_start=1317)

C
GAAGGACACCAAATGAAAGAGTGTACTGAAGGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1325 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1359
(fs_start=1317)

AAA
TACTGAAGGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -28.540000(kcal/mol): PK_start=1332 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1369
(fs_start=1317)

CCAC
GGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1332 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1395
(fs_start=1317)

TCCCACAA
GGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCCTTCAGAGCAGACCAGAGCCAACAG

=====
(1911) FJ469763
=====

PK1: -13.555000(kcal/mol): PK_start=1287 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1315
(fs_start=1307)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1292 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1328
(fs_start=1307)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1315 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1349
(fs_start=1307)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -29.020000(kcal/mol): PK_start=1322 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1359
(fs_start=1307)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(1912) FJ469764
=====

PK1: -15.625000(kcal/mol): PK_start=1295 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1323
(fs_start=1315)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAAAGTC

TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1300 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1336
(fs_start=1315)

C
GAAGGACACCAAATGAAAGACTGTACTGAAAGA

GATTTTTT A ATCGGA
TGGCCTTC

GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1323 sp=0 s1=4 s2=8 l1=3 l2=11 L3=0 PK_end=1360
(fs_start=1315)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT
AGGCCAGGGA

AGAACAAGGGG

PK4: -28.540000(kcal/mol): PK_start=1330 sp=7 s1=10 s2=4 l1=7 l2=6 L3=0 PK_end=1370
(fs_start=1315)

CCAGAAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAGG GGAA
CCTTCA

GAATTT

=====
(1913) FJ469765
=====

PK1: -15.585000(kcal/mol): PK_start=1289 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1317
(fs_start=1309)

A
GAAGGGAAGGACACCAAATGAAAGACTGT

GACA GAGAGTC
TTTTTAGGG

GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1294 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1330
(fs_start=1309)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA

GATTTTTT A ATCGGA
TGGCCTTC

GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1317 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1351
(fs_start=1309)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT

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                                AGGCCAGGGA
ACAAGGGA

PK4:  -26.445000(kcal/mol): PK_start=1324 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1361
(fs_start=1309)
                                TCCCACA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT

                                GGACCGGA    AGGGA
                                TTCCTCA
GAATT

=====
(1914) FJ469766
=====
PK1:  -13.555000(kcal/mol): PK_start=1294 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1322
(fs_start=1314)
                                A
GAAAGGAAGGACACCAGATGAAAGATTGT

                                GACA    GAGAGTC
                                TTTTtaggg
GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1299 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1335
(fs_start=1314)
                                C
GAAGGACACCAGATGAAAGATTGTACTGAGAGA

                                GATTTTTT A ATCGGA
                                TGGCCTTC
GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1322 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1356
(fs_start=1314)
                                AAA
TACTGAGAGACAGGCTAATTTTTTTAGGGA

                                CCCT    TCCGGTCT
                                AGGCCAGGGA
ACAAGGGG

PK4:  -26.235000(kcal/mol): PK_start=1329 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1366
(fs_start=1314)
                                CCAC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC

                                GGACCGGAGG    GGAA
                                TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1329 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1392
(fs_start=1314)
                                TCCCACAA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT

                                GGACCGGA    GGGG

```

CCCCAC
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(1915) FJ469767
=====

PK1: -13.555000(kcal/mol): PK_start=1294 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1322
(fs_start=1314)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -19.460000(kcal/mol): PK_start=1299 sp=0 s1=8 s2=5 l1=1 l2=9 L3=2 PK_end=1334
(fs_start=1314)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT AA TCGGA
GGCCTTC
GGAAAATCC

PK3: -22.680000(kcal/mol): PK_start=1322 sp=0 s1=5 s2=4 l1=5 l2=9 L3=0 PK_end=1353
(fs_start=1314)

AATCC
TACTGAGAGACAGGCTAATTTTTTAGGGAA
CCCTT CCGG
GGCCAG
ACAAGGGAA

PK4: -22.455000(kcal/mol): PK_start=1332 sp=10 s1=5 s2=4 l1=8 l2=9 L3=0 PK_end=1366
(fs_start=1314)

TCCCACAA
CAGGCTAATTTTTTAGGGAAAAATCCGGCCT
CCGGA AGGG
TCCCCA
AGGGAATTT

=====
(1916) FJ469768
=====

PK1: -13.555000(kcal/mol): PK_start=1312 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1340
(fs_start=1332)

A
GAAAGGATGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1317 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1353
(fs_start=1332)

C
GATGGACACCAAATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1340 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1374
(fs_start=1332)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1347 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1384
(fs_start=1332)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(1917) FJ469769
=====

PK1: -13.555000(kcal/mol): PK_start=1288 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1316
(fs_start=1308)

A
GAAGGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1293 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1329
(fs_start=1308)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1316 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1350
(fs_start=1308)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -24.995000(kcal/mol): PK_start=1323 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1360
(fs_start=1308)

TCCCACAA
AGACAGGCTAATTTTTTAGGAAAATCTGGCCT


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                GGACCGGA    AGGG
                                TCTCCA
        GAATTT
=====
(1918) FJ469770
=====
PK1:  -10.975000(kcal/mol): PK_start=1309 sp=0 s1=4 s2=6 l1=2 l2=12 L3=0 PK_end=1342
(fs_start=1335)
                                AA
GAAAGGAAGGACACCAGATGAAAGATTGT
                GACA    GAGAGT
                                TTTTTAGG
        GGACAGGCTAAT
PK2:  -13.150000(kcal/mol): PK_start=1323 sp=0 s1=5 s2=6 l1=1 l2=11 L3=1 PK_end=1356
(fs_start=1335)
                                C
CAGATGAAAGATTGTAATGAGAGACAGGGA
                TTTTT  A  ATCGGA
                                TGGCCTTC
        TAGGGAAGATC
PK3:  -25.060000(kcal/mol): PK_start=1343 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1377
(fs_start=1335)
                                A
GAGACAGGGACAGGCTAATTTTTAGGGAAG
                TCCTTC    CGGTCT
                                GCCAGGGA
        ACAAGGGAAG
PK4:  -23.815000(kcal/mol): PK_start=1350 sp=7 s1=8 s2=4 l1=8 l2=5 L3=0 PK_end=1386
(fs_start=1335)
                                TCCTACAA
GACAGGCTAATTTTTAGGGAAGATCTGGCCT
                GGACCGGA    AGGG
                                TTCTAC
        GAATT
=====
(1919) FJ469771
=====
PK1:  -13.555000(kcal/mol): PK_start=1288 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1316
(fs_start=1308)
                                A
GAAGAGAAGGACACCAAATGAAAGATTGT
                GACA    GAGAGTC
                                TTTTTAGGG
        GCTAAT

```

PK2: -20.460000(kcal/mol): PK_start=1293 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1329
(fs_start=1308)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1316 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1350
(fs_start=1308)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1323 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1360
(fs_start=1308)

CTAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(1920) FJ469772
=====

PK1: -13.555000(kcal/mol): PK_start=1286 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1314
(fs_start=1306)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1291 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1327
(fs_start=1306)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1314 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1348
(fs_start=1306)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1321 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1358
(fs_start=1306)

CTAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(1921) FJ495818
=====

PK1: -13.555000(kcal/mol): PK_start=1482 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1510
(fs_start=1502)

A
GAAAGGAAGGACATCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1487 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1523
(fs_start=1502)

C
GAAGGACATCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.440000(kcal/mol): PK_start=1510 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1544
(fs_start=1502)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCGGGA
ACAAGGGAAG

PK4: -28.350000(kcal/mol): PK_start=1517 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1554
(fs_start=1502)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGGCCGGAAG GGAA
CCTTCA
GAATTT

=====
(1922) FJ495819
=====

PK1: -13.555000(kcal/mol): PK_start=1482 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1510
(fs_start=1502)

A
GAAAGGAAGGACATCAAATGAAAGATTGT
GACA GAGAGTC

```

                TTTT TAGGG
      GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1487 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1523
(fs_start=1502)
                C
GAAGGACATCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT A ATCGGA
                TGGCCTTC
      GGAAGATC
PK3:  -25.440000(kcal/mol): PK_start=1510 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1544
(fs_start=1502)
                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                CCCTTC  CGGTCT
                GCCGGGA
      ACAAGGGAAG
PK4:  -28.350000(kcal/mol): PK_start=1517 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1554
(fs_start=1502)
                CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
                GGGCCGGAAG  GGAA
                CCTTCA
      GAATTT

=====
(1923) FJ495820
=====
PK1:  -13.555000(kcal/mol): PK_start=1482 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1510
(fs_start=1502)
                A
GAAAGGAAGGACATCAAATGAAAGATTGT
                GACA  GAGAGTC
                TTTT TAGGG
      GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1487 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1523
(fs_start=1502)
                C
GAAGGACATCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT A ATCGGA
                TGGCCTTC
      GGAAGATC
PK3:  -25.440000(kcal/mol): PK_start=1510 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1544
(fs_start=1502)
                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                CCCTTC  CGGTCT

```

GCCGGGGA

ACAAGGGAAG

PK4: -28.350000(kcal/mol): PK_start=1517 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1554
(fs_start=1502)

CCAC

AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCTTC

GGGCCGGAAG GGAA

CCTTCA

GAATTT

=====
(1924) FJ495821
=====

PK1: -13.555000(kcal/mol): PK_start=1482 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1510
(fs_start=1502)

A

GAAAGGAAGGACATCAAATGAAAGATTGT

GACA GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1487 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1523
(fs_start=1502)

C

GAAGGACATCAAATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAGATC

PK3: -25.440000(kcal/mol): PK_start=1510 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1544
(fs_start=1502)

A

TACTGAGAGACAGGCTAATTTTTTTAGGGAAG

CCCTTC CGGTCT

GCCGGGGA

ACAAGGGAAG

PK4: -28.350000(kcal/mol): PK_start=1517 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1554
(fs_start=1502)

CCAC

AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCTTC

GGGCCGGAAG GGAA

CCTTCA

GAATTT

=====
(1925) FJ495822
=====

PK1: -13.555000(kcal/mol): PK_start=1482 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1510
(fs_start=1502)

A

GAAAGGAAGGACATCAAATGAAAGATTGT

```

          GACA      GAGAGTC
                TTTTATAGGG
      GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1487 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1523
(fs_start=1502)
                C
GAAGGACATCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT  A  ATCGGA
                                TGGCCTTC
      GGAAGATC
PK3:  -25.440000(kcal/mol): PK_start=1510 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1544
(fs_start=1502)
                A
TACTGAGAGACAGGCTAATTTTTATAGGGAAG
                CCCTTC      CGGTCT
                                GCCGGGA
      ACAAGGAAG
PK4:  -28.350000(kcal/mol): PK_start=1517 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1554
(fs_start=1502)
                CCAC
AGACAGGCTAATTTTTATAGGGAAGATCTGGCCTTC
                GGGCCGAAG      GGAA
                                CCTTCA
      GAATTT
=====
(1926) FJ495823
=====
PK1:  -13.555000(kcal/mol): PK_start=1482 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1510
(fs_start=1502)
                A
GAAAGGAAGGACATCAAATGAAAGATTGT
                GACA      GAGAGTC
                TTTTATAGGG
      GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1487 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1523
(fs_start=1502)
                C
GAAGGACATCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT  A  ATCGGA
                                TGGCCTTC
      GGAAGATC
PK3:  -25.440000(kcal/mol): PK_start=1510 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1544
(fs_start=1502)
                A
TACTGAGAGACAGGCTAATTTTTATAGGGAAG

```

CCCTTC CGGTCT
GCCGGGGA
ACAAGGGAAG
PK4: -28.350000(kcal/mol): PK_start=1517 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1554
(fs_start=1502)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGCCGGAAG GGAA
CCTTCA
GAATTT

=====
(1927) FJ495824
=====

PK1: -13.555000(kcal/mol): PK_start=1482 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1510
(fs_start=1502)

A
GAAAGGAAGGACATCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1487 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1523
(fs_start=1502)

C
GAAGGACATCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.440000(kcal/mol): PK_start=1510 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1544
(fs_start=1502)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCGGGGA
ACAAGGGAAG

PK4: -28.350000(kcal/mol): PK_start=1517 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1554
(fs_start=1502)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGCCGGAAG GGAA
CCTTCA
GAATTT

=====
(1928) FJ495825
=====

PK1: -13.555000(kcal/mol): PK_start=1482 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1510
(fs_start=1502)

A
GAAAGGAAGGACATCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1487 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1523
(fs_start=1502)

C
GAAGGACATCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.440000(kcal/mol): PK_start=1510 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1544
(fs_start=1502)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCGGGA
ACAAGGGAAG

PK4: -28.350000(kcal/mol): PK_start=1517 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1554
(fs_start=1502)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGGCCGGAAG GGAA
CCTTCA
GAATTT

=====
(1929) FJ495826
=====

PK1: -13.555000(kcal/mol): PK_start=1482 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1510
(fs_start=1502)

A
GAAAGGAAGGACATCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1487 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1523
(fs_start=1502)

C
GAAGGACATCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.440000(kcal/mol): PK_start=1510 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1544
(fs_start=1502)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCGGGA
ACAAGGGAAG

PK4: -28.350000(kcal/mol): PK_start=1517 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1554
(fs_start=1502)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGGCCGGAAG GGAA
CCTTCA
GAATTT

=====
(1930) FJ495937
=====

PK1: -13.555000(kcal/mol): PK_start=1492 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1520
(fs_start=1512)

A
GAAGGGAAGGACATCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1497 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1533
(fs_start=1512)

C
GAAGGACATCAAATGAAAGATTGTTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -18.320000(kcal/mol): PK_start=1521 sp=0 s1=4 s2=4 l1=5 l2=10 l3=0 PK_end=1551
(fs_start=1512)

AATCT
ACTGAGAGACAGGCTAATTTTTTAGGGAA
CCTT CCGG
GGCCCG
AACAAGGGGA

PK4: -20.515000(kcal/mol): PK_start=1530 sp=10 s1=7 s2=4 l1=4 l2=9 l3=0 PK_end=1564
(fs_start=1512)

CAAC
CAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
CCGGAGG GGAA
TCTTCA
CGGGAATTT

PK4B: -24.675000(kcal/mol): PK_start=1530 sp=10 s1=5 s2=4 l1=8 l2=35 L3=0
PK_end=1590 (fs_start=1512)

TCCAACAA
CAGGCTAATTTTTTAGGGAAAATCTGGCCT
CCGGA GGGG
CCCCAC
CGGGAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(1931) FJ495939
=====

PK1: -13.555000(kcal/mol): PK_start=1492 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1520
(fs_start=1512)

A
GAAGGGAAGGACATCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1497 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1533
(fs_start=1512)

C
GAAGGACATCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -18.320000(kcal/mol): PK_start=1521 sp=0 s1=4 s2=4 l1=5 l2=10 L3=0 PK_end=1551
(fs_start=1512)

AATCT
ACTGAGAGACAGGCTAATTTTTTAGGGAA
CCTT CCGG
GGCCCG
AACAAGGGGA

PK4: -20.515000(kcal/mol): PK_start=1530 sp=10 s1=7 s2=4 l1=4 l2=9 L3=0 PK_end=1564
(fs_start=1512)

CAAC
CAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
CCGGAGG GGAA
TCTTCA
CGGGAATTT

PK4B: -24.675000(kcal/mol): PK_start=1530 sp=10 s1=5 s2=4 l1=8 l2=35 L3=0
PK_end=1590 (fs_start=1512)

TCCAACAA
CAGGCTAATTTTTTAGGGAAAATCTGGCCT
CCGGA GGGG
CCCCAC
CGGGAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(1932) FJ495940
=====

PK1: -13.555000(kcal/mol): PK_start=1492 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1520
(fs_start=1512)

A
GAAGGGAAGGACATCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1497 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1533
(fs_start=1512)

C
GAAGGACATCAAATGAAAGATTGTTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -18.320000(kcal/mol): PK_start=1521 sp=0 s1=4 s2=4 l1=5 l2=10 L3=0 PK_end=1551
(fs_start=1512)

AATCT
ACTGAGAGACAGGCTAATTTTTTAGGGAA
CCTT CCGG
GGCCCG
AACAAAGGGGA

PK4: -20.515000(kcal/mol): PK_start=1530 sp=10 s1=7 s2=4 l1=4 l2=9 L3=0 PK_end=1564
(fs_start=1512)

CAAC
CAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
CCGGAGG GGAA
TCTTCA
CGGGAATTT

PK4B: -24.675000(kcal/mol): PK_start=1530 sp=10 s1=5 s2=4 l1=8 l2=35 L3=0
PK_end=1590 (fs_start=1512)

TCCAACAA
CAGGCTAATTTTTTAGGGAAAATCTGGCCT
CCGGA GGGG
CCCCAC
CGGGAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(1933) FJ495941
=====

PK1: -13.555000(kcal/mol): PK_start=1492 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1520
(fs_start=1512)

A
GAAGGGAAGGACATCAAATGAAAGATTGT
GACA GAGAGTC

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                TTTT TAGGG
    GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1497 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1533
(fs_start=1512)
                C
GAAGGACATCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT A ATCGGA
                TGGCCTTC
    GGAAAATC
PK3:  -18.320000(kcal/mol): PK_start=1521 sp=0 s1=4 s2=4 l1=5 l2=10 L3=0 PK_end=1551
(fs_start=1512)
                AATCT
ACTGAGAGACAGGCTAATTTTTTAGGGAA
                CCTT   CCGG
                GGCCCG
    AACAAGGGGA
PK4:  -20.515000(kcal/mol): PK_start=1530 sp=10 s1=7 s2=4 l1=4 l2=9 L3=0 PK_end=1564
(fs_start=1512)
                CAAC
CAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                CCGGAGG   GGAA
                TCTTCA
    CGGGAATTT
PK4B:  -24.675000(kcal/mol): PK_start=1530 sp=10 s1=5 s2=4 l1=8 l2=35 L3=0
PK_end=1590 (fs_start=1512)
                TCCAACAA
CAGGCTAATTTTTTAGGGAAAATCTGGCCT
                CCGGA   GGGG
                CCCCAC
    CGGGAATTTCTTCAGAGCAGACCAGAGCCAACAG
=====
(1934) FJ495942
=====
PK1:  -13.555000(kcal/mol): PK_start=1492 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1520
(fs_start=1512)
                A
GAAGGGAAGGACATCAAATGAAAGATTGT
                GACA   GAGAGTC
                TTTT TAGGG
    GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1497 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1533
(fs_start=1512)
                C
GAAGGACATCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT A ATCGGA

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                                TGGCCTTC
          GGAAAATC
PK3:  -18.32000(kcal/mol): PK_start=1521 sp=0 s1=4 s2=4 l1=5 l2=10 L3=0 PK_end=1551
(fs_start=1512)
                                AATCT
ACTGAGAGACAGGCTAATTTTTTAGGGAA
                                CCTT   CCGG
                                GCGCCG
          AACAAAGGGGA
PK4:  -20.51500(kcal/mol): PK_start=1530 sp=10 s1=7 s2=4 l1=4 l2=9 L3=0 PK_end=1564
(fs_start=1512)
                                CAAC
CAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                                CCGGAGG   GGAA
                                TCTTCA
          CGGGAATTT
PK4B:  -24.67500(kcal/mol): PK_start=1530 sp=10 s1=5 s2=4 l1=8 l2=35 L3=0
PK_end=1590 (fs_start=1512)
                                TCCAACAA
CAGGCTAATTTTTTAGGGAAAATCTGGCCT
                                CCGGA   GGGG
                                CCCCAC
          CGGGAATTTTCTTCAGAGCAGACCAGAGCCAACAG
=====
(1935) FJ495943
=====
PK1:  -13.55500(kcal/mol): PK_start=1492 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1520
(fs_start=1512)
                                A
GAAGGGAAGGACATCAAATGAAAGATTGT
                                GACA   GAGAGTC
                                TTTTATAGGG
          GCTAAT
PK2:  -20.46000(kcal/mol): PK_start=1497 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1533
(fs_start=1512)
                                C
GAAGGACATCAAATGAAAGATTGTACTGAGAGA
                                GATTTTTT   A   ATCGGA
                                TGGCCTTC
          GGAAAATC
PK3:  -18.32000(kcal/mol): PK_start=1521 sp=0 s1=4 s2=4 l1=5 l2=10 L3=0 PK_end=1551
(fs_start=1512)
                                AATCT
ACTGAGAGACAGGCTAATTTTTTAGGGAA
                                CCTT   CCGG

```

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                                GGCCCG
          AACAAGGGGA
PK4:  -20.515000(kcal/mol): PK_start=1530 sp=10 s1=7 s2=4 l1=4 l2=9 L3=0 PK_end=1564
(fs_start=1512)
                                CAAC
          CAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                                CCGGAGG      GGAA
                                TCTTCA
          CGGGAATTT
PK4B:  -24.675000(kcal/mol): PK_start=1530 sp=10 s1=5 s2=4 l1=8 l2=35 L3=0
PK_end=1590 (fs_start=1512)
                                TCCAACAA
          CAGGCTAATTTTTTAGGGAAAATCTGGCCT
                                CCGGA      GGGG
                                CCCCAC
          CGGGAATTTTCTTCAGAGCAGACCAGAGCCAACAG
=====
(1936) FJ496000
=====
PK1:  -12.640000(kcal/mol): PK_start=1465 sp=0 s1=3 s2=7 l1=4 l2=18 L3=0 PK_end=1506
(fs_start=1499)
                                CAAA
          CTGTTGGAAATGTGGAAAGGAAGGACAC
                                GTG      AGAAAGT
                                TTTTTTAGG
          CACTGAAAGACAGGCTAA
PK2:  -20.500000(kcal/mol): PK_start=1484 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1520
(fs_start=1499)
                                C
          GAAGGACACCAAATGAAAGAGTGCCTGAAAGA
                                GATTTTTT  A  ATCGGA
                                TGGCCTTC
          GGAAAATC
PK3:  -30.700000(kcal/mol): PK_start=1508 sp=0 s1=3 s2=10 l1=4 l2=3 L3=0 PK_end=1540
(fs_start=1499)
                                AAAT
          ACTGAAAGACAGGCTAATTTTTTAGGGA
                                CCT      CCTTCCGGTC
                                GGAAGCCAGGA
          AAG
PK4:  -26.715000(kcal/mol): PK_start=1514 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1551
(fs_start=1499)
                                CTCC
          AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAAG      GGAA

```

TCTTCA

AAATTT

=====
(1937) FJ496001
=====

PK1: -12.640000(kcal/mol): PK_start=1465 sp=0 s1=3 s2=7 l1=4 l2=18 L3=0 PK_end=1506
(fs_start=1499)

CAAA

CTGTTGAAATGTGGAAAGGAAGGACAC

GTG AGAAAGT

TTTTTTTAGG

CACTGAAAGACAGGCTAA

PK2: -20.500000(kcal/mol): PK_start=1484 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1520
(fs_start=1499)

C

GAAGGACACCAAATGAAAGAGTGCACTGAAAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAAATC

PK3: -30.700000(kcal/mol): PK_start=1508 sp=0 s1=3 s2=10 l1=4 l2=3 L3=0 PK_end=1540
(fs_start=1499)

AAAT

ACTGAAAGACAGGCTAATTTTTTTAGGGA

CCT CCTTCCGGTC

GGAAGCCAGGA

AAG

PK4: -26.715000(kcal/mol): PK_start=1514 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1551
(fs_start=1499)

CTCC

AGACAGGCTAATTTTTTTAGGAAAATCTGGCCTTC

GGACCGGAAG GGAA

TCTTCA

AAATTT

=====
(1938) FJ496002
=====

PK1: -12.640000(kcal/mol): PK_start=1465 sp=0 s1=3 s2=7 l1=4 l2=18 L3=0 PK_end=1506
(fs_start=1499)

CAAA

CTGTTGAAATGTGGAAAGGAAGGACAC

GTG AGAAAGT

TTTTTTTAGG

CACTGAAAGACAGGCTAA

PK2: -20.500000(kcal/mol): PK_start=1484 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1520
(fs_start=1499)

C

GAAGGACACCAAATGAAAGAGTGCACTGAAAGA

GATTTTTT A ATCGGA
 TGGCCTTC
 GGAAAATC
 PK3: -30.700000(kcal/mol): PK_start=1508 sp=0 s1=3 s2=10 l1=4 l2=3 L3=0 PK_end=1540
 (fs_start=1499)
 AAAT
 ACTGAAAGACAGGCTAATTTTTTTAGGGA
 CCT CCTTCCGGTC
 GGAAGGCCAGGA
 AAG
 PK4: -26.715000(kcal/mol): PK_start=1514 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1551
 (fs_start=1499)
 CTCC
 AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
 GGACCGGAAG GGAA
 TCTTCA
 AAATTT
 =====
 (1939) FJ496003
 =====
 PK1: -12.640000(kcal/mol): PK_start=1465 sp=0 s1=3 s2=7 l1=4 l2=18 L3=0 PK_end=1506
 (fs_start=1499)
 CAAA
 CTGTTGAAATGTGGAAAGGAAGGACAC
 GTG AGAAAGT
 TTTTTTAGG
 CACTGAAAGACAGGCTAA
 PK2: -20.500000(kcal/mol): PK_start=1484 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1520
 (fs_start=1499)
 C
 GAAGGACACCAAATGAAAGAGTGCACTGAAAGA
 GATTTTTT A ATCGGA
 TGGCCTTC
 GGAAAATC
 PK3: -30.700000(kcal/mol): PK_start=1508 sp=0 s1=3 s2=10 l1=4 l2=3 L3=0 PK_end=1540
 (fs_start=1499)
 AAAT
 ACTGAAAGACAGGCTAATTTTTTTAGGGA
 CCT CCTTCCGGTC
 GGAAGGCCAGGA
 AAG
 PK4: -26.715000(kcal/mol): PK_start=1514 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1551
 (fs_start=1499)
 CTCC
 AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC


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                GGACCGGAAG    GGAA
                                TCTTCA
        AAATTT

=====
(1940) FJ496004
=====
PK1:  -12.640000(kcal/mol): PK_start=1465 sp=0 s1=3 s2=7 l1=4 l2=18 L3=0 PK_end=1506
(fs_start=1499)
                CAAA
CTGTTGAAATGTGGAAAGGAAGGACAC

                GTG    AGAAAGT

                TTTTTTAGG
        CACTGAAAGACAGGCTAA

PK2:  -20.500000(kcal/mol): PK_start=1484 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1520
(fs_start=1499)
                C
GAAGGACACCAAATGAAAGAGTGCACTGAAAGA

                GATTTTTT  A  ATCGGA
                                TGGCCTTC
        GGAAAATC

PK3:  -30.700000(kcal/mol): PK_start=1508 sp=0 s1=3 s2=10 l1=4 l2=3 L3=0 PK_end=1540
(fs_start=1499)
                AAAT
ACTGAAAGACAGGCTAATTTTTTAGGGA

                CCT    CCTTCCGGTC
                                GGAAGGCCAGGA
        AAG

PK4:  -26.715000(kcal/mol): PK_start=1514 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1551
(fs_start=1499)
                CTCC
AGACAGGCTAATTTTTTAGGAAAATCTGGCCTTC

                GGACCGGAAG    GGAA
                                TCTTCA
        AAATTT

=====
(1941) FJ496005
=====
PK1:  -12.640000(kcal/mol): PK_start=1465 sp=0 s1=3 s2=7 l1=4 l2=18 L3=0 PK_end=1506
(fs_start=1499)
                CAAA
CTGTTGAAATGTGGAAAGGAAGGACAC

                GTG    AGAAAGT

                TTTTTTAGG
        CACTGAAAGACAGGCTAA

```

PK2: -20.50000(kcal/mol): PK_start=1484 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1520
(fs_start=1499)

C
GAAGGACACCAAATGAAAGAGTGCCTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -30.70000(kcal/mol): PK_start=1508 sp=0 s1=3 s2=10 l1=4 l2=3 L3=0 PK_end=1540
(fs_start=1499)

AAAT
ACTGAAAGACAGGCTAATTTTTTAGGGA
CCT CCTTCCGGTC
GGAAGGCCAGGA
AAG

PK4: -26.71500(kcal/mol): PK_start=1514 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1551
(fs_start=1499)

CTCC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
AAATTT

=====
(1942) FJ496006
=====

PK1: -12.64000(kcal/mol): PK_start=1465 sp=0 s1=3 s2=7 l1=4 l2=18 L3=0 PK_end=1506
(fs_start=1499)

CAAA
CTGTTGAAATGTGGAAAGGAAGGACAC
GTG AGAAAGT
TTTTTTAGG
CACTGAAAGACAGGCTAA

PK2: -20.50000(kcal/mol): PK_start=1484 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1520
(fs_start=1499)

C
GAAGGACACCAAATGAAAGAGTGCCTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -30.70000(kcal/mol): PK_start=1508 sp=0 s1=3 s2=10 l1=4 l2=3 L3=0 PK_end=1540
(fs_start=1499)

AAAT
ACTGAAAGACAGGCTAATTTTTTAGGGA
CCT CCTTCCGGTC
GGAAGGCCAGGA
AAG

PK4: -26.715000(kcal/mol): PK_start=1514 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1551
(fs_start=1499)

CTCC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
AAATTT

=====
(1943) FJ496007
=====

PK1: -12.640000(kcal/mol): PK_start=1465 sp=0 s1=3 s2=7 l1=4 l2=18 L3=0 PK_end=1506
(fs_start=1499)

CAAA
CTGTTGGAAATGTGGAAAGGAAGGACAC
GTG AGAAAGT
TTTTTTAGG
CACTGAAAGACAGGCTAA

PK2: -20.500000(kcal/mol): PK_start=1484 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1520
(fs_start=1499)

C
GAAGGACACCAAATGAAAGAGTGCCTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -30.700000(kcal/mol): PK_start=1508 sp=0 s1=3 s2=10 l1=4 l2=3 L3=0 PK_end=1540
(fs_start=1499)

AAAT
ACTGAAAGACAGGCTAATTTTTTTAGGGA
CCT CCTTCCGGTC
GGAAGGCCAGGA
AAG

PK4: -26.715000(kcal/mol): PK_start=1514 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1551
(fs_start=1499)

CTCC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
AAATTT

=====
(1944) FJ496072
=====

PK1: -13.555000(kcal/mol): PK_start=1495 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1523
(fs_start=1515)

A
GAAGGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC

TTTTTAGGG
GCTAAT
PK2: -20.460000(kcal/mol): PK_start=1500 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1536
(fs_start=1515)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1523 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1557
(fs_start=1515)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -28.475000(kcal/mol): PK_start=1530 sp=7 s1=9 s2=4 l1=6 l2=25 L3=0 PK_end=1586
(fs_start=1515)

CCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT
GGACCGGAG GGGA
CCCTCA
GAATTTTCTCCAGAACAGACCAGAA

PK4B: -30.395000(kcal/mol): PK_start=1530 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1593
(fs_start=1515)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCTCCAGAACAGACCAGAACCTCAG

=====
(1945) FJ496073
=====

PK1: -13.555000(kcal/mol): PK_start=1495 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1523
(fs_start=1515)

A
GAAGGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1500 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1536
(fs_start=1515)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA

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                                TGGCCTTC
          GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1523 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1557
(fs_start=1515)
                                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTCT
                                AGGCCAGGGA
          ACAAGGGG
PK4:  -28.475000(kcal/mol): PK_start=1530 sp=7 s1=9 s2=4 l1=6 l2=25 L3=0 PK_end=1586
(fs_start=1515)
                                CCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT
                                GGACCGGAG   GGGA
                                CCCTCA
          GAATTTTCTCCAGAACAGACCAGAA
PK4B:  -30.395000(kcal/mol): PK_start=1530 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1593
(fs_start=1515)
                                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                                GGACCGGA   GGGG
                                CCCCAC
          GAATTTTCTCCAGAACAGACCAGAACCCCTCAG

=====
(1946) FJ496074
=====
PK1:  -13.555000(kcal/mol): PK_start=1495 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1523
(fs_start=1515)
                                A
GAAGGGAAGGACACCAAATGAAAGATTGT
                                GACA   GAGAGTC
                                TTTTTAGGG
          GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1500 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1536
(fs_start=1515)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                                GATTTTTT   A   ATCGGA
                                TGGCCTTC
          GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1523 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1557
(fs_start=1515)
                                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTCT

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                                AGGCCAGGGA
                ACAAGGGG
PK4:  -28.475000(kcal/mol): PK_start=1530 sp=7 s1=9 s2=4 l1=6 l2=25 L3=0 PK_end=1586
(fs_start=1515)
                                CCCACA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTT
                                GGACCGGAG    GGGA
                                CCCTCA
                GAATTTTCTCCAGAACAGACCAGAA

PK4B:  -30.395000(kcal/mol): PK_start=1530 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1593
(fs_start=1515)
                                TCCCACAA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT
                                GGACCGGA    GGGG
                                CCCCAC
                GAATTTTCTCCAGAACAGACCAGAACCCCTCAG

=====
(1947) FJ496075
=====
PK1:  -13.555000(kcal/mol): PK_start=1495 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1523
(fs_start=1515)
                                A
GAAGGGAAGGACACCAAATGAAAGATTGT
                                GACA    GAGAGTC
                                TTTTtaggg
                GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1500 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1536
(fs_start=1515)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                                GATTTTTT  A  ATCGGA
                                TGGCCTTC
                GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1523 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1557
(fs_start=1515)
                                AAA
TACTGAGAGACAGGCTAATTTTTTTAGGGA
                                CCCT    TCCGGTCT
                                AGGCCAGGGA
                ACAAGGGG

PK4:  -28.475000(kcal/mol): PK_start=1530 sp=7 s1=9 s2=4 l1=6 l2=25 L3=0 PK_end=1586
(fs_start=1515)
                                CCCACA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTT
                                GGACCGGAG    GGGA

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CCCTCA
GAATTTTCTCCAGAACAGACCAGAA

PK4B: -30.395000(kcal/mol): PK_start=1530 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1593
(fs_start=1515)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT

GGACCGGA GGGG

CCCCAC
GAATTTTCTCCAGAACAGACCAGAACCCTCAG

=====
(1948) FJ496076
=====

PK1: -13.555000(kcal/mol): PK_start=1495 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1523
(fs_start=1515)

A
GAAGGGAAGGACACCAAATGAAAGATTGT

GACA GAGAGTC

TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1500 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1536
(fs_start=1515)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1523 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1557
(fs_start=1515)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT

AGGCCAGGGA
ACAAGGGG

PK4: -28.475000(kcal/mol): PK_start=1530 sp=7 s1=9 s2=4 l1=6 l2=25 L3=0 PK_end=1586
(fs_start=1515)

CCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT

GGACCGGAG GGGG

CCCTCA
GAATTTTCTCCAGAACAGACCAGAA

PK4B: -30.395000(kcal/mol): PK_start=1530 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1593
(fs_start=1515)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT

GGACCGGA GGGG

CCCCAC
GAATTTTCTCCAGAACAGACCAGAACCCTCAG

=====
(1949) FJ496077
=====

PK1: -13.555000(kcal/mol): PK_start=1495 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1523
(fs_start=1515)

A
GAAGGGAAGGACACCAAATGAAAGATTGT

GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1500 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1536
(fs_start=1515)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA
TGGCCTTC
GGAAAACC

PK3: -30.305000(kcal/mol): PK_start=1523 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1557
(fs_start=1515)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCC
AGGCCAGGGA
ACAAGGGG

PK4: -30.705000(kcal/mol): PK_start=1530 sp=7 s1=9 s2=4 l1=6 l2=25 L3=0 PK_end=1586
(fs_start=1515)

CCCACA
AGACAGGCTAATTTTTTAGGGAAAACCTGGCCTT

GGACCGGAG GGGA
CCCTCA
GAATTTTCTCCAGAACAGACCAGAA

PK4B: -32.625000(kcal/mol): PK_start=1530 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1593
(fs_start=1515)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAACCTGGCCT

GGACCGGA GGGG
CCCCAC
GAATTTTCTCCAGAACAGACCAGAACCCTCAG

=====
(1950) FJ496078
=====

PK1: -13.555000(kcal/mol): PK_start=1495 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1523
(fs_start=1515)

A
GAAGGGAAGGACACCAAATGAAAGATTGT


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          GACA    GAGAGTC
                TTTTATAGGG
    GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1500 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1536
(fs_start=1515)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT  A  ATCGGA
                                TGGCCTTC
                GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1523 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1557
(fs_start=1515)
                AAA
TACTGAGAGACAGGCTAATTTTTATAGGGA
                CCCT    TCCGGTCT
                                AGGCCAGGGA
                ACAAGGGG

PK4:  -28.475000(kcal/mol): PK_start=1530 sp=7 s1=9 s2=4 l1=6 l2=25 L3=0 PK_end=1586
(fs_start=1515)
                CCCACA
AGACAGGCTAATTTTTATAGGAAAATCTGGCCTT
                GGACCGGAG    GGGA
                                CCCTCA
                GAATTTTCTCCAGAACAGACCAGAA

PK4B:  -30.395000(kcal/mol): PK_start=1530 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1593
(fs_start=1515)
                TCCCACAA
AGACAGGCTAATTTTTATAGGAAAATCTGGCCT
                GGACCGGA    GGGG
                                CCCAC
                GAATTTTCTCCAGAACAGACCAGAACCTCAG

=====
(1951) FJ496079
=====
PK1:  -13.555000(kcal/mol): PK_start=1495 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1523
(fs_start=1515)
                A
GAAGGGAAGGACACCAAATGAAAGATTGT
                GACA    GAGAGTC
                                TTTTATAGGG
    GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1500 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1536
(fs_start=1515)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA

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          GATTTTTT A ATCGGA
                    TGGCCTTC
    GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1523 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1557
(fs_start=1515)
          AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
          CCCT   TCCGGTCT
                    AGGCCAGGGA
    ACAAGGGG
PK4:  -28.475000(kcal/mol): PK_start=1530 sp=7 s1=9 s2=4 l1=6 l2=25 L3=0 PK_end=1586
(fs_start=1515)
                    CCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT
          GGACCGGAG   GGGA
                    CCCTCA
    GAATTTTCTCCAGAACAGACCAGAA
PK4B:  -30.395000(kcal/mol): PK_start=1530 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1593
(fs_start=1515)
                    TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
          GGACCGGA   GGGG
                    CCCCAC
    GAATTTTCTCCAGAACAGACCAGAACCCTCAG
=====
(1952) FJ496080
=====
PK1:  -13.555000(kcal/mol): PK_start=1495 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1523
(fs_start=1515)
          A
GAAGGGAAGGACACCAAATGAAAGATTGT
          GACA   GAGAGTC
                    TTTTTAGGG
    GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1500 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1536
(fs_start=1515)
          C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
          GATTTTTT A ATCGGA
                    TGGCCTTC
    GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1523 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1557
(fs_start=1515)
          AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA

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          CCCT   TCCGGTCT
                AGGCCAGGGA
ACAAGGGG
PK4:  -28.475000(kcal/mol): PK_start=1530 sp=7 s1=9 s2=4 l1=6 l2=25 L3=0 PK_end=1586
(fs_start=1515)
                CCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT
                GGACCGGAG   GGGA
                        CCCTCA
                GAATTTTCTCCAGAACAGACCAGAA

PK4B:  -30.395000(kcal/mol): PK_start=1530 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1593
(fs_start=1515)
                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                GGACCGGA   GGGG
                        CCCCAC
                GAATTTTCTCCAGAACAGACCAGAACCTCAG

=====
(1953) FJ496081
=====
PK1:  -13.555000(kcal/mol): PK_start=1490 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1518
(fs_start=1510)
                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                GACA   GAGAGTC
                        TTTTTAGGG
                GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1495 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1531
(fs_start=1510)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT   A   ATCGGA
                        TGGCCTTC
                GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1518 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1552
(fs_start=1510)
                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTCT
                        AGGCCAGGGA
                ACAAGGGG

PK4:  -28.540000(kcal/mol): PK_start=1525 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1562
(fs_start=1510)
                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

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GGACCGGAGG GGAA
 CCTTCA
 GAATTT

PK4B: -27.515000(kcal/mol): PK_start=1525 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1588
 (fs_start=1510)

TCCCACAA
 AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT

GGACCGGA GGGG
 CTCCAG
 GAATTTCC TTCAGAACAGACCAGAGCCAACAG

=====
 (1954) FJ496082
 =====

PK1: -13.555000(kcal/mol): PK_start=1490 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1518
 (fs_start=1510)

A
 GAAAGGAAGGACACCAAATGAAAGATTGT

GACA GAGAGTC
 TTTTTAGGG
 GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1495 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1531
 (fs_start=1510)

C
 GAAGGACACCAAATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA
 TGGCCTTC
 GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1518 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1552
 (fs_start=1510)

AAA
 TACTGAGAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT
 AGGCCAGGGA
 ACAAGGGG

PK4: -28.540000(kcal/mol): PK_start=1525 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1562
 (fs_start=1510)

CCAC
 AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAGG GGAA
 CCTTCA
 GAATTT

PK4B: -27.515000(kcal/mol): PK_start=1525 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1588
 (fs_start=1510)

TCCCACAA
 AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT

GGACCGGA GGG
CTCCAG
GAATTCCTTCAGAACAGACCAGAGCCAACAG

=====
(1955) FJ496083
=====

PK1: -13.555000(kcal/mol): PK_start=1490 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1518
(fs_start=1510)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1495 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1531
(fs_start=1510)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1518 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1552
(fs_start=1510)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -28.540000(kcal/mol): PK_start=1525 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1562
(fs_start=1510)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -27.515000(kcal/mol): PK_start=1525 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1588
(fs_start=1510)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGG
CTCCAG
GAATTCCTTCAGAACAGACCAGAGCCAACAG

=====
(1956) FJ496084
=====

PK1: -13.555000(kcal/mol): PK_start=1490 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1518
(fs_start=1510)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1495 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1531
(fs_start=1510)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGCCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1518 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1552
(fs_start=1510)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -28.540000(kcal/mol): PK_start=1525 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1562
(fs_start=1510)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -27.515000(kcal/mol): PK_start=1525 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1588
(fs_start=1510)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CTCCAG
GAATTTCTTCAGAACAGACCAGAGCCAACAG

=====
(1957) FJ496085
=====

PK1: -13.555000(kcal/mol): PK_start=1490 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1518
(fs_start=1510)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1495 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1531
(fs_start=1510)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1518 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1552
(fs_start=1510)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -28.540000(kcal/mol): PK_start=1525 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1562
(fs_start=1510)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -27.515000(kcal/mol): PK_start=1525 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1588
(fs_start=1510)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CTCCAG
GAATTTCCCTCAGAACAGACCAGCCAACAG

=====
(1958) FJ496145
=====

PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1545
(fs_start=1503)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1555
(fs_start=1503)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAACTT

=====
(1959) FJ496146
=====

PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1511
(fs_start=1503)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1524
(fs_start=1503)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1545
(fs_start=1503)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1555
(fs_start=1503)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAACTT

=====
(1960) FJ496147
=====

PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAACTT

=====
(1961) FJ496148
=====

PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA

GGAAGATC TGGCCTTC
PK3: -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1545
(fs_start=1503)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1555
(fs_start=1503)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAACTT

=====
(1962) FJ496149
=====

PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1511
(fs_start=1503)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1524
(fs_start=1503)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1545
(fs_start=1503)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1555
(fs_start=1503)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA

```

                                TCTTCA
                                GAACTT

=====
(1963) FJ496150
=====
PK1:  -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                                GACA    GAGAGTC
                                TTTTtaggg
                                GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                                GATTTTTT A  ATCGGA
                                TGGCCTTC
                                GGAAGATC

PK3:  -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)
                                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                                CCCTTC    CGGTCT
                                GCCAGGGA
                                ACAAGGGAAG

PK4:  -26.715000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)
                                CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
                                GGACCGGAAG    GGAA
                                TCTTCA
                                GAACTT

=====
(1964) FJ496151
=====
PK1:  -13.595000(kcal/mol): PK_start=1485 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1513
(fs_start=1505)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                                GACA    GAAAGTC
                                TTTTtaggg
                                GCTAAT

PK2:  -20.500000(kcal/mol): PK_start=1490 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1526
(fs_start=1505)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA

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          GATTTTTT A ATCGGA
                    TGGCCTTC
          GGAAGATC

PK3:  -25.060000(kcal/mol): PK_start=1513 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1547
(fs_start=1505)
          A
TACTGAAAGACAGGCTAATTTTTTAGGGAAG
          TCCTTC   CGGTCT
                    GCCAGGGA
          CCAAGGGGAG

PK4:  -26.235000(kcal/mol): PK_start=1520 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1557
(fs_start=1505)
                    CTCC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
          GGACCGGAGG   GGAA
                    TCTTCA
          GAATTT

PK4B:  -30.395000(kcal/mol): PK_start=1520 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1583
(fs_start=1505)
                    TCCTCCAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
          GGACCGGA   GGGG
                    CCCCAC
          GAATTTTCTTCAGAACAGACCAGAGCCAACAG

=====
(1965) FJ496152
=====

PK1:  -13.595000(kcal/mol): PK_start=1485 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1513
(fs_start=1505)
          A
GAAAGGAAGGACACCAAATGAAAGATTGT
          GACA   GAAAGTC
                    TTTTTAGGG
          GCTAAT

PK2:  -20.500000(kcal/mol): PK_start=1490 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1526
(fs_start=1505)
          C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
          GATTTTTT A ATCGGA
                    TGGCCTTC
          GGAAGATC

PK3:  -25.060000(kcal/mol): PK_start=1513 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1547
(fs_start=1505)
          A
TACTGAAAGACAGGCTAATTTTTTAGGGAAG

```

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TCCTTC   CGGTCT
          GCCAGGGA
CCAAGGGGAG

PK4:  -26.235000(kcal/mol): PK_start=1520 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1557
(fs_start=1505)
          CTCC
AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCTTC
          GGACCGGAGG   GGAA
          TCTTCA
GAATTT

PK4B:  -30.395000(kcal/mol): PK_start=1520 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1583
(fs_start=1505)
          TCCTCCAA
AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCT
          GGACCGGA   GGGG
          CCCCAC
GAATTTTCTTCAGAACAGACCAGAGCCAACAG

=====
(1966) FJ496153
=====
PK1:  -13.595000(kcal/mol): PK_start=1485 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1513
(fs_start=1505)
          A
GAAAGGAAGGACACCAAATGAAAGATTGT
          GACA   GAAAGTC
          TTTTTAGGG
GCTAAT

PK2:  -20.500000(kcal/mol): PK_start=1490 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1526
(fs_start=1505)
          C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
          GATTTTTT   A   ATCGGA
          TGGCCTTC
GGAAGATC

PK3:  -25.060000(kcal/mol): PK_start=1513 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1547
(fs_start=1505)
          A
TACTGAAAGACAGGCTAATTTTTTTAGGGAAG
          TCCTTC   CGGTCT
          GCCAGGGA
CCAAGGGGAG

PK4:  -26.235000(kcal/mol): PK_start=1520 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1557
(fs_start=1505)
          CTCC
AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCTTC

```

GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1520 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1583
(fs_start=1505)

TCCTCCAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT

GGACCGGA GGGG
CCCCAC
GAATTTTCTTCAGAACAGACCAGAGCCAACAG

=====
(1967) FJ496154
=====

PK1: -13.595000(kcal/mol): PK_start=1485 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1513
(fs_start=1505)

A
GAAAGGAAGGACACCAAATGAAAGATTGT

GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1490 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1526
(fs_start=1505)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA

GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1513 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1547
(fs_start=1505)

A
TACTGAAAGACAGGCTAATTTTTTAGGGAAG

TCCTTC CGGTCT
GCCAGGGA
CCAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1520 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1557
(fs_start=1505)

CTCC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC

GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1520 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1583
(fs_start=1505)

TCCTCCAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT

GGACCGGA GGGG
CCCCAC
GAATTTTCTTCAGAACAGACCAGAGCCAACAG

=====
(1968) FJ496155
=====

PK1: -13.595000(kcal/mol): PK_start=1485 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1513
(fs_start=1505)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1490 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1526
(fs_start=1505)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1513 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1547
(fs_start=1505)

A
TACTGAAAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
CCAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1520 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1557
(fs_start=1505)

CTCC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1520 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1583
(fs_start=1505)

TCCTCCAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCTTCAGAACAGACCAGAGCCAACAG

=====
(1969) FJ496156
=====

PK1: -13.595000(kcal/mol): PK_start=1485 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1513
(fs_start=1505)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1490 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1526
(fs_start=1505)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1513 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1547
(fs_start=1505)

A
TACTGAAAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
CCAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1520 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1557
(fs_start=1505)

CTCC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1520 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1583
(fs_start=1505)

TCCTCCAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCTTCAGAACAGACCAGAGCCAACAG

=====
(1970) FJ496157
=====

PK1: -13.595000(kcal/mol): PK_start=1485 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1513
(fs_start=1505)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.50000(kcal/mol): PK_start=1490 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1526
(fs_start=1505)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.06000(kcal/mol): PK_start=1513 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1547
(fs_start=1505)

A
TACTGAAAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
CCAAGGGGAG

PK4: -26.23500(kcal/mol): PK_start=1520 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1557
(fs_start=1505)

CTCC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.39500(kcal/mol): PK_start=1520 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1583
(fs_start=1505)

TCCTCCAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCTTCAGAACAGACCAGAGCCAACAG

=====
(1971) FJ496158
=====

PK1: -13.55500(kcal/mol): PK_start=1482 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1510
(fs_start=1502)

A
GACAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -17.82000(kcal/mol): PK_start=1487 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1523
(fs_start=1502)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGTCTTC
GGAAGATC

PK3: -24.335000(kcal/mol): PK_start=1510 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1544
(fs_start=1502)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC TGGTCT
GCCAGGGA
AAAAGGGAAG

PK4: -23.805000(kcal/mol): PK_start=1517 sp=7 s1=8 s2=5 l1=7 l2=5 l3=0 PK_end=1554
(fs_start=1502)

TCCCAAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGTCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(1972) FJ496159
=====

PK1: -13.555000(kcal/mol): PK_start=1482 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1510
(fs_start=1502)

A
GACAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -17.820000(kcal/mol): PK_start=1487 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1523
(fs_start=1502)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGTCTTC
GGAAGATC

PK3: -24.335000(kcal/mol): PK_start=1510 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1544
(fs_start=1502)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC TGGTCT
GCCAGGGA
AAAAGGGAAG

PK4: -23.805000(kcal/mol): PK_start=1517 sp=7 s1=8 s2=5 l1=7 l2=5 l3=0 PK_end=1554
(fs_start=1502)

TCCCAAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGTCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(1973) FJ496160
=====

PK1: -13.555000(kcal/mol): PK_start=1481 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1509
(fs_start=1501)

A
GACAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -17.820000(kcal/mol): PK_start=1486 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1522
(fs_start=1501)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGTCTTC
GGAAGATC

PK3: -24.335000(kcal/mol): PK_start=1509 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1543
(fs_start=1501)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC TGGTCT
GCCAGGGA
AAAAGGGAAG

PK4: -23.805000(kcal/mol): PK_start=1516 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1553
(fs_start=1501)

TCCCAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGTCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(1974) FJ496161
=====

PK1: -13.555000(kcal/mol): PK_start=1482 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1510
(fs_start=1502)

A
GACAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -17.820000(kcal/mol): PK_start=1487 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1523
(fs_start=1502)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA

TGGTCTTC
GGAAGATC
PK3: -24.335000(kcal/mol): PK_start=1510 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1544
(fs_start=1502)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC TGGTCT
GCCAGGGA
AAAAGGGAAG

PK4: -23.805000(kcal/mol): PK_start=1517 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1554
(fs_start=1502)

TCCCAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGTCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(1975) FJ496162
=====

PK1: -13.555000(kcal/mol): PK_start=1482 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1510
(fs_start=1502)

A
GACAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -17.820000(kcal/mol): PK_start=1487 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1523
(fs_start=1502)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGTCTTC
GGAAGATC

PK3: -24.335000(kcal/mol): PK_start=1510 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1544
(fs_start=1502)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC TGGTCT
GCCAGGGA
AAAAGGGAAG

PK4: -23.805000(kcal/mol): PK_start=1517 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1554
(fs_start=1502)

TCCCAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGTCT
GGACCGGA AGGGA

```

                                TTCCTCA
                                GAATT
=====
(1976) FJ496163
=====
PK1:  -13.555000(kcal/mol): PK_start=1482 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1510
(fs_start=1502)
                                A
GACAGGAAGGACACCAAATGAAAGATTGT
                                GACA    GAGAGTC
                                TTTTtaggg
                                GCTAAT

PK2:  -17.820000(kcal/mol): PK_start=1487 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1523
(fs_start=1502)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                                GATTTTTT A  ATCGGA
                                TGGTCTTC
                                GGAAGATC

PK3:  -24.335000(kcal/mol): PK_start=1510 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1544
(fs_start=1502)
                                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                                CCCTTC    TGGTCT
                                GCCAGGGA
                                AAAAGGGAAG

PK4:  -23.805000(kcal/mol): PK_start=1517 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1554
(fs_start=1502)
                                TCCCAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGTCT
                                GGACCGGA    AGGGA
                                TTCCTCA
                                GAATT

=====
(1977) FJ496164
=====
PK1:  -13.555000(kcal/mol): PK_start=1482 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1510
(fs_start=1502)
                                A
GACAGGAAGGACACCAAATGAAAGATTGT
                                GACA    GAGAGTC
                                TTTTtaggg
                                GCTAAT

PK2:  -17.820000(kcal/mol): PK_start=1487 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1523
(fs_start=1502)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA

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          GATTTTTT A ATCGGA
                    TGGTCTTC
          GGAAGATC

PK3:  -24.335000(kcal/mol): PK_start=1510 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1544
(fs_start=1502)
          A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
          CCCTTC  TGGTCT
                    GCCAGGGA
          AAAAGGGAAG

PK4:  -23.805000(kcal/mol): PK_start=1517 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1554
(fs_start=1502)
                    TCCCAAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGTCT
          GGACCGGA  AGGGA
                    TTCCTCA
          GAATT

=====
(1978) FJ496165
=====
PK1:  -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)
          A
GACAGGAAGGACACCAAATGAAAGATTGT
          GACA  GAGAGTC
                    TTTTTAGGG
          GCTAAT

PK2:  -17.820000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)
          C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
          GATTTTTT A ATCGGA
                    TGGTCTTC
          GGAAGATC

PK3:  -24.335000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)
          A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
          CCCTTC  TGGTCT
                    GCCAGGGA
          AAAAGGGAAG

PK4:  -23.805000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1555
(fs_start=1503)
                    TCCCAAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGTCT

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                GGACCGGA   AGGGA
                    TTCCTCA
        GAATT

=====
(1979) FJ496166
=====
PK1:  -13.555000(kcal/mol): PK_start=1482 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1510
(fs_start=1502)
                A
GACAGGAAGGACACCAAATGAAAGATTGT

                GACA   GAGAGTC
                    TTTTATAGGG
        GCTAAT

PK2:  -17.820000(kcal/mol): PK_start=1487 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1523
(fs_start=1502)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA

                GATTTTTT   A   ATCGGA
                    TGGTCTTC
        GGAAGATC

PK3:  -24.335000(kcal/mol): PK_start=1510 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1544
(fs_start=1502)
                A
TACTGAGAGACAGGCTAATTTTTATAGGGAAG

                CCCTTC   TGGTCT
                    GCCAGGGA
        AAAAGGGAAG

PK4:  -23.805000(kcal/mol): PK_start=1517 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1554
(fs_start=1502)
                TCCCAA
AGACAGGCTAATTTTTATAGGGAAGATCTGGTCT

                GGACCGGA   AGGGA
                    TTCCTCA
        GAATT

=====
(1980) FJ496167
=====
PK1:  -15.585000(kcal/mol): PK_start=1482 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1510
(fs_start=1502)
                A
GAAAGGAAGGACACCAAATGAAAGACTGT

                GACA   GAGAGTC
                    TTTTATAGGG
        GCTAAT

```

PK2: -20.460000(kcal/mol): PK_start=1487 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1523
(fs_start=1502)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1510 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1544
(fs_start=1502)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -29.020000(kcal/mol): PK_start=1517 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1554
(fs_start=1502)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(1981) FJ496168
=====

PK1: -15.585000(kcal/mol): PK_start=1482 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1510
(fs_start=1502)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1487 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1523
(fs_start=1502)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1510 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1544
(fs_start=1502)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -29.02000(kcal/mol): PK_start=1517 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1554
(fs_start=1502)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(1982) FJ496169
=====

PK1: -15.585000(kcal/mol): PK_start=1482 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1510
(fs_start=1502)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1487 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1523
(fs_start=1502)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1510 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1544
(fs_start=1502)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -29.020000(kcal/mol): PK_start=1517 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1554
(fs_start=1502)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(1983) FJ496170
=====

PK1: -15.585000(kcal/mol): PK_start=1482 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1510
(fs_start=1502)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC

```

                TTTT TAGGG
      GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1487 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1523
(fs_start=1502)
                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
                GATTTTTT A  ATCGGA
                TGGCCTTC
      GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1510 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1544
(fs_start=1502)
                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTCT
                AGGCCAGGGA
      ACAAGGGA
PK4:  -29.020000(kcal/mol): PK_start=1517 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1554
(fs_start=1502)
                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                GGACCGGAAG   GGAA
                CCTTCA
      GAATTT

=====
(1984) FJ496171
=====
PK1:  -15.585000(kcal/mol): PK_start=1482 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1510
(fs_start=1502)
                A
GAAAGGAAGGACACCAAATGAAAGACTGT
                GACA   GAGAGTC
                TTTT TAGGG
      GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1487 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1523
(fs_start=1502)
                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
                GATTTTTT A  ATCGGA
                TGGCCTTC
      GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1510 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1544
(fs_start=1502)
                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTCT

```

AGGCCAGGGA

ACAAGGGA

PK4: -29.020000(kcal/mol): PK_start=1517 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1554
(fs_start=1502)

CCAC

AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAAG GGAA

CCTTCA

GAATTT

=====
(1985) FJ496172
=====

PK1: -15.585000(kcal/mol): PK_start=1482 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1510
(fs_start=1502)

A

GAAAGGAAGGACACCAAATGAAAGACTGT

GACA GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1487 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1523
(fs_start=1502)

C

GAAGGACACCAAATGAAAGACTGTACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1510 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1544
(fs_start=1502)

AAA

TACTGAGAGACAGGCTAATTTTTTTAGGGA

CCCT TCCGGTCT

AGGCCAGGGA

ACAAGGGA

PK4: -29.020000(kcal/mol): PK_start=1517 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1554
(fs_start=1502)

CCAC

AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAAG GGAA

CCTTCA

GAATTT

=====
(1986) FJ496174
=====

PK1: -15.585000(kcal/mol): PK_start=1482 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1510
(fs_start=1502)

A

GAAAGGAAGGACACCAAATGAAAGACTGT

GACA GAGAGTC
TTTTTAGGA
GCTAAT
PK2: -20.460000(kcal/mol): PK_start=1487 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1523
(fs_start=1502)
C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA

GATTTTTT A ATCGGA
TGGCCTTC
GAAAAATC
PK3: -24.015000(kcal/mol): PK_start=1510 sp=0 s1=3 s2=8 l1=4 l2=9 L3=0 PK_end=1544
(fs_start=1502)

AAAA
TACTGAGAGACAGGCTAATTTTTTAGGA
CCT TCCGGTCT
AGGCCAGGGA
CACAAAGGGA

PK4: -29.020000(kcal/mol): PK_start=1517 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1554
(fs_start=1502)
CCAC
AGACAGGCTAATTTTTTAGGAAAAATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(1987) FJ496175
=====

PK1: -15.585000(kcal/mol): PK_start=1482 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1510
(fs_start=1502)
A
GAAAGGAAGGACACCAAATGAAAGACTGT

GACA GAGAGTC
TTTTTAGGG
GCTAAT
PK2: -20.460000(kcal/mol): PK_start=1487 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1523
(fs_start=1502)
C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA

GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC
PK3: -27.275000(kcal/mol): PK_start=1510 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1544
(fs_start=1502)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA
PK4: -29.020000(kcal/mol): PK_start=1517 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1554
(fs_start=1502)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(1988) FJ496176
=====

PK1: -15.585000(kcal/mol): PK_start=1482 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1510
(fs_start=1502)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1487 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1523
(fs_start=1502)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1510 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1544
(fs_start=1502)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -29.020000(kcal/mol): PK_start=1517 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1554
(fs_start=1502)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(1989) FJ496177
=====

PK1: -15.585000(kcal/mol): PK_start=1482 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1510
(fs_start=1502)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1487 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1523
(fs_start=1502)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1510 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1544
(fs_start=1502)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -29.020000(kcal/mol): PK_start=1517 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1554
(fs_start=1502)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(1990) FJ496178
=====

PK1: -15.585000(kcal/mol): PK_start=1482 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1510
(fs_start=1502)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1487 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1523
(fs_start=1502)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1510 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1544
(fs_start=1502)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -29.020000(kcal/mol): PK_start=1517 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1554
(fs_start=1502)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(1991) FJ496179
=====

PK1: -15.585000(kcal/mol): PK_start=1482 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1510
(fs_start=1502)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1487 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1523
(fs_start=1502)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1510 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1544
(fs_start=1502)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -29.020000(kcal/mol): PK_start=1517 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1554
(fs_start=1502)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(1992) FJ496180
=====

PK1: -15.585000(kcal/mol): PK_start=1482 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1510
(fs_start=1502)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1487 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1523
(fs_start=1502)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1510 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1544
(fs_start=1502)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -29.020000(kcal/mol): PK_start=1517 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1554
(fs_start=1502)

CCAC
AGACAGGCTAATTTTTTAGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(1993) FJ496181
=====

PK1: -15.585000(kcal/mol): PK_start=1480 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1508
(fs_start=1500)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1485 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1521
(fs_start=1500)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT A ATCGGA

TGGCCTTC

GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1508 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1542
(fs_start=1500)

AAA

TACTGAGAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT

AGGCCAGGGA

ACAAGGGA

PK4: -29.020000(kcal/mol): PK_start=1515 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1552
(fs_start=1500)

CCAC

AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAAG GGAA

CCTTCA

GAATTT

=====
(1994) FJ496182
=====

PK1: -15.585000(kcal/mol): PK_start=1482 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1510
(fs_start=1502)

A

GAAAGGAAGGACACCAAATGAAAGACTGT

GACA GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1487 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1523
(fs_start=1502)

C

GAAGGACACCAAATGAAAGACTGTACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1510 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1544
(fs_start=1502)

AAA

TACTGAGAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT

AGGCCAGGGA

ACAAGGGA

PK4: -29.020000(kcal/mol): PK_start=1517 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1554
(fs_start=1502)

CCAC

AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAAG GGAA

```

                                CCTTCA
                                GAATTT
=====
(1995) FJ496184
=====
PK1:  -15.585000(kcal/mol): PK_start=1482 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1510
(fs_start=1502)
                                A
GAAAGGAAGGACACCAAATGAAAGACTGT
                                GACA    GAGAGTC
                                TTTTtaggg
                                GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1487 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1523
(fs_start=1502)
                                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
                                GATTTTTT A  ATCGGA
                                TGGCCTTC
                                GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1510 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1544
(fs_start=1502)
                                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCCT    TCCGGTCT
                                AGGCCAGGGA
                                ACAAGGGA

PK4:  -29.020000(kcal/mol): PK_start=1517 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1554
(fs_start=1502)
                                CCAC
AGACAGGCTAATTTTTTAGGAAAATCTGGCCTTC
                                GGACCGGAAG    GGAA
                                CCTTCA
                                GAATTT

=====
(1996) FJ496185
=====
PK1:  -15.585000(kcal/mol): PK_start=1472 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1500
(fs_start=1492)
                                A
GAAAGGAAGGACATCAAATGAAAGACTGT
                                GACA    GAGAGTC
                                TTTTtaggg
                                GCTAAT

PK2:  -21.940000(kcal/mol): PK_start=1477 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1514
(fs_start=1492)
                                C
GAAGGACATCAAATGAAAGACTGTACTGAGAGA

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                GATTTTTT   AATCGGA
                TTGGCCTTC
        GGAAAAT

PK3:  -23.745000(kcal/mol): PK_start=1500 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1534
(fs_start=1492)
                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTTT
                AGGCCAGGGA
        ACAAGGGG

PK4:  -25.010000(kcal/mol): PK_start=1507 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1544
(fs_start=1492)
                CCAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
                GGACCGGAGG   GGAA
                CCTTCA
        GAACTT

PK4B:  -26.865000(kcal/mol): PK_start=1507 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1570
(fs_start=1492)
                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA   GGGG
                CCCCAC
        GAACTTCCTTCAGAGCAGGCCCGAGCCAACAG

=====
(1997) FJ496186
=====
PK1:  -15.585000(kcal/mol): PK_start=1472 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1500
(fs_start=1492)
                A
GAAAGGAAGGACATCAAATGAAAGACTGT
                GACA   GAGAGTC
                TTTTTAGGG
        GCTAAT

PK2:  -21.940000(kcal/mol): PK_start=1477 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1514
(fs_start=1492)
                C
GAAGGACATCAAATGAAAGACTGTACTGAGAGA
                GATTTTTT   AATCGGA
                TTGGCCTTC
        GGAAAAT

PK3:  -23.745000(kcal/mol): PK_start=1500 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1534
(fs_start=1492)
                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA

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          CCCT   TCCGGTTT
                AGGCCAGGGA
ACAAGGGG

PK4:  -25.01000(kcal/mol): PK_start=1507 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1544
(fs_start=1492)
                CCAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
                GGACCGGAGG   GGAA
                                CCTTCA
                GAACTT

PK4B:  -26.865000(kcal/mol): PK_start=1507 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1570
(fs_start=1492)
                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA   GGGG
                                CCCAC
                GAACTTCCTTCAGAGCAGGCCCGAGCCAACAG

=====
(1998) FJ496187
=====
PK1:  -15.585000(kcal/mol): PK_start=1472 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1500
(fs_start=1492)
                A
GAAAGGAAGGACATCAAATGAAAGACTGT
                GACA   GAGAGTC
                                TTTTTAGGG
                GCTAAT

PK2:  -21.940000(kcal/mol): PK_start=1477 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1514
(fs_start=1492)
                C
GAAGGACATCAAATGAAAGACTGTACTGAGAGA
                GATTTTTT   AATCGGA
                                TTGGCCTTC
                GGAAAAT

PK3:  -23.745000(kcal/mol): PK_start=1500 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1534
(fs_start=1492)
                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTTT
                                AGGCCAGGGA
                ACAAGGGG

PK4:  -25.010000(kcal/mol): PK_start=1507 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1544
(fs_start=1492)
                CCAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC

```

GGACCGGAGG GGAA
 CCTTCA
 GAACTT

PK4B: -26.865000(kcal/mol): PK_start=1507 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1570
 (fs_start=1492)

TCCCACAA
 AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG
 CCCCAC
 GAACTTCCTTCAGAGCAGGCCCGAGCCAACAG

=====
 (1999) FJ496188
 =====

PK1: -15.585000(kcal/mol): PK_start=1472 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1500
 (fs_start=1492)

A
 GAAAGGAAGGACATCAAATGAAAGACTGT

GACA GAGAGTC
 TTTTTAGGG
 GCTAAT

PK2: -21.940000(kcal/mol): PK_start=1477 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1514
 (fs_start=1492)

C
 GAAGGACATCAAATGAAAGACTGTACTGAGAGA

GATTTTTT AATCGGA
 TTGGCCTTC
 GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1500 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1534
 (fs_start=1492)

AAA
 TACTGAGAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT
 AGGCCAGGGA
 ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1507 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1544
 (fs_start=1492)

CCAC
 AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC

GGACCGGAGG GGAA
 CCTTCA
 GAACTT

PK4B: -26.865000(kcal/mol): PK_start=1507 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1570
 (fs_start=1492)

TCCCACAA
 AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGG
CCCCAC
GAACTTCCTTCAGAGCAGGCCCGAGCCAACAG

=====
(2000) FJ496189
=====

PK1: -15.585000(kcal/mol): PK_start=1472 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1500
(fs_start=1492)

A
GAAAGGAAGGACATCAAATGAAAGACTGT

GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -21.940000(kcal/mol): PK_start=1477 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1514
(fs_start=1492)

C
GAAGGACATCAAATGAAAGACTGTACTGAGAGA

GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1500 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1534
(fs_start=1492)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1507 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1544
(fs_start=1492)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC

GGACCGGAGG GGAA
CCTTCA
GAACTT

PK4B: -26.865000(kcal/mol): PK_start=1507 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1570
(fs_start=1492)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGG
CCCCAC
GAACTTCCTTCAGAGCAGGCCCGAGCCAACAG

=====
(2001) FJ496190
=====

PK1: -15.585000(kcal/mol): PK_start=1472 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1500 (fs_start=1492)

A
GAAAGGAAGGACATCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -21.940000(kcal/mol): PK_start=1477 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1514 (fs_start=1492)

C
GAAGGACATCAAATGAAAGACTGTACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1500 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1534 (fs_start=1492)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1507 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1544 (fs_start=1492)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAACTT

PK4B: -26.865000(kcal/mol): PK_start=1507 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1570 (fs_start=1492)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAACTTCCTTCAGAGCAGGCCCGAGCCAACAG

=====
(2002) FJ496191
=====

PK1: -15.585000(kcal/mol): PK_start=1472 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1500 (fs_start=1492)

A
GAAAGGAAGGACATCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -21.940000(kcal/mol): PK_start=1477 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1514
(fs_start=1492)

C
GAAGGACATCAAATGAAAGACTGTACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1500 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1534
(fs_start=1492)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1507 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1544
(fs_start=1492)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAACTT

PK4B: -26.865000(kcal/mol): PK_start=1507 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1570
(fs_start=1492)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAACTTCCTTCAGAGCAGGCCCGAGCCAACAG

=====
(2003) FJ496192
=====

PK1: -15.585000(kcal/mol): PK_start=1472 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1500
(fs_start=1492)

A
GAAAGGAAGGACATCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -21.940000(kcal/mol): PK_start=1477 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1514
(fs_start=1492)

C
GAAGGACATCAAATGAAAGACTGTACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1500 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1534
(fs_start=1492)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1507 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1544
(fs_start=1492)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAACTT

PK4B: -26.865000(kcal/mol): PK_start=1507 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1570
(fs_start=1492)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAACTTCCTTCAGAGCAGGCCCGAGCCAACAG

=====
(2004) FJ496193
=====

PK1: -15.585000(kcal/mol): PK_start=1472 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1500
(fs_start=1492)

A
GAAAGGAAGGACATCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -21.940000(kcal/mol): PK_start=1477 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1514
(fs_start=1492)

C
GAAGGACATCAAATGAAAGACTGTACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1500 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1534
(fs_start=1492)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1507 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1544
(fs_start=1492)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAACTT

PK4B: -26.865000(kcal/mol): PK_start=1507 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1570
(fs_start=1492)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAACTTCCTTCAGAGCAGGCCCGAGCCAACAG

=====
(2005) FJ496194
=====

PK1: -15.585000(kcal/mol): PK_start=1472 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1500
(fs_start=1492)

A
GAAAGGAAGGACATCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -21.940000(kcal/mol): PK_start=1477 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1514
(fs_start=1492)

C
GAAGGACATCAAATGAAAGACTGTACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1500 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1534
(fs_start=1492)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1507 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1544
(fs_start=1492)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAACTT

PK4B: -26.865000(kcal/mol): PK_start=1507 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1570
(fs_start=1492)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAACTTCCTTCAGAGCAGGCCCGAGCCAACAG

=====
(2006) FJ496195
=====

PK1: -12.995000(kcal/mol): PK_start=1475 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1503
(fs_start=1495)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACG GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.370000(kcal/mol): PK_start=1480 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1517
(fs_start=1495)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1504 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1537
(fs_start=1495)

AAA
ACTGAAAGGCAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1510 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1547
(fs_start=1495)

CAAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1510 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1573
(fs_start=1495)

TCCAACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCCTTCAGAGCAGACCAGGCCATCAG

=====
(2007) FJ496196
=====

PK1: -12.995000(kcal/mol): PK_start=1475 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1503
(fs_start=1495)

A
GAAAGGAAGGGCACCAAATGAAAGATTGT
GACG GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.370000(kcal/mol): PK_start=1480 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1517
(fs_start=1495)

C
GAAGGGCACCAAATGAAAGATTGTACTGAAAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAAT

PK3: -20.285000(kcal/mol): PK_start=1504 sp=0 s1=3 s2=8 l1=3 l2=9 l3=0 PK_end=1537
(fs_start=1495)

AAA
ACTGAAAGGCAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1510 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1547
(fs_start=1495)

CAAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1510 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=1573
(fs_start=1495)

TCCAACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCCCTTCAGAGCAGACCAGGCCATCAG

=====
(2008) FJ496197
=====

PK1: -12.995000(kcal/mol): PK_start=1475 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1503
(fs_start=1495)

A
GAAAGGAAGGACCAAATGAAAGATTGT
GACG GAAAGTC

TTTTTAGGG
GCTAAT
PK2: -20.370000(kcal/mol): PK_start=1480 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1517
(fs_start=1495)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1504 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1537
(fs_start=1495)

AAA
ACTGAAAGGCAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1510 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1547
(fs_start=1495)

CAAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1510 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1573
(fs_start=1495)

TCCAACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCTTCAGAGCAGACCAGAGCCATCAG

=====
(2009) FJ496199
=====

PK1: -12.995000(kcal/mol): PK_start=1475 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1503
(fs_start=1495)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACG GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.370000(kcal/mol): PK_start=1480 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1517
(fs_start=1495)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGG
GATTTTTT AATCGGA

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                                TTGGCCTTC
                GGAAAAAT
PK3:  -20.285000(kcal/mol): PK_start=1504 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1537
(fs_start=1495)
                                AAA
ACTGAAAGGCAGGCTAATTTTTTAGGGA
                                CCT   TCCGGTTT
                                AGGCCAGGGA
                AACAAAGGGG
PK4:  -25.010000(kcal/mol): PK_start=1510 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1547
(fs_start=1495)
                                CAAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
                                GGACCGGAGG   GGAA
                                CCTTCA
                GAATTT
PK4B:  -26.865000(kcal/mol): PK_start=1510 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1573
(fs_start=1495)
                                TCCAACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
                                GGACCGGA   GGGG
                                CCCCAC
                GAATTTCTTCAGAGCAGACCAGGCCATCAG
=====
(2010) FJ496202
=====
PK1:  -12.995000(kcal/mol): PK_start=1475 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1503
(fs_start=1495)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                                GACG   GAAAGTC
                                TTTTTAGGG
                GCTAAT
PK2:  -20.370000(kcal/mol): PK_start=1480 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1517
(fs_start=1495)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAAAGG
                                GATTTTTT   AATCGGA
                                TTGGCCTTC
                GGAAAAAT
PK3:  -20.285000(kcal/mol): PK_start=1504 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1537
(fs_start=1495)
                                AAA
ACTGAAAGGCAGGCTAATTTTTTAGGGA
                                CCT   TCCGGTTT

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                                AGGCCAGGGA
                                AACAAGGGG

PK4:  -25.010000(kcal/mol): PK_start=1510 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1547
(fs_start=1495)
                                CAAC
AGGCAGGCTAATTTTTTTAGGGAAAATTTGGCCTTC
                                GGACCGGAGG    GGAA
                                CCTTCA
                                GAATTT

PK4B:  -26.865000(kcal/mol): PK_start=1510 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1573
(fs_start=1495)
                                TCCAACAA
AGGCAGGCTAATTTTTTTAGGGAAAATTTGGCCT
                                GGACCGGA    GGGG
                                CCCCAC
                                GAATTTCTTCAGAGCAGACCAGAGCCATCAG

=====
(2011) FJ496203
=====

PK1:  -12.995000(kcal/mol): PK_start=1475 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1503
(fs_start=1495)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                                GACG    GAAAGTC
                                TTTTTAGGG
                                GCTAAT

PK2:  -20.370000(kcal/mol): PK_start=1480 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1517
(fs_start=1495)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAAAGG
                                GATTTTTT    AATCGGA
                                TTGGCCTTC
                                GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1504 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1537
(fs_start=1495)
                                AAA
ACTGAAAGGCAGGCTAATTTTTTTAGGGA
                                CCT    TCCGGTTT
                                AGGCCAGGGA
                                AACAAGGGG

PK4:  -25.010000(kcal/mol): PK_start=1510 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1547
(fs_start=1495)
                                CAAC
AGGCAGGCTAATTTTTTTAGGGAAAATTTGGCCTTC
                                GGACCGGAGG    GGAA

```

CCTTCA

GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1510 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1573
(fs_start=1495)

TCCAACAA

AGGCAGGCTAATTTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG

CCCCAC

GAATTTCCCTCAGAGCAGACCAGAGCCATCAG

=====

(2012) FJ496204

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PK1: -12.995000(kcal/mol): PK_start=1475 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1503
(fs_start=1495)

A

GAAAGGAAGGACACCAAATGAAAGATTGT

GACG GAAAGTC

TTTTTAGGG

GCTAAT

PK2: -20.370000(kcal/mol): PK_start=1480 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1517
(fs_start=1495)

C

GAAGGACACCAAATGAAAGATTGTACTGAAAGG

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1504 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1537
(fs_start=1495)

AAA

ACTGAAAGGCAGGCTAATTTTTTTAGGGA

CCT TCCGGTTT

AGGCCAGGGA

AACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1510 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1547
(fs_start=1495)

CAAC

AGGCAGGCTAATTTTTTTAGGGAAAATTTGGCCTTC

GGACCGGAGG GGAA

CCTTCA

GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1510 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1573
(fs_start=1495)

TCCAACAA

AGGCAGGCTAATTTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG

CCCCAC
GAATTTCCCTTCAGAGCAGACCAGAGCCATCAG

=====
(2013) FJ496207
=====

PK1: -12.995000(kcal/mol): PK_start=1475 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1503
(fs_start=1495)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACG GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.370000(kcal/mol): PK_start=1480 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1517
(fs_start=1495)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1504 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1537
(fs_start=1495)

AAA
ACTGAAAGGCAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1510 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1547
(fs_start=1495)

CAAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1510 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1573
(fs_start=1495)

TCCAACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCCCTTCAGAGCAGACCAGAGCCATCAG

=====
(2014) FJ496209
=====

PK1: -15.025000(kcal/mol): PK_start=1471 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1499
(fs_start=1491)

A
GAAAGGAAGGACACCAAATGAAAGACTGT

GACG GAAAGTC
TTTTTAGGG
GCTAAT
PK2: -20.370000(kcal/mol): PK_start=1476 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1513
(fs_start=1491)

C
GAAGGACACCAAATGAAAGACTGTACTGAAAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1500 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1533
(fs_start=1491)

AAA
ACTGAAAGGCAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
ACAAGGGG

PK4: -18.485000(kcal/mol): PK_start=1506 sp=7 s1=9 s2=4 l1=6 l2=5 L3=0 PK_end=1542
(fs_start=1491)

CCAACA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGAG GGGA
TTCTCC
AAATT

PK4B: -26.865000(kcal/mol): PK_start=1506 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1569
(fs_start=1491)

TCCAACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTTCTCCAGAACAGGCCAGAGCCAACAG

=====
(2015) FJ496210
=====

PK1: -15.025000(kcal/mol): PK_start=1471 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1499
(fs_start=1491)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.370000(kcal/mol): PK_start=1476 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1513
(fs_start=1491)

C
GAAGGACACCAAATGAAAGACTGTACTGAAAGG

```

                GATTTTTT   AATCGGA
                TTGGCCTTC
        GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1500 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1533
(fs_start=1491)
                AAA
ACTGAAAGGCAGGCTAATTTTTTTAGGGA
                CCT   TCCGGTTT
                AGGCCAGGAA
        AACAAGGGG

PK4:  -18.485000(kcal/mol): PK_start=1506 sp=7 s1=9 s2=4 l1=6 l2=5 L3=0 PK_end=1542
(fs_start=1491)
                CCAACA
AGGCAGGCTAATTTTTTTAGGGAAAATTTGGCCTT
                GGACCGGAG   GGGA
                TTCTCC
        AAATT

PK4B:  -26.865000(kcal/mol): PK_start=1506 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1569
(fs_start=1491)
                TCCAACAA
AGGCAGGCTAATTTTTTTAGGGAAAATTTGGCCTT
                GGACCGGA   GGGG
                CCCCAC
        AAATTTTCTCCAGAACAGGCCAGAGCCAACAG

=====
(2016) FJ496212
=====

PK1:  -15.025000(kcal/mol): PK_start=1471 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1499
(fs_start=1491)
                A
GAAAGGAAGGACACCAAATGAAAGACTGT
                GACG   GAAAGTC
                TTTTTAGGG
        GCTAAT

PK2:  -20.370000(kcal/mol): PK_start=1476 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1513
(fs_start=1491)
                C
GAAGGACACCAAATGAAAGACTGTACTGAAAGG
                GATTTTTT   AATCGGA
                TTGGCCTTC
        GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1500 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1533
(fs_start=1491)
                AAA
ACTGAAAGGCAGGCTAATTTTTTTAGGGA

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          CCT      TCCGGTTT
                AGGCCAGGAA
    AACAAGGGG

PK4:  -18.485000(kcal/mol): PK_start=1506 sp=7 s1=9 s2=4 l1=6 l2=5 L3=0 PK_end=1542
(fs_start=1491)
                CCAACA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTT
                GGACCGGAG      GGGA
                                TTCTCC
                AAATT

PK4B:  -26.865000(kcal/mol): PK_start=1506 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1569
(fs_start=1491)
                TCCAACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTT
                GGACCGGA      GGGG
                                CCCAC
                AAATTTTCTCCAGAACAGGCCAGAGCCAACAG

=====
(2017) FJ496213
=====
PK1:  -15.025000(kcal/mol): PK_start=1471 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1499
(fs_start=1491)
                A
GAAAGGAAGGACACCAAATGAAAGACTGT
                GACG      GAAAGTC
                                TTTTTAGGG
                GCTAAT

PK2:  -20.370000(kcal/mol): PK_start=1476 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1513
(fs_start=1491)
                C
GAAGGACACCAAATGAAAGACTGTACTGAAAGG
                GATTTTTT      AATCGGA
                                TTGGCCTTC
                GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1500 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1533
(fs_start=1491)
                AAA
ACTGAAAGGCAGGCTAATTTTTTAGGGA
                CCT      TCCGGTTT
                                AGGCCAGGAA
                AACAAGGGG

PK4:  -18.485000(kcal/mol): PK_start=1506 sp=7 s1=9 s2=4 l1=6 l2=5 L3=0 PK_end=1542
(fs_start=1491)
                CCAACA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTT

```

GGACCGGAG GGGA
 TTCTCC
 AAATT

PK4B: -26.865000(kcal/mol): PK_start=1506 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1569
 (fs_start=1491)

TCCAACAA
 AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG
 CCCCAC
 AAATTTTCTCCAGAACAGGCCAGAGCCAACAG

=====
 (2018) FJ496214
 =====

PK1: -15.025000(kcal/mol): PK_start=1471 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1499
 (fs_start=1491)

A
 GAAAGGAAGGACACCAAATGAAAGACTGT

GACG GAAAGTC
 TTTTTAGGG
 GCTAAT

PK2: -20.370000(kcal/mol): PK_start=1476 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1513
 (fs_start=1491)

C
 GAAGGACACCAAATGAAAGACTGTACTGAAAGG

GATTTTTT AATCGGA
 TTGGCCTTC
 GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1500 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1533
 (fs_start=1491)

AAA
 ACTGAAAGGCAGGCTAATTTTTTAGGGA

CCT TCCGGTTT
 AGGCCAGGAA
 AACAAGGGG

PK4: -18.485000(kcal/mol): PK_start=1506 sp=7 s1=9 s2=4 l1=6 l2=5 L3=0 PK_end=1542
 (fs_start=1491)

CCAACA
 AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTT

GGACCGGAG GGGA
 TTCTCC
 AAATT

PK4B: -26.865000(kcal/mol): PK_start=1506 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1569
 (fs_start=1491)

TCCAACAA
 AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG
CCCCAC
AAATTTTCTCCAGAACAGGCCAGAGCCAACAG

=====
(2019) FJ623475
=====

PK1: -13.595000(kcal/mol): PK_start=1270 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1298
(fs_start=1290)

A
GAAAGGAGGGACACCAAATGAAGGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -21.980000(kcal/mol): PK_start=1275 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1312
(fs_start=1290)

C
GAGGGACACCAAATGAAGGATTGTACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAGAAT

PK3: -18.840000(kcal/mol): PK_start=1298 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1332
(fs_start=1290)

AA
TACTGAAAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTTT
GCCAGGAA
AGCAAGGGGAG

PK4: -22.215000(kcal/mol): PK_start=1305 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1342
(fs_start=1290)

CCAGCA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCTT
GGACCGGAG GGGA
TCCTCA
AAATTT

PK4B: -26.865000(kcal/mol): PK_start=1305 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1368
(fs_start=1290)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTTCTCAGAACGGACTGAAGCCAACAG

=====
(2020) FJ623476
=====

PK1: -15.140000(kcal/mol): PK_start=1261 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1289 (fs_start=1281)

CA
GGAAGGAGGGACACCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -21.980000(kcal/mol): PK_start=1266 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1303 (fs_start=1281)

C
GAGGGACACCAAATGAAAGACTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAGAAT

PK3: -18.840000(kcal/mol): PK_start=1289 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1323 (fs_start=1281)

AA
CACTGAAAGACAGGCTAATTTTTTTAGGGAG
CCTTC CGGTTT
GCCAGGAA
AGCAAGGGGAG

PK4: -22.215000(kcal/mol): PK_start=1296 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1333 (fs_start=1281)

CCAGCA
AGACAGGCTAATTTTTTTAGGGAGAATTTGGCCTT
GGACCGGAG GGGG
TCCTCA
AAATTT

PK4B: -26.865000(kcal/mol): PK_start=1296 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1359 (fs_start=1281)

TCCAGCAA
AGACAGGCTAATTTTTTTAGGGAGAATTTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTTCCTCAGAACAGATTGGAGCCAACAG

=====
(2021) FJ623477
=====

PK1: -10.640000(kcal/mol): PK_start=1259 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1297 (fs_start=1290)

A
TTGGAAATGTGGAAAGGAGGGACACCAA
GTT AGAAAGT
TTTTTTAGG
CACTGAAAGACAGGCTAA

PK2: -21.980000(kcal/mol): PK_start=1275 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1312
(fs_start=1290)

C
GAGGGACACCAAATGAAAGATTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAGAAT

PK3: -18.840000(kcal/mol): PK_start=1298 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1332
(fs_start=1290)

AA
CACTGAAAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTTT
GCCAGGAA
AGCAAGGGGAG

PK4: -24.120000(kcal/mol): PK_start=1305 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=1343
(fs_start=1290)

TTCCAGCAA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCC
GGACCGG AGGGG
TCCTCAG
AAACTT

PK4B: -21.200000(kcal/mol): PK_start=1306 sp=8 s1=6 s2=4 l1=9 l2=33 L3=1 PK_end=1367
(fs_start=1290)

TTCCAGCAA
GACAGGCTAATTTTTTAGGGAGAATTTGGCC
GACCGG A GGGG
CTCCAC
GAAACTTTCCTCAGAAAAGAGTGGAGCCAACAG

=====
(2022) FJ623478
=====

PK1: -15.140000(kcal/mol): PK_start=1270 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1298
(fs_start=1290)

CA
GAAAGGAGGGACACCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -21.980000(kcal/mol): PK_start=1275 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1312
(fs_start=1290)

C
GAGGGACACCAAATGAAAGACTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1299 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1332
(fs_start=1290)

AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AGCAAGGGG

PK4: -24.120000(kcal/mol): PK_start=1305 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=1343
(fs_start=1290)

TTCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCC
GGACCGG AGGGG
TCCTCAG
AAATTT

PK4B: -21.200000(kcal/mol): PK_start=1306 sp=8 s1=6 s2=4 l1=9 l2=33 L3=1 PK_end=1367
(fs_start=1290)

TTCCAGCAA
GACAGGCTAATTTTTTAGGGAAAATTTGGCC
GACCGG A GGGG
CTCCAC
GAAATTTTCCTCAGAACAGACTGGAACCAACAG

=====
(2023) FJ623479

=====
PK1: -15.140000(kcal/mol): PK_start=1270 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1298
(fs_start=1290)

CA
GGAAAGAGGGACACCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -19.340000(kcal/mol): PK_start=1275 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1312
(fs_start=1290)

C
GAGGGACACCAAATGAAAGACTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGTCTTC
GGAAAAT

PK3: -17.645000(kcal/mol): PK_start=1299 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1332
(fs_start=1290)

AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
CCT TCTGGTTT
AGGCCAGGAA
AGCAAGGGG

PK4: -19.575000(kcal/mol): PK_start=1305 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1342
(fs_start=1290)

```
CCAGCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGTCTT
GGACCGGAG GGGG
TCCTCA
AAACTT
```

PK4B: -24.225000(kcal/mol): PK_start=1305 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1368
(fs_start=1290)

```
TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGTCT
GGACCGGA GGGG
CCCCAC
AAACTTTCCTCAGAAGAGACTAGAGCCAACAG
```

=====
(2024) FJ623480
=====

PK1: -15.140000(kcal/mol): PK_start=1270 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1298
(fs_start=1290)

```
CA
GAAAGGAGGGACACCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTAGGG
GCTAA
```

PK2: -20.500000(kcal/mol): PK_start=1275 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1311
(fs_start=1290)

```
C
GAGGGACACCAAATGAAAGACTGCACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC
```

PK3: -23.815000(kcal/mol): PK_start=1299 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1332
(fs_start=1290)

```
AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTCT
AGGCCAGGAA
AGCAAGGGG
```

PK4: -25.745000(kcal/mol): PK_start=1305 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1342
(fs_start=1290)

```
CCAGCA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT
GGACCGGAG GGGG
TCCTCA
AAATTT
```

PK4B: -30.395000(kcal/mol): PK_start=1305 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1368
(fs_start=1290)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTTCCTCAGAGCAGACCAGAGCCAACAG

=====
(2025) FJ623481
=====

PK1: -11.460000(kcal/mol): PK_start=1273 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=1299
(fs_start=1293)

CACG
GGAAGGAGGGACACCAAATGAAAGACTG
GAC AGAAAG
TTTTTTAG
GCTAA

PK2: -18.800000(kcal/mol): PK_start=1280 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1315
(fs_start=1293)

C
GGGACACCAAATGAAAGACTGCACGGAAAGA
TTTTTT AATCGGA
TTGGCCTTC
AGGGAGAAT

PK3: -18.840000(kcal/mol): PK_start=1301 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1335
(fs_start=1293)

AA
CACGGAAAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTTT
GCCAGGAA
AGCAAGGGGAG

PK4: -27.000000(kcal/mol): PK_start=1308 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=1346
(fs_start=1293)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCC
GGACCGG AGGGG
TCCCCAG
AAACTT

PK4B: -24.080000(kcal/mol): PK_start=1309 sp=8 s1=6 s2=4 l1=9 l2=33 L3=1 PK_end=1370
(fs_start=1293)

TCCAGCAA
GACAGGCTAATTTTTTAGGGAGAATTTGGCC
GACCGG A GGGG
CCCCAC
GAAACTTTCCCAGAGCAGACCAGAACCATCAG

=====
(2026) FJ623482
=====

PK1: -15.100000(kcal/mol): PK_start=1270 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1298
(fs_start=1290)

CA
GGAAAGAGGGACACCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1275 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1312
(fs_start=1290)

C
GAGGGACACCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAGAAT

PK3: -18.840000(kcal/mol): PK_start=1298 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1332
(fs_start=1290)

AA
CACTGAGAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTTT
GCCAGGAA
CACAAAGGGAG

PK4: -25.075000(kcal/mol): PK_start=1305 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1342
(fs_start=1290)

TCCCACA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
GGACCGGA GGGGA
TCCCTCA
AAATT

PK4B: -26.865000(kcal/mol): PK_start=1305 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1368
(fs_start=1290)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTCCCTCAGAGCAGACCGGAGCCAACAG

=====
(2027) FJ623483
=====

PK1: -15.140000(kcal/mol): PK_start=1282 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1310
(fs_start=1302)

CA
GAAAGGAGGGACACCAAATGAAAGACTG
GAC AGAAAGTC

```

                TTTTTTAGGG
      GCTAA
PK2:  -21.980000(kcal/mol): PK_start=1287 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1324
(fs_start=1302)
                C
GAGGGACACCAAATGAAAGACTGCACTGAAAGA
                GATTTTTT   AATCGGA
                TTGGCCTTC
      GGAGAAT
PK3:  -18.840000(kcal/mol): PK_start=1310 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1344
(fs_start=1302)
                AA
CACTGAAAGACAGGCTAATTTTTTAGGGAG
                CCTTC   CGGTTT
                GCCAGGGA
      AGCAAAGGGAG
PK4:  -21.815000(kcal/mol): PK_start=1317 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1354
(fs_start=1302)
                TCCAGCAA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
                GGACCGGA   GGG
                TCCTCA
      GAATTT

=====
(2028) FJ623484
=====
PK1:  -11.460000(kcal/mol): PK_start=1273 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=1299
(fs_start=1293)
                CACG
GGAAGGAGGGACACCAAATGAAAGACTG
                GAC   AGAAAG
                TTTTTTAG
      GCTAA
PK2:  -18.800000(kcal/mol): PK_start=1280 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1315
(fs_start=1293)
                C
GGGACACCAAATGAAAGACTGCACGGAAAGA
                TTTTTT   AATCGGA
                TTGGCCTTC
      AGGGAGAAT
PK3:  -18.840000(kcal/mol): PK_start=1301 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1335
(fs_start=1293)
                AA
CACGAAAGACAGGCTAATTTTTTAGGGAG
                CCTTC   CGGTTT

```

GCCAGGAA

AGCAAGGGGAG

PK4: -27.000000(kcal/mol): PK_start=1308 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=1346
(fs_start=1293)

TTCCAGCAA

AGACAGGCTAATTTTTTAGGGAGAATTTGGCC

GGACCGG AGGGG

TCCCCAG

AAACTT

PK4B: -24.080000(kcal/mol): PK_start=1309 sp=8 s1=6 s2=4 l1=9 l2=33 L3=1 PK_end=1370
(fs_start=1293)

TTCCAGCAA

GACAGGCTAATTTTTTAGGGAGAATTTGGCC

GACCGG A GGGG

CCCCAC

GAAACTTTCCCCAGAGCAGACCGGAGCCATCAG

=====
(2029) FJ623485
=====

PK1: -15.140000(kcal/mol): PK_start=1264 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1292
(fs_start=1284)

CA

GGAAGGAGGGACACCAAATGAAAGACTG

GAC AGAAAGTC

TTTTTTTAGGG

GCTAA

PK2: -21.980000(kcal/mol): PK_start=1269 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1306
(fs_start=1284)

C

GAGGGACACCAAATGAAAGACTGCACTGAAAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAGAAT

PK3: -18.840000(kcal/mol): PK_start=1292 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1326
(fs_start=1284)

AA

CACTGAAAGACAGGCTAATTTTTTAGGGAG

CCTTC CGGTTT

GCCAGGAA

AACAAGGGGAG

PK4: -27.000000(kcal/mol): PK_start=1299 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=1337
(fs_start=1284)

TTCCAACAA

AGACAGGCTAATTTTTTAGGGAGAATTTGGCC

GGACCGG AGGGG

```

                                TCCCCAG
AAACTT
PK4B: -24.08000(kcal/mol): PK_start=1300 sp=8 s1=6 s2=4 l1=9 l2=33 L3=1 PK_end=1361
(fs_start=1284)
                                TTCCAACAA
GACAGGCTAATTTTTTAGGGAGAATTTGGCC
                                GACCGG A GGGG
                                CCCCAC
GAAACTTTCCCCAGAACAGACTGGAGCCAACAG

=====
(2030) FJ623486
=====
PK1: -15.14000(kcal/mol): PK_start=1258 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1286
(fs_start=1278)
                                CA
GGAAGGAGGGACACCAAATGAAAGACTG
                                GAC AGAAAGTC
                                TTTTTTAGGG
GCTAA

PK2: -21.98000(kcal/mol): PK_start=1263 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1300
(fs_start=1278)
                                C
GAGGGACACCAAATGAAAGACTGCACTGAAAGA
                                GATTTTTT AATCGGA
                                TTGGCCTTC
GGAAAAT

PK3: -20.28500(kcal/mol): PK_start=1287 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1320
(fs_start=1278)
                                AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
                                CCT TCCGGTTT
                                AGGCCAGGGA
AGCAAGGGG

PK4: -22.21500(kcal/mol): PK_start=1293 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1330
(fs_start=1278)
                                CCAGCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
                                GGACCGGAG GGGA
                                TCCTCA
GAATTT

PK4B: -26.86500(kcal/mol): PK_start=1293 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1356
(fs_start=1278)
                                TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                                GGACCGGA GGGG

```

CCCCAC
GAATTTTCCTCAGAGCAGACTGGAGCCAACAG

=====
(2031) FJ623487
=====

PK1: -15.140000(kcal/mol): PK_start=1270 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1298
(fs_start=1290)

CA
GAAGGGAGGGACACCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -20.500000(kcal/mol): PK_start=1275 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1311
(fs_start=1290)

C
GAGGGACACCAAATGAAAGACTGCACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -23.815000(kcal/mol): PK_start=1299 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1332
(fs_start=1290)

AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTCT
AGGCCAGGGA
AACAAGGGG

PK4: -25.745000(kcal/mol): PK_start=1305 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1342
(fs_start=1290)

CCAACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT
GGACCGGAG GGGA
TCCTCA
GAACTT

PK4B: -30.395000(kcal/mol): PK_start=1305 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1368
(fs_start=1290)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAACTTTTCCTCAGAGCAGACCAGAGCCAACAG

=====
(2032) FJ623489
=====

PK1: -10.640000(kcal/mol): PK_start=1265 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1303
(fs_start=1296)

A
TTGGAAATGTGGGAAAGAAGGACACCAA


```

          GTT   AGAAAGT
                TTTTTTAGG
          CACTGAAAGACAGGCTAA

PK2:  -19.340000(kcal/mol): PK_start=1281 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1318
(fs_start=1296)
                C
          GAAGGACACCAAATGAAAGATTGCACTGAAAGA
                GATTTTTT   AATCGGA
                TTGGTCTTC
          GGAAAAT

PK3:  -17.645000(kcal/mol): PK_start=1305 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1338
(fs_start=1296)
                AAA
          ACTGAAAGACAGGCTAATTTTTTAGGGA
                CCT   TCTGGTTT
                AGGCCAGGAA
          AACAAAGGG

PK4:  -19.175000(kcal/mol): PK_start=1311 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1348
(fs_start=1296)
                TCCAACAA
          AGACAGGCTAATTTTTTAGGGAAAATTTGGTCT
                GGACCGGA   GGG
                TCCTCA
          AAATTT

=====
(2033) FJ623490
=====
PK1:  -15.100000(kcal/mol): PK_start=1270 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1298
(fs_start=1290)
                CA
          GAAAGGAGGGACACCAAATGAAAGACTG
                GAC   AGAGAGTC
                TTTTTTAGGG
          GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1275 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1312
(fs_start=1290)
                C
          GAGGGACACCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT   AATCGGA
                TTGGCCTTC
          GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1299 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1332
(fs_start=1290)
                AAA
          ACTGAGAGACAGGCTAATTTTTTAGGGA

```

```

          CCT   TCCGGTTT
                AGGCCAGGAA
AGCAGGGGG
PK4:  -25.035000(kcal/mol): PK_start=1305 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1342
(fs_start=1290)
                CAGC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
                GGACCGGAGG   GGGA
                                TCCTCA
                AAATTT

PK4B:  -27.725000(kcal/mol): PK_start=1305 sp=7 s1=9 s2=4 l1=6 l2=32 L3=0 PK_end=1368
(fs_start=1290)
                CCAGCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
                GGACCGGAG   GGGG
                                CCCCAC
                AAATTTTCCTCAGAGCAGACCAGAGCCAACAG

=====
(2034) FJ623491
=====
PK1:  -15.140000(kcal/mol): PK_start=1270 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1298
(fs_start=1290)
                CA
GGAAGGAGGGACACCAAATGAAAGACTG
                GAC   AGAAAGTC
                                TTTTTTAGGG
                GCTAA

PK2:  -21.980000(kcal/mol): PK_start=1275 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1312
(fs_start=1290)
                C
GAGGGACACCAAATGAAAGACTGCACTGAAAGA
                GATTTTTT   AATCGGA
                                TTGGCCTTC
                GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1299 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1332
(fs_start=1290)
                AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
                CCT   TCCGGTTT
                                AGGCCAGGAA
                AACAAGGGG

PK4:  -27.000000(kcal/mol): PK_start=1305 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=1343
(fs_start=1290)
                TTCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCC

```

GGACCGG AGGGG
TCCCCAA
AAATTT

PK4B: -24.080000(kcal/mol): PK_start=1306 sp=8 s1=6 s2=4 l1=9 l2=33 L3=1 PK_end=1367
(fs_start=1290)

TTCCAACAA
GACAGGCTAATTTTTTAGGGAAAATTTGGCC

GACCGG A GGGG
CCCCAC
GAAATTTTCCCCAAAACAGGGTGGAGCCAACAG

=====
(2035) FJ623492
=====

PK1: -12.360000(kcal/mol): PK_start=1250 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1288
(fs_start=1281)

A
TTGGAATGTGGAAGTGAGGGACACCAG

GTC AGAAAGT
TTTTTTAGG
CACTGAAAGACAGGCTAA

PK2: -21.980000(kcal/mol): PK_start=1266 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1303
(fs_start=1281)

C
GAGGGACACCAGATGAAAGACTGCACTGAAAGA

GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1290 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1323
(fs_start=1281)

AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT
AGGCCAGGGA
AGCAAGGGG

PK4: -24.120000(kcal/mol): PK_start=1296 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=1334
(fs_start=1281)

TTCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCC

GGACCGG AGGGG
TCCTCAG
GAATTT

PK4B: -21.200000(kcal/mol): PK_start=1297 sp=8 s1=6 s2=4 l1=9 l2=33 L3=1 PK_end=1358
(fs_start=1281)

TTCCAGCAA
GACAGGCTAATTTTTTAGGGAAAATTTGGCC

GACCGG A GGG
CTCCAC
GGAATTTTCCTCAGAGCAGGCTGGAGCCAACAG

=====
(2036) FJ623493
=====

PK1: -12.160000(kcal/mol): PK_start=1259 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1297
(fs_start=1290)

A
TTGGAAATGTGGAAAGGAAGGACATCAG

GTC AGAAAGT
TTTTTTAGG
CACTGAAAGACAGGCTAA

PK2: -22.580000(kcal/mol): PK_start=1275 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1312
(fs_start=1290)

C
GAAGGACATCAGATGAAAGACTGCACTGAAAGA

GATTTTTT AATCGGA
TTGGCCTGC
GGAAAAT

PK3: -20.930000(kcal/mol): PK_start=1298 sp=0 s1=3 s2=8 l1=4 l2=8 L3=1 PK_end=1331
(fs_start=1290)

AAAA
CACTGAAAGACAGGCTAATTTTTTAGGG

CCC G TCCGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -26.865000(kcal/mol): PK_start=1305 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1368
(fs_start=1290)

GCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGG
CCCCAC
GAATTTTCCTCAGAGCAGACCAGAACCAACAG

=====
(2037) FJ623494
=====

PK1: -12.160000(kcal/mol): PK_start=1259 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1297
(fs_start=1290)

A
TTGGAAATGCGGAAAGGAAGGACATCAG

GTC AGAAAGT
TTTTTTAGG
CACTGAAAGACAGGCTAA

PK2: -22.580000(kcal/mol): PK_start=1275 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1312
(fs_start=1290)

C
GAAGGACATCAGATGAAAGACTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTGC
GGAAAAT

PK3: -20.930000(kcal/mol): PK_start=1298 sp=0 s1=3 s2=8 l1=4 l2=8 L3=1 PK_end=1331
(fs_start=1290)

AAAA
CACTGAAAGACAGGCTAATTTTTTAGGG
CCC G TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -26.865000(kcal/mol): PK_start=1305 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1368
(fs_start=1290)

GGCCACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCCTTCAGAGCAGACCAGAACCAACAG

=====
(2038) FJ623495
=====

PK1: -11.460000(kcal/mol): PK_start=1273 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=1299
(fs_start=1293)

CACA
GAAAGGAGGGACATCAAATGAAAGACTG
GAC AGAAAG
TTTTTTAG
GCTAA

PK2: -18.700000(kcal/mol): PK_start=1280 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1315
(fs_start=1293)

C
GGGACATCAAATGAAAGACTGCACAGAAAGA
TTTTTT AATCGGA
TTGGCCTTC
AGGGAAGAT

PK3: -17.400000(kcal/mol): PK_start=1302 sp=0 s1=5 s2=6 l1=1 l2=11 L3=0 PK_end=1335
(fs_start=1293)

A
ACAGAAAGACAGGCTAATTTTTTAGGGAAG
CCTTC CGGTTT
GCCGGGGA
AACAAGGGGAG

PK4: -20.985000(kcal/mol): PK_start=1308 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1345
(fs_start=1293)

CAAC
AGACAGGCTAATTTTTTAGGGAAGATTGGCCTTC
GGGCCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -25.145000(kcal/mol): PK_start=1308 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1371
(fs_start=1293)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAGATTGGCCT
GGGCCGGA GGGG
CCCCAC
GAATTTTCTTCAGAACAGGCCAGCAACAG

=====
(2039) FJ647145
=====

PK1: -13.555000(kcal/mol): PK_start=1305 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1333
(fs_start=1325)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1310 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1346
(fs_start=1325)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1333 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1367
(fs_start=1325)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1340 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1377
(fs_start=1325)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2040) FJ670515
=====

PK1: -15.585000(kcal/mol): PK_start=1533 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1561
(fs_start=1553)

A
GGAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GTTAAT

PK2: -18.450000(kcal/mol): PK_start=1538 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1575
(fs_start=1553)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT AATTGGA
TTGGCCTTC
GGAAAAAT

PK3: -20.285000(kcal/mol): PK_start=1562 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1595
(fs_start=1553)

AAA
ACTGAGAGACAGGTTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AGCAAGGGA

PK4: -24.345000(kcal/mol): PK_start=1568 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1605
(fs_start=1553)

TCCAGCAA
AGACAGGTTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA AGGG
TCCCCA
AAATTT

=====
(2041) FJ670516
=====

PK1: -15.140000(kcal/mol): PK_start=1510 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1538
(fs_start=1530)

CA
GAAGAGAAGGACACCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -21.980000(kcal/mol): PK_start=1515 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1552
(fs_start=1530)

C
GAAGGACACCAAATGAAAGACTGCACTGAAAGA
GATTTTTT AATCGGA

TTGGCCTTC

GGAGAAT

PK3: -17.120000(kcal/mol): PK_start=1538 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1572
(fs_start=1530)

AA

CACTGAAAGACAGGCTAATTTTTTAGGGAG

CCTTC CGGTTT

GCCGGGAA

CACAAAGGGGAG

PK4: -20.985000(kcal/mol): PK_start=1545 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1582
(fs_start=1530)

CCAC

AGACAGGCTAATTTTTTAGGGAGAATTTGGCCTTC

GGGCCGGAGG GGAA

TCTTCA

AAATTT

PK4B: -25.145000(kcal/mol): PK_start=1545 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1608
(fs_start=1530)

TCCCACAA

AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT

GGGCCGGA GGGG

CCCCAC

AAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====

(2042) FJ670517

=====

PK1: -11.010000(kcal/mol): PK_start=1531 sp=0 s1=3 s2=5 l1=2 l2=8 L3=0 PK_end=1556
(fs_start=1550)

AC

AAAGGAGGGACATCAAATGAAAGACTGC

ACG AGAGA

TTTTTAG

AGGCTAAT

PK2: -19.000000(kcal/mol): PK_start=1536 sp=0 s1=6 s2=8 l1=1 l2=9 L3=0 PK_end=1573
(fs_start=1550)

C

AGGGACATCAAATGAAAGACTGCACAGAGAG

TTTTTT AATCGGAA

TTGGCCTTCC

AGGGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1558 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1592
(fs_start=1550)

AAA

CACAGAGAGCAAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT


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                                AGGCCAGGGA
ACAAGGGG

PK4:  -18.485000(kcal/mol): PK_start=1565 sp=7 s1=9 s2=4 l1=6 l2=5 L3=0 PK_end=1601
(fs_start=1550)
                                CCCACA
AGCAAGGCTAATTTTTTTAGGGAAAATTTGGCCTT
                                GGACCGGAG    GGGA
                                TTCTCC
                                GAATT

PK4B:  -26.865000(kcal/mol): PK_start=1565 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1628
(fs_start=1550)
                                TCCCACAA
AGCAAGGCTAATTTTTTTAGGGAAAATTTGGCCT
                                GGACCGGA    GGGG
                                CCCCAC
                                GAATTTTCTCCAGAACAGGCCAGAGCCAACAG

=====
(2043) FJ670518
=====
PK1:  -11.010000(kcal/mol): PK_start=1541 sp=0 s1=3 s2=5 l1=2 l2=8 L3=0 PK_end=1566
(fs_start=1560)
                                AC
AAGGGAGGGACATCAAATGAAAGACTGC
                                ACG    AGAGA
                                TTTTTAG
                                AGGCTAAT

PK2:  -17.390000(kcal/mol): PK_start=1546 sp=0 s1=6 s2=7 l1=1 l2=10 L3=1 PK_end=1582
(fs_start=1560)
                                C
AGGGACATCAAATGAAAGACTGCACAGAGAG
                                TTTTTT  A  ATCGGAA
                                TGGCCTTCC
                                AGGGAAAATC

PK3:  -23.815000(kcal/mol): PK_start=1569 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1602
(fs_start=1560)
                                AAA
ACAGAGAGCAAGGCTAATTTTTTTAGGGA
                                CCT    TCCGGTCT
                                AGGCCAGGGA
                                AACAAGGGG

PK4:  -24.345000(kcal/mol): PK_start=1575 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1612
(fs_start=1560)
                                TCCAACAA
AGCAAGGCTAATTTTTTTAGGGAAAATCTGGCCT
                                GGACCGGA    GGGG

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TCTCCA

GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1575 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1638
(fs_start=1560)

TCCAACAA

AGCAAGGCTAATTTTTTAGGGAAAATCTGGCCT

GGACCGGA GGGG

CCCCAC

GAATTTTCTCCAGAACAGGCCAGAGCCAACAG

=====

(2044) FJ670519

=====

PK1: -15.140000(kcal/mol): PK_start=1500 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1528
(fs_start=1520)

CA

GGAAAGAAGGACATCAAATGAAGGACTG

GAC AGAAAGTC

TTTTTTAGGG

GCTAA

PK2: -21.980000(kcal/mol): PK_start=1505 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1542
(fs_start=1520)

C

GAAGGACATCAAATGAAGGACTGCACTGAAAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAGAAT

PK3: -18.840000(kcal/mol): PK_start=1528 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1562
(fs_start=1520)

AA

CACTGAAAGACAGGCTAATTTTTTAGGGAG

CCTTC CGGTTT

GCCAGGAA

AGCAAGGGGAG

PK4: -24.595000(kcal/mol): PK_start=1535 sp=7 s1=8 s2=4 l1=8 l2=5 L3=0 PK_end=1571
(fs_start=1520)

TCCAGCAA

AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT

GGACCGGA GGGG

TCCCAC

AAATT

PK4B: -26.865000(kcal/mol): PK_start=1535 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1598
(fs_start=1520)

TCCAGCAA

AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT

GGACCGGA GGGG

CCCCAC
AAATTTCCACAGAGCAGACCAGAGCCATCAG

=====
(2045) FJ670520
=====

PK1: -11.420000(kcal/mol): PK_start=1529 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=1555
(fs_start=1549)

CTCA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAG
TTTTTTAG
GCTAA

PK2: -18.660000(kcal/mol): PK_start=1536 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1571
(fs_start=1549)

C
AGGACATCAAATGAAAGACTGCTCAGAGAGA
TTTTTT AATCGGA
TTGGCCTTC
AGGGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1558 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1591
(fs_start=1549)

AAA
TCAGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AACAAGGGA

PK4: -21.465000(kcal/mol): PK_start=1564 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1601
(fs_start=1549)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA AGGG
TCTCCA
GAATTT

=====
(2046) FJ670521
=====

PK1: -14.985000(kcal/mol): PK_start=1356 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1384
(fs_start=1376)

A
GAAAAGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1361 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1398
(fs_start=1376)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG

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          GATTTTTT   AATCGGA
                    TTGGCCTTC
GGAAAAT
PK3:  -23.745000(kcal/mol): PK_start=1384 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1418
(fs_start=1376)
                    AAA
TACTGAGAGGCAGGCTAATTTTTTTAGGGA
                    CCCT   TCCGGTTT
                    AGGCCAGGGA
ACAAGGGG
PK4:  -25.010000(kcal/mol): PK_start=1391 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1428
(fs_start=1376)
                    CCAC
AGGCAGGCTAATTTTTTTAGGGAAAATTTGGCCTTC
                    GGACCGGAGG   GGAA
                    CCTTCA
GAATTT
PK4B: -26.865000(kcal/mol): PK_start=1391 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1454
(fs_start=1376)
                    TCCCACAA
AGGCAGGCTAATTTTTTTAGGGAAAATTTGGCCT
                    GGACCGGA   GGGG
                    CCCCAC
GAATTTCTTCAGAACAGACCAGTGCCAACAG
=====
(2047) FJ670522
=====
PK1:  -11.420000(kcal/mol): PK_start=1534 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=1560
(fs_start=1554)
                    CACA
GAAAGGAGGGACATCAAATGAAAGACTG
                    GAC   AGAGAG
                    TTTTTTAG
GCTAA
PK2:  -18.660000(kcal/mol): PK_start=1541 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1576
(fs_start=1554)
                    C
GGGACATCAAATGAAAGACTGCACAGAGAGA
                    TTTTTT   AATCGGA
                    TTGGCCTTC
AGGGAGAAT
PK3:  -18.840000(kcal/mol): PK_start=1562 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1596
(fs_start=1554)
                    AA
CACAGAGAGACAGGCTAATTTTTTTAGGGAG

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          CCTTC   CGGTTT
                    GCCAGGGA
AGCAAGGGGAG
PK4:  -27.00000(kcal/mol): PK_start=1569 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=1607
(fs_start=1554)
                    TTCCAGCAA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCC
                    GGACCGG   AGGGG
                    TCCCCAG
          GAATTT

PK4B:  -24.08000(kcal/mol): PK_start=1570 sp=8 s1=6 s2=4 l1=9 l2=33 L3=1 PK_end=1631
(fs_start=1554)
                    TTCCAGCAA
GACAGGCTAATTTTTTAGGGAGAATTTGGCC
                    GACCGG  A  GGGG
                    CCCCAC
          GGAATTTTCCCCAGAACAGGCTAGAGCCAACAG

=====
(2048) FJ670523
=====
PK1:  -15.14000(kcal/mol): PK_start=1302 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1330
(fs_start=1322)
                    CA
GGAAAGAGGGACACCAAATGAAAGACTG
                    GAC   AGAAAGTC
                    TTTTTTAGGG
          GCTAA

PK2:  -21.98000(kcal/mol): PK_start=1307 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1344
(fs_start=1322)
                    C
GAGGGACACCAAATGAAAGACTGCACTGAAAGA
                    GATTTTTT   AATCGGA
                    TTGGCCTTC
          GGAAAAT

PK3:  -29.09000(kcal/mol): PK_start=1330 sp=0 s1=3 s2=10 l1=5 l2=3 L3=0 PK_end=1363
(fs_start=1322)
                    AAAAT
CACTGAAAGACAGGCTAATTTTTTAGGG
                    CCC   CCTTCCGGTT
                    GGGAGGCCAGGC
          AAG

PK4:  -22.21500(kcal/mol): PK_start=1337 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1374
(fs_start=1322)
                    CCCCCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT

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                GGACCGGAG    GGGA
                    TCCTCA
            CAATTT
PK4B:  -26.865000(kcal/mol): PK_start=1337 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1400
(fs_start=1322)
                    TCCCCCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA    GGGG
                    CCCCAC
            CAATTTTCCTCAGAACAGACTGGAGCCAACAG

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=====
(2049) FJ670524
=====

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PK1:  -9.390000(kcal/mol): PK_start=1534 sp=0 s1=3 s2=6 l1=1 l2=5 L3=0 PK_end=1557
(fs_start=1551)
                    T
GAAAGGAAGGACACCAAATGAAGGATTG
                GAC    AGAGAG
                    TTTTTTAG
            GCTAA

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PK2:  -18.080000(kcal/mol): PK_start=1537 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1572
(fs_start=1551)
                    C
AGGAAGGACACCAAATGAAGGATTGTGAGAGA
                ATTTTTT  A  ATCGGA
                    TGGCCTTC
            GGGAAAATC

```

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PK3:  -27.275000(kcal/mol): PK_start=1559 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1593
(fs_start=1551)
                    AAA
TTGTGAGAGACAGGCTAATTTTTTAGGGA
                CCCT    TCCGGTCT
                    AGGCCAGGGA
            ACAAAGGA

```

```

PK4:  -26.925000(kcal/mol): PK_start=1566 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1603
(fs_start=1551)
                    TCCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                GGACCGGA    AGGAA
                    TCCTTCA
            GAATT

```

```

=====
(2050) FJ670525
=====

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PK1: -13.555000(kcal/mol): PK_start=1504 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1532
(fs_start=1524)

T
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -22.160000(kcal/mol): PK_start=1507 sp=0 s1=9 s2=7 l1=1 l2=6 L3=2 PK_end=1545
(fs_start=1524)

A
AGGAAGGACACCAAATGAAAGATTGTTCTGAGAG
GGGATTTTT TA ATCGGAC
TGGCCTGCC
AGAATC

PK3: -28.280000(kcal/mol): PK_start=1532 sp=0 s1=3 s2=9 l1=4 l2=7 L3=0 PK_end=1566
(fs_start=1524)

AGAA
TTCTGAGAGACAGGCTAATTTTTTAGGG
CCC GTCCGGTCT
CAGGCCAGGAA
ACAAGGA

PK4: -25.760000(kcal/mol): PK_start=1539 sp=7 s1=9 s2=6 l1=4 l2=3 L3=0 PK_end=1575
(fs_start=1524)

CCCA
AGACAGGCTAATTTTTTAGGGAGAATCTGGCCTG
GGACCGGAC AGGAAC
TTTTTGCC
AAA

=====
(2051) FJ670526
=====

PK1: -11.420000(kcal/mol): PK_start=1527 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=1553
(fs_start=1547)

CTCA
GAAAGGAGGGACATCAAATGAAAGACTG
GAC AGAGAG
TTTTTTAG
GCTAA

PK2: -18.660000(kcal/mol): PK_start=1534 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1569
(fs_start=1547)

C
GGGACATCAAATGAAAGACTGCTCAGAGAGA
TTTTTT AATCGGA
TTGGCCTTC
AGGGAAACT

PK3: -25.235000(kcal/mol): PK_start=1555 sp=0 s1=4 s2=9 l1=2 l2=8 L3=0 PK_end=1590
(fs_start=1547)

AA
CTCAGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTTC
AGGCCGGGAA
ACAAGGGA

PK4: -23.805000(kcal/mol): PK_start=1561 sp=6 s1=9 s2=5 l1=7 l2=4 L3=0 PK_end=1599
(fs_start=1547)

TCCCACA
GAGACAGGCTAATTTTTTAGGGAACTTTGGCCT
GGGGCCGGA AGGGA
TTCCTCA
AACT

=====
(2052) FJ670527
=====

PK1: -15.140000(kcal/mol): PK_start=1520 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1548
(fs_start=1540)

CA
GACAGGATGGACATCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTTAGGG
GCTAA

PK2: -20.500000(kcal/mol): PK_start=1525 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1561
(fs_start=1540)

C
GATGGACATCAAATGAAAGACTGCACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATA

PK3: -22.965000(kcal/mol): PK_start=1548 sp=0 s1=4 s2=6 l1=5 l2=8 L3=0 PK_end=1580
(fs_start=1540)

AAATA
CACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGT
AGGCCGGG
ACAAGGGG

PK4: -24.295000(kcal/mol): PK_start=1557 sp=9 s1=6 s2=5 l1=7 l2=7 L3=0 PK_end=1592
(fs_start=1540)

TCCCACA
ACAGGCTAATTTTTTAGGGAAAATATGGCCT
GCCGGA GGGGA
TCCCTCA
GGAAACT

PK4B: -26.085000(kcal/mol): PK_start=1557 sp=9 s1=6 s2=4 l1=8 l2=34 L3=0 PK_end=1618
(fs_start=1540)

TCCCACAA
ACAGGCTAATTTTTTAGGGAAAATATGGCCT
GCCGGA GGGG
CCCCAC
GGAAACTTCCTCAGGGCAGACTAGAGCCGACAG

=====
(2053) FJ670529
=====

PK1: -15.140000(kcal/mol): PK_start=1517 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1545
(fs_start=1537)

CA
GAAAAGAAGGACACCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -21.980000(kcal/mol): PK_start=1522 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1559
(fs_start=1537)

C
GAAGGACACCAAATGAAAGACTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1546 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1579
(fs_start=1537)

AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AACAAGGGG

PK4: -18.485000(kcal/mol): PK_start=1552 sp=7 s1=9 s2=4 l1=6 l2=5 L3=0 PK_end=1588
(fs_start=1537)

CCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGAG GGGG
TTCTCC
GAACT

PK4B: -26.865000(kcal/mol): PK_start=1552 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1615
(fs_start=1537)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCGC
GAACTTTCTCCAGAACAGGCCAGAGCCAACAG

=====
(2054) FJ670530
=====

PK1: -11.420000(kcal/mol): PK_start=1527 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=1553
(fs_start=1547)

CACA
GAAAGGAGGGACATCAAATGAGAGACTG
GAC AGAGAG
TTTTTTAG
GCTAA

PK2: -18.660000(kcal/mol): PK_start=1534 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1569
(fs_start=1547)

C
GGGACATCAAATGAGAGACTGCACAGAGAGA
TTTTTT AATCGGA
TTGGCCTC
AGGGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1556 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1589
(fs_start=1547)

AAA
ACAGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AACAAGGGG

PK4: -18.485000(kcal/mol): PK_start=1562 sp=7 s1=9 s2=4 l1=6 l2=5 L3=0 PK_end=1598
(fs_start=1547)

CCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGAG GGGA
TTCTCC
GAATT

PK4B: -26.865000(kcal/mol): PK_start=1562 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1625
(fs_start=1547)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCTCCAGAACAGGCCAGAGCCAACAG

=====
(2055) FJ670531
=====

PK1: -13.555000(kcal/mol): PK_start=1516 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1544
(fs_start=1536)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC

TTTTTAGGG
GCTAAT
PK2: -20.460000(kcal/mol): PK_start=1521 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1557
(fs_start=1536)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1544 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1578
(fs_start=1536)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -24.995000(kcal/mol): PK_start=1551 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1588
(fs_start=1536)

TCCTACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGG
TCTCCA
GAATTT

PK4B: -24.150000(kcal/mol): PK_start=1551 sp=7 s1=7 s2=4 l1=1 l2=41 L3=9 PK_end=1614
(fs_start=1536)

T
AGACAGGCTAATTTTTTAGGGAAGATCTGGCC
GGACCGG AAGGGAACA TCCT
AGGAGA
GAATTTTCTCCAGAGCAGACCAGGCCAACAGCCCCACCAG

=====
(2056) FJ694790
=====

PK1: -13.205000(kcal/mol): PK_start=1430 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1457
(fs_start=1449)

A
AAAGGAAGGACACCAAATGAAAGAGTGT
ACA GAGAGTC
TTTTTAGGG
GGCTAAT

PK2: -20.460000(kcal/mol): PK_start=1434 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1470
(fs_start=1449)

C
GAAGGACACCAAATGAAAGAGTGTACTGAGAGA
GATTTTTT A ATCGGA

TGGCCTTC

GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1457 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1491
(fs_start=1449)

AAA

TACTGAGAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT

AGGCCAGGAA

ACAAGGGG

PK4: -28.540000(kcal/mol): PK_start=1464 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1501
(fs_start=1449)

CCAC

AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAGG GGAA

CCTTCA

AAACTT

PK4B: -30.395000(kcal/mol): PK_start=1464 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1527
(fs_start=1449)

TCCCACAA

AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT

GGACCGGA GGGG

CCCCAC

AAACTTCCTTCAGAGCAGACCAGAGCCATCAG

=====
(2057) FJ694791
=====

PK1: -15.585000(kcal/mol): PK_start=1416 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1444
(fs_start=1436)

A

GGAAGGAAGGACACCAAATGAAAGACTGT

GACA GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -21.940000(kcal/mol): PK_start=1421 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1458
(fs_start=1436)

C

GAAGGACACCAAATGAAAGACTGTACTGAGAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1445 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1478
(fs_start=1436)

AAA

ACTGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT

```

                                AGGCCAGGAA
                        AACAAGGGG

PK4:  -22.215000(kcal/mol): PK_start=1451 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1488
(fs_start=1436)
                                CCAACA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTT
                                GGACCGGAG      GGGA
                                TCCTCA
                        AAATTT

PK4B:  -27.345000(kcal/mol): PK_start=1451 sp=7 s1=8 s2=5 l1=7 l2=32 L3=0 PK_end=1515
(fs_start=1436)
                                TCCAACA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTT
                                GGACCGGA      GGGGA
                                CCCCTCC
                        AAATTTTCCTCAGAGCAGACCGGAACCAACAG

=====
(2058) FJ694792
=====

PK1:  -15.585000(kcal/mol): PK_start=1420 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1448
(fs_start=1440)
                                A
GGAAGGAAGGACACCAAATGAAAGACTGT
                                GACA      GAGAGTC
                                TTTTTAGGG
                        GCTAAT

PK2:  -21.940000(kcal/mol): PK_start=1425 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1462
(fs_start=1440)
                                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
                                GATTTTTT      AATCGGA
                                TTGGCCTTC
                        GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1449 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1482
(fs_start=1440)
                                AAA
ACTGAGAGACAGGCTAATTTTTTTAGGGA
                                CCT      TCCGGTTT
                                AGGCCAGGGA
                        AACAAGGGG

PK4:  -22.215000(kcal/mol): PK_start=1455 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1492
(fs_start=1440)
                                CCAACA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTT
                                GGACCGGAG      GGGA

```

TCCTCA

GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1455 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1518
(fs_start=1440)

TCCAACAA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG

CCCCAC

GAATTTTCCTCAGAGCAGACCGGAACCAACAG

=====

(2059) FJ771006

=====

PK1: -17.000000(kcal/mol): PK_start=1991 sp=0 s1=3 s2=9 l1=1 l2=5 L3=0 PK_end=2020
(fs_start=2011)

C

GAAAAGAAGGACACCAAATGAAAGACTG

GAC AGGAAGTCC

TTTTTTAGGGA

GCTAA

PK2: -26.800000(kcal/mol): PK_start=1994 sp=0 s1=10 s2=7 l1=1 l2=5 L3=0 PK_end=2033
(fs_start=2011)

C

AAGAAGGACACCAAATGAAAGACTGCCCTGAAGGA

GGGATTTTTT AATCGGA

TTGGCCTTC

AAAAT

PK3: -18.320000(kcal/mol): PK_start=2020 sp=0 s1=4 s2=4 l1=5 l2=10 L3=0 PK_end=2050
(fs_start=2011)

AATTT

CCTGAAGGACAGGCTAATTTTTTAGGGAA

CCTT CCGG

GGCCCG

AACAAAGGGGA

PK4: -22.820000(kcal/mol): PK_start=2029 sp=10 s1=7 s2=4 l1=4 l2=9 L3=0 PK_end=2063
(fs_start=2011)

CAAC

CAGGCTAATTTTTTAGGGAAAATTTGGCCTTC

CCGGAGG GGAA

CCTTCA

CGGGAATTT

PK4B: -24.675000(kcal/mol): PK_start=2029 sp=10 s1=5 s2=4 l1=8 l2=35 L3=0
PK_end=2089 (fs_start=2011)

TCCAACAA

CAGGCTAATTTTTTAGGGAAAATTTGGCCT

CCGGA GGGG

CCCCGC
CGGGAATTTCTTCAGAACAGGCCAGAGCCAACAG

=====
(2060) FJ771007
=====

PK1: -15.140000(kcal/mol): PK_start=1481 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1509
(fs_start=1501)

CA
GAAGAGAAGGACACCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTTAGGG
GCTAA

PK2: -21.980000(kcal/mol): PK_start=1486 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1523
(fs_start=1501)

C
GAAGGACACCAAATGAAAGACTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -18.320000(kcal/mol): PK_start=1510 sp=0 s1=4 s2=4 l1=5 l2=10 L3=0 PK_end=1540
(fs_start=1501)

AATTT
ACTGAAAGACAGGCTAATTTTTTTAGGGAA
CCTT CCGG
GGCCCG
AACAAGGGGA

PK4: -22.820000(kcal/mol): PK_start=1519 sp=10 s1=7 s2=4 l1=4 l2=9 L3=0 PK_end=1553
(fs_start=1501)

CAAC
CAGGCTAATTTTTTTAGGGAAAATTTGGCCTTC
CCGGAGG GGAA
CCTTCA
CGGAAATTT

PK4B: -24.675000(kcal/mol): PK_start=1519 sp=10 s1=5 s2=4 l1=8 l2=35 L3=0
PK_end=1579 (fs_start=1501)

TCCAACAA
CAGGCTAATTTTTTTAGGGAAAATTTGGCCT
CCGGA GGGG
CCCCGC
CGGGAATTTCTTCAGAACAGGCCAGAGCCAACAG

=====
(2061) FJ771008
=====

PK1: -15.140000(kcal/mol): PK_start=1512 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1540
(fs_start=1532)

CA
GAAGAGAAGGACACCAAATGAAAGACTG

GAC AGAAAGTC
TTTTTTAGGG
GTTAA
PK2: -18.490000(kcal/mol): PK_start=1517 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1554
(fs_start=1532)

C
GAAGGACACCAAATGAAAGACTGCACTGAAAGA
GATTTTTT AATTGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1541 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1574
(fs_start=1532)

AAA
ACTGAAAGACAGGTTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1547 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1584
(fs_start=1532)

CAAC
AGACAGGTTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1547 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1610
(fs_start=1532)

TCCAACAA
AGACAGGTTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCTTCAGAGCAGGACAGAGCCAACAG

=====
(2062) FJ771009
=====

PK1: -15.140000(kcal/mol): PK_start=1501 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1529
(fs_start=1521)

CA
GAAGGGAAGGACATCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -21.980000(kcal/mol): PK_start=1506 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1543
(fs_start=1521)

C
GAAGGACATCAAATGAAAGACTGCACTGAAAGA


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          GATTTTTT   AATCGGA
                    TTGGCCTTC
GGAAAAT

PK3:  -21.780000(kcal/mol): PK_start=1529 sp=0 s1=5 s2=4 l1=5 l2=9 L3=0 PK_end=1560
(fs_start=1521)
          AATTT
CACTGAAAGACAGGCTAATTTTTTAGGGAA
          CCCTT   CCGG
                    GGCCCG
          ACAAGGGGA

PK4:  -22.885000(kcal/mol): PK_start=1539 sp=10 s1=5 s2=5 l1=7 l2=8 L3=0 PK_end=1573
(fs_start=1521)
          TCCCACA
CAGGCTAATTTTTTAGGGAAAATTTGGCCT
          CCGGA   GGGGA
                    TCCCTCA
          CGGAACT

PK4B: -24.675000(kcal/mol): PK_start=1539 sp=10 s1=5 s2=4 l1=8 l2=35 L3=0
PK_end=1599 (fs_start=1521)
          TCCCACAA
CAGGCTAATTTTTTAGGGAAAATTTGGCCT
          CCGGA   GGGG
                    CCCCCG
          CGGAACTTCCCTCAGAGCAGGCCAGAGCCAACAG

=====
(2063) FJ771010
=====
PK1:  -12.560000(kcal/mol): PK_start=1827 sp=0 s1=3 s2=7 l1=3 l2=5 L3=0 PK_end=1854
(fs_start=1847)
          CAA
GAAAAGAGGGACACCAAATGAAAGACTG
          GAC   AGAAAGT
                    TTTTTTAGG
          GCTAA

PK2:  -19.700000(kcal/mol): PK_start=1833 sp=0 s1=7 s2=7 l1=1 l2=8 L3=0 PK_end=1869
(fs_start=1847)
          C
AGGGACACCAAATGAAAGACTGCAATGAAAGA
          ATTTTTT   AATCGGA
                    TTGGCCTTC
          GGGAGAAT

PK3:  -21.415000(kcal/mol): PK_start=1855 sp=0 s1=5 s2=4 l1=5 l2=9 L3=0 PK_end=1886
(fs_start=1847)
          AATTT
CAATGAAAGACAGGCTAATTTTTTAGGGAG

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          CCCTT   CCGG
                    GGCCCG
          ACAAGGGGA
PK4:  -22.885000(kcal/mol): PK_start=1865 sp=10 s1=5 s2=5 l1=7 l2=8 L3=0 PK_end=1899
(fs_start=1847)
                    TCCCACA
CAGGCTAATTTTTTTAGGGAGAATTTGGCCT
                    CCGGA   GGGGA
                    TCCCTCA
          CGGAAATT
PK4B:  -24.675000(kcal/mol): PK_start=1865 sp=10 s1=5 s2=4 l1=8 l2=35 L3=0
PK_end=1925 (fs_start=1847)
                    TCCCACAA
CAGGCTAATTTTTTTAGGGAGAATTTGGCCT
                    CCGGA   GGGG
                    CCCCAC
          CGGAAATTTCCCTCAGAAAAGGTTAGAACCAACAG
=====
(2064) FJ853620
=====
PK1:  -10.425000(kcal/mol): PK_start=1519 sp=0 s1=4 s2=6 l1=2 l2=5 L3=0 PK_end=1545
(fs_start=1539)
                    GA
GAAGGGAAGGACACCAAATGAAAGATTGT
                    GACA   GAGAGA
                    TTTTTTAG
          GCTAA
PK2:  -17.740000(kcal/mol): PK_start=1522 sp=0 s1=7 s2=6 l1=4 l2=9 L3=1 PK_end=1560
(fs_start=1539)
                    AGAC
GGGAAGGACACCAAATGAAAGATTGTGAAGAG
                    ATTTTTT  A  ATCGGA
                    TGGCCTTC
          GGGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1547 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1581
(fs_start=1539)
                    AAA
TGAAGAGAGACAGGCTAATTTTTTTAGGGA
                    CCCT   TCCGGTCT
                    AGGCCAGGGA
          ACAAGGGA
PK4:  -29.020000(kcal/mol): PK_start=1554 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1591
(fs_start=1539)
                    CCAC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC

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                GGACCGGAAG    GGAA
                                CCTTCA
          GAATTT
=====
(2065) FJ853621
=====
PK1:  -13.555000(kcal/mol): PK_start=1525 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1553
(fs_start=1545)
                A
GAAAGGAAGGACATCAAATGAAAGATTGT
                GACA    GAGAGTC
                                TTTTTAGGG
          GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1530 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1566
(fs_start=1545)
                C
GAAGGACATCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT    A    ATCGGA
                                TGGCCTTC
          GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1553 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1587
(fs_start=1545)
                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                CCCT    TCCGGTCT
                                AGGCCAGGAA
          ACAAGGGG

PK4:  -26.235000(kcal/mol): PK_start=1560 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1597
(fs_start=1545)
                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                GGACCGGAGG    GGAA
                                TCTTCA
          AAAC TT

PK4B:  -30.395000(kcal/mol): PK_start=1560 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1623
(fs_start=1545)
                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                GGACCGGA    GGGG
                                CCCCAC
          AAAC TTCTTCAGAGCAGACCAGACCAACAG
=====
(2066) FJ853622
=====

```

PK1: -13.070000(kcal/mol): PK_start=1506 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1534 (fs_start=1526)

CA
GAAAGGAAGGACACCAAATGAAGGATTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1511 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1548 (fs_start=1526)

C
GAAGGACACCAAATGAAGGATTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAGAT

PK3: -22.580000(kcal/mol): PK_start=1534 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1568 (fs_start=1526)

A
CACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTTT
GCCAGGGA
ACAAGGGGAG

PK4: -23.985000(kcal/mol): PK_start=1541 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1579 (fs_start=1526)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATTGGCCT
GGACCGGA GGGG
CTCCAG
GAATTTTC

PK4B: -26.865000(kcal/mol): PK_start=1541 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1604 (fs_start=1526)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCCCTCCAGAGCAGACCAGAGCCAACAG

=====
(2067) FJ864679
=====

PK1: -15.100000(kcal/mol): PK_start=1552 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1580 (fs_start=1572)

CA
GAAAGGAAGGCCATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1557 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1594
(fs_start=1572)

C
GAAGGCCATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAGAAT

PK3: -18.840000(kcal/mol): PK_start=1580 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1614
(fs_start=1572)

AA
CACTGAGAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTTT
GCCAGGAA
AGCAAAGGGAG

PK4: -21.815000(kcal/mol): PK_start=1587 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1624
(fs_start=1572)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
GGACCGGA GGG
TCCTCA
AAATTT

=====
(2068) FJ900266

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PK1: -15.140000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
(fs_start=1283)

CA
GAAGGGAAGGACACCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -21.980000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)

C
GAAGGACACCAAATGAAAGACTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAGAAT

PK3: -17.120000(kcal/mol): PK_start=1291 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1325
(fs_start=1283)

AA
CACTGAAAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTTT
GCCGGGAA
CACAAAGGGAG

PK4: -20.985000(kcal/mol): PK_start=1298 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1335
(fs_start=1283)

CCAC
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCTTC
GGGCCGGAGG GGAA
TCTTCA
AAATTT

PK4B: -25.145000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=1361
(fs_start=1283)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
GGGCCGGA GGGG
CCCCAC
AAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2069) FJ900267
=====

PK1: -15.140000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 l3=0 PK_end=1291
(fs_start=1283)

CA
GAAGAGAAGGACATCAAATGAAGGACTG
GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -21.980000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1305
(fs_start=1283)

C
GAAGGACATCAAATGAAGGACTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAGAAT

PK3: -17.120000(kcal/mol): PK_start=1291 sp=0 s1=5 s2=6 l1=2 l2=11 l3=0 PK_end=1325
(fs_start=1283)

AA
CACTGAAAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTTT
GCCGGGAA
AACAAGGGGAG

PK4: -20.985000(kcal/mol): PK_start=1298 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1335
(fs_start=1283)

CAAC
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCTTC
GGGCCGGAGG GGAA
TCTTCA
AAATTT

PK4B: -25.145000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1361
(fs_start=1283)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
GGGCCGGA GGGG
CCCCAC
AAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2070) FJ900268
=====

PK1: -15.140000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
(fs_start=1283)

CA
GAAGAGAAGGACATCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTTAGGG
GCTAA

PK2: -21.980000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)

C
GAAGGACATCAAATGAAAGACTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAGACT

PK3: -17.120000(kcal/mol): PK_start=1291 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1325
(fs_start=1283)

AC
CACTGAAAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTTT
GCCGGGAA
AACAAGGGGAG

PK4: -23.290000(kcal/mol): PK_start=1298 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1335
(fs_start=1283)

CAAC
AGACAGGCTAATTTTTTAGGGAGACTTTGGCCTTC
GGGCCGGAGG GGAA
CCTTCA
AAATTT

PK4B: -25.145000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1361
(fs_start=1283)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAGACTTTGGCCT
GGGCCGGA GGGG
CCCCAC
AAATTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2071) FJ904244
=====

PK1: -15.625000(kcal/mol): PK_start=1299 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1327
(fs_start=1319)

A
GGAAAGAAGGACACCAATTTAAAAGACTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -21.980000(kcal/mol): PK_start=1304 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1341
(fs_start=1319)

C
GAAGGACACCAATTTAAAAGACTGTACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -21.780000(kcal/mol): PK_start=1327 sp=0 s1=5 s2=4 l1=5 l2=12 l3=0 PK_end=1361
(fs_start=1319)

AATTT
TACTGAAAGACAGGCTAATTTTTTAGGGAA
CCCTT CCGG
GGCCCG
ACAAGGGGGGGA

PK4: -26.685000(kcal/mol): PK_start=1337 sp=10 s1=9 s2=4 l1=3 l2=9 l3=0 PK_end=1374
(fs_start=1319)

ACA
CAGGCTAATTTTTTAGGGAAAATTTGGCCTTCCC
CCGAGGGG GGGA
TCTTCA
CGGGAACTT

PK4B: -31.670000(kcal/mol): PK_start=1337 sp=10 s1=9 s2=4 l1=3 l2=36 l3=0
PK_end=1401 (fs_start=1319)

ACA
CAGGCTAATTTTTTAGGGAAAATTTGGCCTTCCC
CCGAGGGG GGGA
CCCTCC
CGGGAACTTCTTCAGAACAGGCCAGAGCCAACAGC

=====
(2072) FM877777
=====

PK1: -15.100000(kcal/mol): PK_start=2097 sp=0 s1=3 s2=8 l1=2 l2=5 l3=0 PK_end=2125
(fs_start=2117)

CA
GAAAGGAAGGACACCAAATGAAAGACTG
GAC AGAGAGTC


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                TTTTTTAGGG
      GCTAA
PK2:  -20.460000(kcal/mol): PK_start=2102 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2138
(fs_start=2117)
                C
GAAGGACACCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT A  ATCGGA
                TGGCCTTC
      GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=2125 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2159
(fs_start=2117)
                AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTCT
                AGGCCAGGGA
      ACAAGGGG
PK4:  -25.745000(kcal/mol): PK_start=2132 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=2169
(fs_start=2117)
                CCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT
                GGACCGGAG   GGGA
                TCCTCA
      GAACTT
PK4B:  -30.395000(kcal/mol): PK_start=2132 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2195
(fs_start=2117)
                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                GGACCGGA   GGGG
                CCCCAC
      GAACTTTCCTCAGAACAGGTTAGAGCCAACAG
=====
(2073) FM877778
=====
PK1:  -15.100000(kcal/mol): PK_start=2072 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2100
(fs_start=2092)
                CA
GAAGGGAAGGACACCAAATGAAAGACTG
                GAC   AGAGAGTC
                TTTTTTAGGG
      GCTAA
PK2:  -20.460000(kcal/mol): PK_start=2077 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2113
(fs_start=2092)
                C
GAAGGACACCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT A  ATCGGA

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TGGCCTTC

GGAAAATC

PK3: -26.775000(kcal/mol): PK_start=2098 sp=0 s1=5 s2=8 l1=4 l2=7 L3=0 PK_end=2134
(fs_start=2092)

AAAA

TGCACTGAGAGACAGGCTAATTTTTTAGGG

ATCCT TCCGGTCT

AGGCCAGGAA

CAAGGGG

PK4: -25.745000(kcal/mol): PK_start=2107 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=2144
(fs_start=2092)

CCTACA

AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT

GGACCGGAG GGGG

TCCTCA

AAACTT

PK4B: -30.395000(kcal/mol): PK_start=2107 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2170
(fs_start=2092)

TCCTACAA

AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT

GGACCGGA GGGG

CCCCAC

AAACTTTCCTCAGAACAGGTTAGAGCCAACAG

=====

(2074) FM877779

=====

PK1: -15.100000(kcal/mol): PK_start=2070 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2098
(fs_start=2090)

CA

GAAAGGAAGGACACCAAATGAAAGACTG

GAC AGAGAGTC

TTTTTTAGGG

GCTAA

PK2: -20.460000(kcal/mol): PK_start=2075 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2111
(fs_start=2090)

C

GAAGGACACCAAATGAAAGACTGCACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAAATC

PK3: -23.815000(kcal/mol): PK_start=2099 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2132
(fs_start=2090)

AAA

ACTGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTCT

AGGCCAGGGA

AACAAAGGGG

PK4: -27.650000(kcal/mol): PK_start=2105 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=2143
(fs_start=2090)

TTCCAACAA

AGACAGGCTAATTTTTTAGGGAAAATCTGGCC

GGACCGG AGGGG

TCCTCAG

GAACTT

=====
(2075) FM877780
=====

PK1: -15.100000(kcal/mol): PK_start=1560 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1588
(fs_start=1580)

CA

GAAAGGAAGGACACCAAATGAAAGACTG

GAC AGAGAGTC

TTTTTTAGGG

GCTAA

PK2: -20.460000(kcal/mol): PK_start=1565 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1601
(fs_start=1580)

C

GAAGGACACCAAATGAAAGACTGCACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAAATC

PK3: -23.815000(kcal/mol): PK_start=1589 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1622
(fs_start=1580)

AAA

ACTGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTCT

AGGCCAGGAA

AACAAAGGG

PK4: -26.370000(kcal/mol): PK_start=1595 sp=7 s1=7 s2=4 l1=10 l2=6 L3=0 PK_end=1632
(fs_start=1580)

TTCCAACAAA

AGACAGGCTAATTTTTTAGGGAAAATCTGGCC

GGACCGG AGGG

TCCCA

AAACTT

=====
(2076) FM877781
=====

PK1: -15.140000(kcal/mol): PK_start=2065 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2093
(fs_start=2085)

CA

GACAGGAAGGACACCAAATGAAAGACTG

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          GAC   AGAAAGTC
                TTTTTTAGGG
    GCTAA
PK2:  -20.50000(kcal/mol): PK_start=2070 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2106
(fs_start=2085)
                C
    GAAGGACACCAAATGAAAGACTGCACTGAAAGA
                GATTTTTT A  ATCGGA
                                TGGCCTTC
    GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=2093 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2127
(fs_start=2085)
                AAA
    CACTGAAAGACAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTCT
                                AGGCCAGGAA
    ACAAGGGG
PK4:  -27.650000(kcal/mol): PK_start=2100 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=2138
(fs_start=2085)
                TTCCCACAA
    AGACAGGCTAATTTTTTAGGGAAAATCTGGCC
                GGACCGG   AGGGG
                                TCCTCAG
    AAACCT
PK4B:  -22.830000(kcal/mol): PK_start=2101 sp=8 s1=6 s2=4 l1=9 l2=33 L3=1 PK_end=2162
(fs_start=2085)
                TTCCCACAA
    GACAGGCTAATTTTTTAGGGAAAATCTGGCC
                GACCGG  A  GGGG
                                CTCCAC
    GAAACTTTCCTCAGAACAGGATAGAGCCAACAG
=====
(2077) FM877782
=====
PK1:  -10.640000(kcal/mol): PK_start=2064 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=2102
(fs_start=2095)
                A
    TTGGAAATGTGGAAGGAAGGACACCAA
                GTT   AGAAAGT
                                TTTTTTAGG
    CACTGAGAGACAGGCTAA
PK2:  -20.460000(kcal/mol): PK_start=2080 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2116
(fs_start=2095)
                C
    GAAGGACACCAAATGAAAGATTGCACTGAGAGA

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          GATTTTTT A ATCGGA
                    TGGCCTCC
GGAGATTC
PK3:  -25.30000(kcal/mol): PK_start=2103 sp=0 s1=4 s2=8 l1=2 l2=10 L3=0 PK_end=2138
(fs_start=2095)
          GA
CACTGAGAGACAGGCTAATTTTTTAGGGA
          CCCT   CCGGTCTT
                    GGCCAGGGAA
AACAAAGGGGA
PK4:  -27.645000(kcal/mol): PK_start=2109 sp=6 s1=10 s2=4 l1=6 l2=5 L3=0 PK_end=2147
(fs_start=2095)
                    CCAACA
GAGACAGGCTAATTTTTTAGGGAGATTCTGGCCTC
          GGGACCGGAG   GGGA
                    TCCTCA
AATTT
PK4B:  -24.260000(kcal/mol): PK_start=2110 sp=7 s1=7 s2=4 l1=9 l2=32 L3=1 PK_end=2172
(fs_start=2095)
                    TCCCAACAA
AGACAGGCTAATTTTTTAGGGAGATTCTGGCC
          GGACCGG A GGGG
                    CTCCAC
GAATTTTCCTCAGAGCAGGTTAGTGCCAACAG
=====
(2078) FM877783
=====
PK1:  -10.640000(kcal/mol): PK_start=2067 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=2105
(fs_start=2098)
          A
TTGGAAATGTGGACAGGAAGGACACCAA
          GTT   AGAAAGT
                    TTTTTTAGG
CACTGAAAGACAGGCTAA
PK2:  -21.980000(kcal/mol): PK_start=2083 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2120
(fs_start=2098)
          C
GAAGGACACCAAATGAAAGATTGCACTGAAAGA
          GATTTTTT   AATCGGA
                    TTGGCCTTC
GGAAAAT
PK3:  -23.745000(kcal/mol): PK_start=2106 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2140
(fs_start=2098)
          AAA
CACTGAAAGACAGGCTAATTTTTTAGGGA

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          CCCT   TCCGGTTT
                AGGCCAGGAA
ACAAGGGG
PK4:  -22.215000(kcal/mol): PK_start=2113 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=2150
(fs_start=2098)
                CCCACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
                GGACCGGAG   GGGA
                                TCCTCA
                AAATTT

PK4B:  -26.865000(kcal/mol): PK_start=2113 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2176
(fs_start=2098)
                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA   GGGG
                                CCCCAC
                AAATTTTCCTCAGAACAGGTTAGAGCCAACAG

=====
(2079) FM877784
=====
PK1:  -15.100000(kcal/mol): PK_start=1262 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1290
(fs_start=1282)
                CA
GGAAGGAGGGACACCAAATGAAAGACTG
                GAC   AGAGAGTC
                                TTTTTTAGGG
                GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1267 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1304
(fs_start=1282)
                C
GAGGGACACCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT   AATCGGA
                                TTGGCCTTC
                GGAAAAT

PK3:  -20.865000(kcal/mol): PK_start=1290 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1324
(fs_start=1282)
                AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA
                CTCT   TCCGGTTT
                                AGGCCAGGGA
                AAAAGGGG

PK4:  -22.215000(kcal/mol): PK_start=1297 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1334
(fs_start=1282)
                CTCAAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT

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                GGACCGGAG    GGGA
                                TCCTCA
          GAACTT
PK4B:  -26.865000(kcal/mol): PK_start=1297 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1360
(fs_start=1282)
                                TCTCAAAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA    GGGG
                                CCCCCG
          GAACTTTCCTCAGAGCAGGTTAGAGCCAACAG

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=====
(2080) FN392874
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PK1:  -15.100000(kcal/mol): PK_start=1574 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1602
(fs_start=1594)
                CA
GGAAGGAAGGACAYCAAATGAAAGACTG
                GAC    AGAGAGTC
                                TTTTTTAGGG
          GCTAA

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PK2:  -20.460000(kcal/mol): PK_start=1579 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1615
(fs_start=1594)
                C
GAAGGACAYCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT    A    ATCGGA
                                TGGCCTTC
          GGAAAATY

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PK3:  -21.005000(kcal/mol): PK_start=1603 sp=0 s1=3 s2=6 l1=5 l2=9 L3=0 PK_end=1634
(fs_start=1594)
                AAATY
ACTGAGAGACAGGCTAATTTTTTAGGGA
                CCT    TCCGGT
                                AGGCCAGG
          AGCAAAGGG

```

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PK4:  -22.600000(kcal/mol): PK_start=1611 sp=9 s1=8 s2=4 l1=4 l2=5 L3=0 PK_end=1643
(fs_start=1594)
                                CAGC
ACAGGCTAATTTTTTAGGGAAAATYTGGCCTTC
                ACCGGAGG    GAAA
                                CTTTCC
          GGGAA

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=====
(2081) FN392875
=====

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PK1: -12.52000(kcal/mol): PK_start=1561 sp=0 s1=3 s2=7 l1=3 l2=5 l3=0 PK_end=1588 (fs_start=1581)

CAA
GAAAGGAAGGACACCAAATGAAAGACTG
GAC AGAGAGT
TTTTTTTAGG
GCTAA

PK2: -19.66000(kcal/mol): PK_start=1567 sp=0 s1=7 s2=7 l1=1 l2=8 l3=0 PK_end=1603 (fs_start=1581)

C
AAGGACACCAAATGAAAGACTGCAATGAGAGA
ATTTTTT AATCGGA
TTGGCCTTC
GGGAAAAT

PK3: -20.28500(kcal/mol): PK_start=1590 sp=0 s1=3 s2=8 l1=3 l2=9 l3=0 PK_end=1623 (fs_start=1581)

AAA
AATGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AGCAAAGGG

PK4: -21.81500(kcal/mol): PK_start=1596 sp=7 s1=8 s2=4 l1=8 l2=6 l3=0 PK_end=1633 (fs_start=1581)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGG
TCCTCA
AAATTT

=====
(2082) FN392876
=====

PK1: -15.10000(kcal/mol): PK_start=1566 sp=0 s1=3 s2=8 l1=2 l2=5 l3=0 PK_end=1594 (fs_start=1586)

CA
GGAGTGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTTAGGG
GCTAA

PK2: -21.94000(kcal/mol): PK_start=1571 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1608 (fs_start=1586)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAGAAT

PK3: -18.840000(kcal/mol): PK_start=1594 sp=0 s1=5 s2=6 l1=2 l2=11 l3=0 PK_end=1628
(fs_start=1586)

AA
CACTGAGAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTTT
GCCAGGAA
AGCAAAGGGAG

PK4: -22.760000(kcal/mol): PK_start=1601 sp=7 s1=8 s2=4 l1=1 l2=19 l3=7 PK_end=1644
(fs_start=1586)

T
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
GGACCGGA GGGAAAC GACC
CTGGAG
AAACTTYCATCAAAACAGA

=====
(2083) FN392877
=====

PK1: -12.560000(kcal/mol): PK_start=1538 sp=0 s1=3 s2=7 l1=3 l2=5 l3=0 PK_end=1565
(fs_start=1558)

CAG
GGAAAGAAGGACACCAAATGAAAGACTG
GAC AGAAAGT
TTTTTTAGG
GCTAA

PK2: -19.600000(kcal/mol): PK_start=1544 sp=0 s1=7 s2=7 l1=1 l2=8 l3=0 PK_end=1580
(fs_start=1558)

C
AAGGACACCAAATGAAAGACTGCAGTGAAAGA
ATTTTTT AATCGGA
TTGGCCTTC
GGGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1567 sp=0 s1=3 s2=8 l1=3 l2=9 l3=0 PK_end=1600
(fs_start=1558)

AAA
AGTGAAAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AACAAAGGG

PK4: -21.815000(kcal/mol): PK_start=1573 sp=7 s1=8 s2=4 l1=8 l2=6 l3=0 PK_end=1610
(fs_start=1558)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGG
TCCTCA
AAACTT

=====
(2084) FR846408
=====

PK1: -10.440000(kcal/mol): PK_start=1997 sp=0 s1=3 s2=7 l1=1 l2=18 l3=0 PK_end=2035
(fs_start=2028)

A
TTGGAATGTGGAAAGGAGGGACATCAA
GTT AGAAAGT
TTTTTTAGG
CACAGAGAGACAGGCTAA

PK2: -18.660000(kcal/mol): PK_start=2015 sp=0 s1=6 s2=7 l1=1 l2=9 l3=0 PK_end=2050
(fs_start=2028)

C
GGGACATCAAATGAAAGATTGCACAGAGAGA
TTTTTT AATCGGA
TTGGCCTTC
AGGGAAAAT

PK3: -20.285000(kcal/mol): PK_start=2037 sp=0 s1=3 s2=8 l1=3 l2=9 l3=0 PK_end=2070
(fs_start=2028)

AAA
ACAGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AACAAGGGG

PK4: -18.485000(kcal/mol): PK_start=2043 sp=7 s1=9 s2=4 l1=6 l2=5 l3=0 PK_end=2079
(fs_start=2028)

CCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGAG GGGA
TTCTCC
GAATT

PK4B: -26.865000(kcal/mol): PK_start=2043 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=2106
(fs_start=2028)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCTCCAGAACAGGCCAGAGCCAACAG

=====
(2085) FR846409
=====

PK1: -11.420000(kcal/mol): PK_start=2007 sp=0 s1=3 s2=6 l1=4 l2=5 l3=0 PK_end=2033
(fs_start=2027)

CACA
GAAGGGAAGGACATCAAATGAAAGACTG
GAC AGAGAG

```

                TTTTTTAG
          GCTAA
PK2:  -18.660000(kcal/mol): PK_start=2014 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=2049
(fs_start=2027)
                C
AGGACATCAAATGAAAGACTGCACAGAGAGA
                TTTTTT   AATCGGA
                TTGGCCTTC
          AGGGAAAAT
PK3:  -23.745000(kcal/mol): PK_start=2035 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2069
(fs_start=2027)
                AAA
CACAGAGAGACAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTTT
                AGGCCAGGGA
          ACAAGGGA
PK4:  -21.465000(kcal/mol): PK_start=2042 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=2079
(fs_start=2027)
                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA   AGGG
                TCTCCA
          GAACTT

=====
(2086) FR846410
=====
PK1:  -11.420000(kcal/mol): PK_start=1983 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=2009
(fs_start=2003)
                CACA
GAAAGGAGGGACACCAAATGAAAGACTG
                GAC   AGAGAG
                TTTTTTAG
          GCTAA
PK2:  -18.660000(kcal/mol): PK_start=1990 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=2025
(fs_start=2003)
                C
GGGACACCAAATGAAAGACTGCACAGAGAGA
                TTTTTT   AATCGGA
                TTGGCCTTC
          AGGGAAAAT
PK3:  -20.285000(kcal/mol): PK_start=2012 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2045
(fs_start=2003)
                AAA
ACAGAGAGACAGGCTAATTTTTTAGGGA
                CCT   TCCGGTTT

```

AGGCCAGGGA
 AACAAGGGA

PK4: -21.465000(kcal/mol): PK_start=2018 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=2055
 (fs_start=2003)

TCCAACAA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA AGGG
 TCTCCA

GAACTT

=====
 (2087) FW555696
 =====

PK1: -13.555000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2092
 (fs_start=2084)

A

GAAAGGAAGGACACCAAATGAAAGATTGT

GACA GAGAGTC
 TTTTTAGGG

GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2105
 (fs_start=2084)

C

GAAGGACACCAAATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA
 TGGCCTTC

GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=2092 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=2126
 (fs_start=2084)

A

TACTGAGAGACAGGCTAATTTTTTAGGGAAG

CCCTTC CGGTCT
 GCCAGGGA

ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=2099 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2136
 (fs_start=2084)

CCAC

AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC

GGACCGGAAG GGAA
 TCTTCA

GAATTT

=====
 (2088) GQ175881
 =====

PK1: -13.555000(kcal/mol): PK_start=1269 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1297
 (fs_start=1289)

A

GGAAGGAAGGACATCAAATGAAAGATTGT

```

          GACA    GAGAGTC
                TTTT TAGGA
    GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1310
(fs_start=1289)
                C
GAAGGACATCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT A  ATCGGA
                                TGGCCTTC
                GAAA ACTC

PK3:  -27.225000(kcal/mol): PK_start=1297 sp=0 s1=3 s2=9 l1=3 l2=9 L3=0 PK_end=1332
(fs_start=1289)
                AAA
TACTGAGAGACAGGCTAATTTTTTAGGA
                CCT    TCCGGTCTC
                                AGGCCAGGGAA
                CACAAGGGG

PK4:  -33.005000(kcal/mol): PK_start=1303 sp=6 s1=9 s2=4 l1=8 l2=31 L3=0 PK_end=1367
(fs_start=1289)
                TCCCACAA
GAGACAGGCTAATTTTTTAGGAAA ACTCTGGCCT
                GGGACCGGA    GGGG
                                CCCCAC
                AACTTTATTCAGAGCAGACCAGAGCCAACAG

=====
(2089) GQ175882
=====
PK1:  -13.555000(kcal/mol): PK_start=1278 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1306
(fs_start=1298)
                A
GGAAGGAAGGACATCAAATGAAAGATTGT
                GACA    GAGAGTC
                                TTTT TAGGG
                GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1283 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1319
(fs_start=1298)
                C
GAAGGACATCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT A  ATCGGA
                                TGGCCTTC
                GGAAGATC

PK3:  -25.060000(kcal/mol): PK_start=1306 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1340
(fs_start=1298)
                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG

```

TCCTTC CGGTCT
 GCCAGGGA
 ACAAGGGAAG

PK4: -24.150000(kcal/mol): PK_start=1313 sp=7 s1=7 s2=4 l1=1 l2=41 L3=9 PK_end=1376
 (fs_start=1298)

T
 AGACAGGCTAATTTTTTAGGGAAGATCTGGCC

GGACCGG AAGGGAACA TCCT
 AGGAGA
 GAATTTTATTCAGAGCAGACCAGAGCCAACAGCCCCACCAG

=====
 (2090) GQ175883
 =====

PK1: -13.555000(kcal/mol): PK_start=1269 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1297
 (fs_start=1289)

A
 GAAAGGAAGGACATCAAATGAAAGATTGT

GACA GAGAGTC
 TTTTTAGGA
 GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1310
 (fs_start=1289)

C
 GAAGGACATCAAATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA
 TGGCCTTC
 GAAAGCTC

PK3: -17.340000(kcal/mol): PK_start=1300 sp=0 s1=3 s2=6 l1=1 l2=13 L3=0 PK_end=1331
 (fs_start=1289)

C
 TGAGAGACAGGCTAATTTTTTAGGAAAG

TTC CGGTCT
 GCCAGGGA
 CCCACAAGGGGAG

PK4: -32.705000(kcal/mol): PK_start=1303 sp=6 s1=9 s2=4 l1=8 l2=31 L3=0 PK_end=1367
 (fs_start=1289)

TCCCACAA
 GAGACAGGCTAATTTTTTAGGAAAGCTCTGGCCT

GGGACCGGA GGGG
 CCCCAC
 AACTTTATTCAGAGCAGACCAGAGCCAACAG

=====
 (2091) GQ229529
 =====

PK1: -15.10000(kcal/mol): PK_start=1248 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1276
(fs_start=1268)

CA
GGAAGGAAGGACACCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.94000(kcal/mol): PK_start=1253 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1290
(fs_start=1268)

C
GAAGGACACCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.28500(kcal/mol): PK_start=1277 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1310
(fs_start=1268)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AGCAAAGGG

PK4: -21.81500(kcal/mol): PK_start=1283 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1320
(fs_start=1268)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGG
TCCTCA
GAATTT

=====
(2092) GQ277610
=====

PK1: -13.06500(kcal/mol): PK_start=1428 sp=0 s1=3 s2=8 l1=5 l2=16 L3=0 PK_end=1470
(fs_start=1463)

TCAAA
GTTGTTGGAAATGTGGGCAGGAAGGACA
TGT TAGAAAGT
ATTTTTTAGG
ACCGAGAGACAGGCTA

PK2: -17.18000(kcal/mol): PK_start=1450 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=1484
(fs_start=1463)

C
AGGACATCAAATGAAAGATTGTACCGAGAGA
TTTTTT A ATCGGA
TGGCCTTC
AGGGAAGCTC

PK3: -26.110000(kcal/mol): PK_start=1471 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1505 (fs_start=1463)

C
TACCGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGGAG

PK4: -26.095000(kcal/mol): PK_start=1477 sp=6 s1=9 s2=4 l1=8 l2=6 l3=0 PK_end=1516 (fs_start=1463)

TCCCACAA
GAGACAGGCTAATTTTTTAGGGAAGCTCTGGCCT
GGGACCGGA GGGG
CTTCAG
AATTTTC

PK4B: -32.705000(kcal/mol): PK_start=1477 sp=6 s1=9 s2=4 l1=8 l2=31 l3=0 PK_end=1541 (fs_start=1463)

TCCCACAA
GAGACAGGCTAATTTTTTAGGGAAGCTCTGGCCT
GGGACCGGA GGGG
CCCCAC
AATTTTCCTTCAGAGCCGACCAGAGCCAACAG

=====
(2093) GQ290462
=====

PK1: -10.640000(kcal/mol): PK_start=1512 sp=0 s1=3 s2=7 l1=1 l2=18 l3=0 PK_end=1550 (fs_start=1543)

A
TTGGAAATGTGGAAGAGAAGGACACCAA
GTT AGAAAGT
TTTTTTAGG
CACTGAGAGACAGGCTAA

PK2: -21.940000(kcal/mol): PK_start=1528 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1565 (fs_start=1543)

C
GAAGGACACCAAATGAAAGATTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAGAAT

PK3: -18.840000(kcal/mol): PK_start=1551 sp=0 s1=5 s2=6 l1=2 l2=11 l3=0 PK_end=1585 (fs_start=1543)

AA
CACTGAGAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTTT
GCCAGGGA
AGCAAAGGGAG

PK4: -21.815000(kcal/mol): PK_start=1558 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1595
(fs_start=1543)

```

                                TCCAGCAA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
                                GGACCGGA   GGG
                                TCCTCA
                                GAATTT
```

=====
(2094) GQ324958
=====

PK1: -13.065000(kcal/mol): PK_start=1526 sp=0 s1=3 s2=8 l1=5 l2=22 L3=0 PK_end=1574
(fs_start=1567)

```

                                TCAAA
GCTGTTGGAAGTGTGGGCAAGAAGGACA
                                TGT   TAGAAAGT
                                ATTTTTTAGG
                                AAAAAATGAAGGAAGACAGGCTA
```

PK2: -14.180000(kcal/mol): PK_start=1550 sp=0 s1=7 s2=6 l1=4 l2=9 L3=1 PK_end=1588
(fs_start=1567)

```

                                AGAC
GACATCAAATGAAAGATTGTAAAAATGAAGGA
                                ATTTTTT  A  ATCGGA
                                TGGTCTCC
                                GGCAAGGGC
```

PK3: -23.845000(kcal/mol): PK_start=1578 sp=0 s1=5 s2=6 l1=1 l2=7 L3=0 PK_end=1607
(fs_start=1567)

```

                                C
AGGAAGACAGGCTAATTTTTTAGGCAAGGG
                                TTCCC   TCTGGT
                                AGACCAGG
                                CAAAGGG
```

PK4: -25.970000(kcal/mol): PK_start=1578 sp=3 s1=4 s2=8 l1=1 l2=6 L3=0 PK_end=1608
(fs_start=1567)

```

                                G
AGGAAGACAGGCTAATTTTTTAGGCAAGG
                                TTCC   CTCTGGTC
                                GAGACCAGG
                                CAAAGG
```

=====
(2095) GQ324959
=====

PK1: -10.440000(kcal/mol): PK_start=1531 sp=0 s1=3 s2=7 l1=1 l2=24 L3=0 PK_end=1575
(fs_start=1568)

```

                                A
TTGGAAGTGTGGGCAAGAAGGACATCAA
                                GTT   AGAAAGT
```

TTTTTTAGG
CAACAATGAAGGAAGACAGGCTAA

PK2: -14.180000(kcal/mol): PK_start=1551 sp=0 s1=7 s2=6 l1=4 l2=9 L3=1 PK_end=1589
(fs_start=1568)

AGAC
GACATCAAATGAAAGATTGCAACAATGAAGGA

ATTTTTT A ATCGGA
TGGTCTCC
GGCAGGGGC

PK3: -23.495000(kcal/mol): PK_start=1579 sp=0 s1=5 s2=6 l1=1 l2=7 L3=0 PK_end=1608
(fs_start=1568)

C
AGGAAGACAGGCTAATTTTTTAGGCAGGGG

TTCCC TCTGGT
AGACCAGG
CAAAGGG

PK4: -25.620000(kcal/mol): PK_start=1579 sp=3 s1=4 s2=8 l1=1 l2=6 L3=0 PK_end=1609
(fs_start=1568)

G
AGGAAGACAGGCTAATTTTTTAGGCAGGG

TTCC CTCTGGTC
GAGACCAGGA
CAAAGG

=====
(2096) GQ324962
=====

PK1: -13.065000(kcal/mol): PK_start=1525 sp=0 s1=3 s2=8 l1=5 l2=22 L3=0 PK_end=1573
(fs_start=1566)

TCAAA
GCTGTTGGAAGTGTGGGCAGGAAGGACA

TGT TAGAAAGT
ATTTTTTAGG
AAAAATGAAGGAAGACAGGCTA

PK2: -14.180000(kcal/mol): PK_start=1549 sp=0 s1=7 s2=6 l1=4 l2=9 L3=1 PK_end=1587
(fs_start=1566)

AGAC
GACATCAAATGAAAGATTGTAAAAATGAAGGA

ATTTTTT A ATCGGA
TGGTCTCC
GGAAGGGGC

PK3: -23.495000(kcal/mol): PK_start=1577 sp=0 s1=5 s2=6 l1=1 l2=7 L3=0 PK_end=1606
(fs_start=1566)

C
AGGAAGACAGGCTAATTTTTTAGGAAGGGG

TTCCC TCTGGT

```

                                AGACCAGG
          CAAAGGG
PK4:  -25.62000(kcal/mol): PK_start=1577 sp=3 s1=4 s2=8 l1=1 l2=6 L3=0 PK_end=1607
(fs_start=1566)
                                G
AGGAAGACAGGCTAATTTTTTAGGAAGGG
          TTCC      CTCTGGTC
                                GAGACCAGG
          CAAAGG

=====
(2097) GQ365649
=====
PK1:  -10.97500(kcal/mol): PK_start=1650 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=1677
(fs_start=1670)
                                AA
GAAAGGAAGGACACCAAATGAAAGATTGT
          GACA      GAGAGT
                                TTTTTAGG
          GCTAAT

PK2:  -18.18000(kcal/mol): PK_start=1656 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1691
(fs_start=1670)
                                C
AAGGACACCAAATGAAAGATTGTAATGAGAGA
          ATTTTTT  A  ATCGGA
                                TGGCCTTC
          GGAAGATC

PK3:  -26.11000(kcal/mol): PK_start=1678 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1712
(fs_start=1670)
                                A
TAATGAGAGACAGGCTAATTTTTTAGGGAAG
          CCCTTC      CGGTCT
                                GCCAGGGA
          ACAAGGGAAG

PK4:  -26.44500(kcal/mol): PK_start=1685 sp=7 s1=8 s2=5 l1=7 l2=4 L3=0 PK_end=1721
(fs_start=1670)
                                TCCCACA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
          GGACCGGA      AGGGA
                                TTCCTCC
          GAAT

=====
(2098) GQ365650
=====
PK1:  -14.98500(kcal/mol): PK_start=1639 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1667
(fs_start=1659)
                                A
GAAGGGAAGGACATCAAATGAAAGACTGT

```

GACG GAGAGTC
TTTTTAGGG
GCTAAT
PK2: -20.330000(kcal/mol): PK_start=1644 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1681
(fs_start=1659)

C
GAAGGACATCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1667 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1701
(fs_start=1659)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -23.985000(kcal/mol): PK_start=1674 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1712
(fs_start=1659)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CTCCAG
GAATTTT

PK4B: -26.865000(kcal/mol): PK_start=1674 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1737
(fs_start=1659)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCTCCAGAGCAGACCAGACCAACAG

=====
(2099) GQ365651
=====

PK1: -15.025000(kcal/mol): PK_start=1599 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1627
(fs_start=1619)

T
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -21.190000(kcal/mol): PK_start=1603 sp=0 s1=8 s2=7 l1=2 l2=6 L3=1 PK_end=1640
(fs_start=1619)

GC
GGAAGGACACCAAATGAAAGACTGTTCTGAAAG

```

GGATTTTT T AATCGGA
TTGGCCTTC
GAGAAT
PK3: -18.84000(kcal/mol): PK_start=1627 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1661
(fs_start=1619)
AA
TTCTGAAAGGCAGGCTAATTTTTTAGGGAG
CCTTC CGGTTT
GCCAGGGA
CACAAAGGGGAG
PK4: -23.985000(kcal/mol): PK_start=1634 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1672
(fs_start=1619)
TCCCACAA
AGGCAGGCTAATTTTTTAGGGAGAATTTGGCCT
GGACCGGA GGGG
CTCCAG
GAACTTC
PK4B: -26.865000(kcal/mol): PK_start=1634 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1697
(fs_start=1619)
TCCCACAA
AGGCAGGCTAATTTTTTAGGGAGAATTTGGCCT
GGACCGGA GGGG
CCCCAA
GAACTTCTCCAGAGCAGACCAGAGCCAACAG
=====
(2100) GQ365652
=====
PK1: -15.625000(kcal/mol): PK_start=1592 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1620
(fs_start=1612)
A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT
PK2: -21.980000(kcal/mol): PK_start=1597 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1634
(fs_start=1612)
C
GAAGGACACCAAATGAAAGACTGTACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT
PK3: -22.025000(kcal/mol): PK_start=1620 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1654
(fs_start=1612)
AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA

```

```

          CCCT   TCCGGTTT
                AGGCCGGGAA
ACAAGGGG
PK4:  -25.145000(kcal/mol): PK_start=1627 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1665
(fs_start=1612)
                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGGCCGGA   GGGG
                CCCAG
          AAATTC

PK4B:  -25.145000(kcal/mol): PK_start=1627 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1690
(fs_start=1612)
                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGGCCGGA   GGGG
                CCCAC
          AAATTTCCCCAGAGCAGACTAGAGCCAACAG

=====
(2101) GQ372986
=====
PK1:  -15.100000(kcal/mol): PK_start=1495 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1523
(fs_start=1515)
                CA
GGAAGGAGGGACACCAAATGAAAGACTG
                GAC   AGAGAGTC
                TTTTTTAGGG
          GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1500 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1537
(fs_start=1515)
                C
GAGGGACACCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT   AATCGGA
                TTGGCCTTC
          GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1524 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1557
(fs_start=1515)
                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                CCT   TCCGGTTT
                AGGCCAGGAA
          AGCAATGGA

PK4:  -20.510000(kcal/mol): PK_start=1530 sp=7 s1=7 s2=4 l1=10 l2=4 L3=0 PK_end=1565
(fs_start=1515)
                TTCCAGCAAT
AGACAGGCTAATTTTTTAGGGAAAATTTGGCC

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                GGACCGG    AAGG
                    TTCCCT
AAAT
=====
(2102) GQ372987
=====
PK1:  -15.140000(kcal/mol): PK_start=1506 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1534
(fs_start=1526)
                CA
GAAAAGAAGGACACCAAATGAAAGACTG
                GAC    AGAAAGTC
                    TTTTTTAGGG
GCTAA

PK2:  -21.980000(kcal/mol): PK_start=1511 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1548
(fs_start=1526)
                C
GAAGGACACCAAATGAAAGACTGCACTGAAAGA
                GATTTTTT    AATCGGA
                    TTGGCCTTC
GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1535 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1568
(fs_start=1526)
                AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
                CCT    TCCGGTTT
                    AGGCCAGGGA
AGCAAGGGG

PK4:  -18.485000(kcal/mol): PK_start=1541 sp=7 s1=9 s2=4 l1=6 l2=5 L3=0 PK_end=1577
(fs_start=1526)
                CCAGCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
                GGACCGGAG    GGGA
                    TTCTCC
GAATT

PK4B: -26.865000(kcal/mol): PK_start=1541 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1604
(fs_start=1526)
                TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA    GGGG
                    CCCCCG
GAATTTTCTCCAGAACAGGCCAGCCAACAG
=====
(2103) GQ372988
=====

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PK1: -13.555000(kcal/mol): PK_start=1523 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1551
(fs_start=1543)

A
GACAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1528 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1564
(fs_start=1543)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -24.395000(kcal/mol): PK_start=1551 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1585
(fs_start=1543)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CTCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=1558 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1595
(fs_start=1543)

TCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

=====
(2104) GQ372989
=====

PK1: -10.640000(kcal/mol): PK_start=1499 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1537
(fs_start=1530)

A
TTGGAAATGTGGAAAAGAAGGACACCAA
GTT AGAAAGT
TTTTTTAGG
CACTGAAAGACAGGCTAA

PK2: -21.980000(kcal/mol): PK_start=1515 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1552
(fs_start=1530)

C
GAAGGACACCAAATGAAAGATTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAGAAT

PK3: -18.355000(kcal/mol): PK_start=1539 sp=0 s1=4 s2=4 l1=5 l2=10 l3=0 PK_end=1569 (fs_start=1530)

AATTT
ACTGAAAGACAGGCTAATTTTTTTAGGGAG
CCTT CCGG
GGCCTG
AACAAGGGGA

PK4: -20.515000(kcal/mol): PK_start=1548 sp=10 s1=7 s2=4 l1=4 l2=9 l3=0 PK_end=1582 (fs_start=1530)

CAAC
CAGGCTAATTTTTTTAGGGAGAATTTGGCCTC
CCGGAGG GGAA
TCTTCA
TGGAAATTT

PK4B: -24.675000(kcal/mol): PK_start=1548 sp=10 s1=5 s2=4 l1=8 l2=35 l3=0 PK_end=1608 (fs_start=1530)

TCCAACAA
CAGGCTAATTTTTTTAGGGAGAATTTGGCCT
CCGGA GGGG
CCCCGC
TGGAAATTTCTTCAGAACAGACCAGAGCCAACAG

=====
(2105) GQ372990
=====

PK1: -13.595000(kcal/mol): PK_start=1517 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1545 (fs_start=1537)

A
GACAGGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1522 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1558 (fs_start=1537)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1545 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=1579 (fs_start=1537)

AAA
TACTGAAAGACAGGCTAATTTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGAA
ACAAGGGG

PK4: -28.54000(kcal/mol): PK_start=1552 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1589
(fs_start=1537)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
AAATTT

PK4B: -30.395000(kcal/mol): PK_start=1552 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1615
(fs_start=1537)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTTCCTTCAGAGCAGACCAGAGCCAACAG

=====
(2106) GQ386774
=====

PK1: -13.555000(kcal/mol): PK_start=2063 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2091
(fs_start=2083)

A
GAAAGGAGGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2068 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2104
(fs_start=2083)

C
GAGGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=2091 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2125
(fs_start=2083)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -25.745000(kcal/mol): PK_start=2098 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=2135
(fs_start=2083)

CCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT
GGACCGGAG GGGG
TCCTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=2098 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2161
(fs_start=2083)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCCTCAGAACAGACTAGAGCCAACAG

=====
(2107) GQ386775
=====

PK1: -13.555000(kcal/mol): PK_start=2063 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2091
(fs_start=2083)

A
GAAAGGAGGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2068 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2104
(fs_start=2083)

C
GAGGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=2091 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2125
(fs_start=2083)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -25.745000(kcal/mol): PK_start=2098 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=2135
(fs_start=2083)

CCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT
GGACCGGAG GGGG
TCCTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=2098 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2161
(fs_start=2083)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCCTCAGAACAGACTAGAGCCAACAG

=====
(2108) GQ386776
=====

PK1: -13.555000(kcal/mol): PK_start=2063 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2091
(fs_start=2083)

A
GAAAGGAGGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2068 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2104
(fs_start=2083)

C
GAGGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=2091 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2125
(fs_start=2083)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -25.745000(kcal/mol): PK_start=2098 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=2135
(fs_start=2083)

CCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT
GGACCGGAG GGGG
TCCTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=2098 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2161
(fs_start=2083)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCCTCAGAACAGACTAGAGCCAACAG

=====
(2109) GQ386777
=====

PK1: -13.555000(kcal/mol): PK_start=2063 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2091
(fs_start=2083)

A
GAAAGGAGGGACACCAAATGAAAGATTGT
GACA GAGAGTC

TTTTTAGGG
GCTAAT
PK2: -20.460000(kcal/mol): PK_start=2068 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2104
(fs_start=2083)

C
GAGGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=2091 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2125
(fs_start=2083)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -25.745000(kcal/mol): PK_start=2098 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=2135
(fs_start=2083)

CCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT
GGACCGGAG GGGA
TCCTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=2098 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2161
(fs_start=2083)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCCTCAGAACAGACTAGAGCCAACAG

=====
(2110) GQ386778
=====

PK1: -13.555000(kcal/mol): PK_start=2063 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2091
(fs_start=2083)

A
GAAAGGAGGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2068 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2104
(fs_start=2083)

C
GAGGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA

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                                TGGCCTTC
          GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=2091 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2125
(fs_start=2083)
                                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTCT
                                AGGCCAGGGA
          ACAAGGGG
PK4:  -25.745000(kcal/mol): PK_start=2098 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=2135
(fs_start=2083)
                                CCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT
                                GGACCGGAG   GGGG
                                TCCTCA
          GAATTT
PK4B:  -30.395000(kcal/mol): PK_start=2098 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2161
(fs_start=2083)
                                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                                GGACCGGA   GGGG
                                CCCCAC
          GAATTTTCCTCAGAACAGACTAGAGCCAACAG

=====
(2111) GQ386779
=====
PK1:  -13.555000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2092
(fs_start=2084)
                                A
GAAAGGAGGGACACCAAATGAAAGATTGT
                                GACA   GAGAGTC
                                TTTTTAGGG
          GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2105
(fs_start=2084)
                                C
GAGGGACACCAAATGAAAGATTGTACTGAGAGA
                                GATTTTTT   A   ATCGGA
                                TGGCCTTC
          GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=2092 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2126
(fs_start=2084)
                                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTCT

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                                AGGCCAGGGA
                                ACAGGGGA
PK4:  -29.045000(kcal/mol): PK_start=2099 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2136
(fs_start=2084)
                                CCAC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAAG    GGGA
                                TCCTCA
                                GAATTT

PK4B:  -31.325000(kcal/mol): PK_start=2099 sp=7 s1=9 s2=4 l1=6 l2=32 L3=0 PK_end=2162
(fs_start=2084)
                                CCCACA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAA    GGGG
                                CCCCAC
                                GAATTTTCCTCAGAACAGACTAGAGCCAACAG

=====
(2112) GQ386780
=====
PK1:  -13.555000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2092
(fs_start=2084)
                                A
GAAAGGAGGGACACCAAATGAAAGATTGT
                                GACA    GAGAGTC
                                TTTTtaggg
                                GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2105
(fs_start=2084)
                                C
GAGGGACACCAAATGAAAGATTGTACTGAGAGA
                                GATTTTTT A  ATCGGA
                                TGGCCTTC
                                GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=2092 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2126
(fs_start=2084)
                                AAA
TACTGAGAGACAGGCTAATTTTTTTAGGGA
                                CCCT    TCCGGTCT
                                AGGCCAGGGA
                                ACAGGGGA

PK4:  -29.045000(kcal/mol): PK_start=2099 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2136
(fs_start=2084)
                                CCAC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAAG    GGGA

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                                TCCTCA
          GAATTT
PK4B:  -31.325000(kcal/mol): PK_start=2099 sp=7 s1=9 s2=4 l1=6 l2=32 L3=0 PK_end=2162
(fs_start=2084)
                                CCCACA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTT
          GGACCGGAA      GGGG
                                CCCCAC
          GAATTTTCCTCAGAACAGACTAGAGCCAACAG

=====
(2113) GQ386781
=====
PK1:  -13.555000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2092
(fs_start=2084)
          A
GAAAGGAGGGACACCAAATGAAAGATTGT
          GACA      GAGAGTC
                                TTTTtaggg
          GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2105
(fs_start=2084)
          C
GAGGGACACCAAATGAAAGATTGTACTGAGAGA
          GATTTTTT  A  ATCGGA
                                TGGCCTTC
          GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=2092 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2126
(fs_start=2084)
          AAA
TACTGAGAGACAGGCTAATTTTTTTAGGGA
          CCCT      TCCGGTCT
                                AGGCCAGGGA
          ACAGGGGA

PK4:  -29.045000(kcal/mol): PK_start=2099 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2136
(fs_start=2084)
                                CCAC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
          GGACCGGAAG      GGGA
                                TCCTCA
          GAATTT

PK4B:  -31.325000(kcal/mol): PK_start=2099 sp=7 s1=9 s2=4 l1=6 l2=32 L3=0 PK_end=2162
(fs_start=2084)
                                CCCACA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTT
          GGACCGGAA      GGGG

```


CCCCAC
GAATTTTCCTCAGAACAGACTAGAGCCAACAG

=====
(2114) GQ386782
=====

PK1: -13.555000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2092
(fs_start=2084)

A
GAAAGGAGGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2105
(fs_start=2084)

C
GAGGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=2092 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2126
(fs_start=2084)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAGGGGA

PK4: -29.045000(kcal/mol): PK_start=2099 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2136
(fs_start=2084)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGGG
TCCTCA
GAATTT

PK4B: -31.325000(kcal/mol): PK_start=2099 sp=7 s1=9 s2=4 l1=6 l2=32 L3=0 PK_end=2162
(fs_start=2084)

CCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT
GGACCGGAA GGGG
CCCCAC
GAATTTTCCTCAGAACAGACTAGAGCCAACAG

=====
(2115) GQ386783
=====

PK1: -13.555000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2092
(fs_start=2084)

A
GAAAGGAGGGACACCAAATGAAAGATTGT

```

          GACA   GAGAGTC
                TTTTtaggg
      GCTAAT
PK2:  -20.46000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2105
(fs_start=2084)
                C
GAGGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT A  ATCGGA
                                TGGCCTTC
          GGAAAATC
PK3:  -27.27500(kcal/mol): PK_start=2092 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2126
(fs_start=2084)
                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTCT
                                AGGCCAGGGA
          ACAGGGGA
PK4:  -29.04500(kcal/mol): PK_start=2099 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2136
(fs_start=2084)
                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                GGACCGGAAG   GGGA
                                TCCTCA
          GAATTT
PK4B: -31.32500(kcal/mol): PK_start=2099 sp=7 s1=9 s2=4 l1=6 l2=32 L3=0 PK_end=2162
(fs_start=2084)
                CCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT
                GGACCGGAA   GGGG
                                CCCCAC
          GAATTTTCCTCAGAACAGACTAGAGCCAACAG

=====
(2116) GQ386784
=====
PK1:  -13.55500(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2092
(fs_start=2084)
                A
GAAAGGAGGGACACCAAATGAAAGATTGT
                GACA   GAGAGTC
                                TTTTtaggg
          GCTAAT
PK2:  -20.46000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2105
(fs_start=2084)
                C
GAGGGACACCAAATGAAAGATTGTACTGAGAGA

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          GATTTTTT A ATCGGA
                    TGGCCTTC
    GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=2092 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2126
(fs_start=2084)
          AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
          CCCT   TCCGGTCT
                    AGGCCAGGGA
    ACAGGGGA

PK4:  -29.045000(kcal/mol): PK_start=2099 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2136
(fs_start=2084)
                    CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
          GGACCGGAAG   GGGA
                    TCCTCA
    GAATTT

PK4B:  -31.325000(kcal/mol): PK_start=2099 sp=7 s1=9 s2=4 l1=6 l2=32 L3=0 PK_end=2162
(fs_start=2084)
                    CCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT
          GGACCGGAA   GGGG
                    CCCCAC
    GAATTTTCCTCAGAACAGACTAGAGCCAACAG

=====
(2117) GQ386785
=====
PK1:  -13.555000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2092
(fs_start=2084)
          A
GAAAGGAGGGACACCAAATGAAAGATTGT
          GACA   GAGAGTC
                    TTTTTAGGG
    GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2105
(fs_start=2084)
          C
GAGGGACACCAAATGAAAGATTGTACTGAGAGA
          GATTTTTT A ATCGGA
                    TGGCCTTC
    GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=2092 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2126
(fs_start=2084)
          AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA

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          CCCT   TCCGGTCT
                AGGCCAGGGA
ACAGGGGA

PK4:  -29.045000(kcal/mol): PK_start=2099 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2136
(fs_start=2084)
                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                GGACCGGAAG   GGGA
                                TCCTCA
                GAATTT

PK4B:  -31.325000(kcal/mol): PK_start=2099 sp=7 s1=9 s2=4 l1=6 l2=32 L3=0 PK_end=2162
(fs_start=2084)
                CCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                GGACCGGAA   GGGG
                                CCCCAC
                GAATTTTCCTCAGAACAGACTAGAGCCAACAG

=====
(2118) GQ386786
=====
PK1:  -13.555000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2092
(fs_start=2084)
                A
GAAAGGAGGGACACCAAATGAAAGATTGT
                GACA   GAGAGTC
                                TTTTTAGGG
                GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2105
(fs_start=2084)
                C
GAGGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT   A   ATCGGA
                                TGGCCTTC
                GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=2092 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2126
(fs_start=2084)
                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTCT
                                AGGCCAGGGA
                ACAGGGGA

PK4:  -29.045000(kcal/mol): PK_start=2099 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2136
(fs_start=2084)
                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

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GGACCGGAAG GGGA
 TCCTCA
 GAATTT
 PK4B: -31.325000(kcal/mol): PK_start=2099 sp=7 s1=9 s2=4 l1=6 l2=32 L3=0 PK_end=2162
 (fs_start=2084)
 CCCACA
 AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT
 GGACCGGAA GGGG
 CCCCAC
 GAATTTTCCTCAGAACAGACTAGAGCCAACAG

=====
 (2119) GQ386787
 =====

PK1: -13.555000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2092
 (fs_start=2084)

 A
 GAAAGGAGGGACACCAAATGAAAGATTGT
 GACA GAGAGTC
 TTTTTAGGG
 GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2105
 (fs_start=2084)

 C
 GAGGGACACCAAATGAAAGATTGTACTGAGAGA
 GATTTTTT A ATCGGA
 TGGCCTTC
 GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=2092 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2126
 (fs_start=2084)

 AAA
 TACTGAGAGACAGGCTAATTTTTTAGGGA
 CCCT TCCGGTCT
 AGGCCAGGGA
 ACAGGGGA

PK4: -29.045000(kcal/mol): PK_start=2099 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2136
 (fs_start=2084)

 CCAC
 AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
 GGACCGGAAG GGGA
 TCCTCA
 GAATTT

PK4B: -31.325000(kcal/mol): PK_start=2099 sp=7 s1=9 s2=4 l1=6 l2=32 L3=0 PK_end=2162
 (fs_start=2084)

 CCCACA
 AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT

GGACCGGAA GGGG
CCCCAC
GAATTTTCCTCAGAACAGACTAGAGCCAACAG

=====
(2120) GQ386788
=====

PK1: -13.555000(kcal/mol): PK_start=2063 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2091
(fs_start=2083)

A
GAAAGGAGGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2068 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2104
(fs_start=2083)

C
GAGGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=2091 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2125
(fs_start=2083)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAGGGGA

PK4: -29.045000(kcal/mol): PK_start=2098 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2135
(fs_start=2083)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGGA
TCCTCA
GAATTT

PK4B: -31.325000(kcal/mol): PK_start=2098 sp=7 s1=9 s2=4 l1=6 l2=32 L3=0 PK_end=2161
(fs_start=2083)

CCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT
GGACCGGAA GGGG
CCCCAC
GAATTTTCCTCAGAACAGGCTAGAGCCAACAG

=====
(2121) GQ386789
=====

PK1: -13.555000(kcal/mol): PK_start=2063 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2091 (fs_start=2083)

A
GAAAGGAGGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2068 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2104 (fs_start=2083)

C
GAGGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=2091 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2125 (fs_start=2083)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAGGGGA

PK4: -29.045000(kcal/mol): PK_start=2098 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2135 (fs_start=2083)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGGG
TCCTCA
GAATTT

PK4B: -31.325000(kcal/mol): PK_start=2098 sp=7 s1=9 s2=4 l1=6 l2=32 L3=0 PK_end=2161 (fs_start=2083)

CCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT
GGACCGGAA GGGG
CCCCAC
GAATTTTCCTCAGAACAGGCTAGAGCCAACAG

=====
(2122) GQ386790
=====

PK1: -13.555000(kcal/mol): PK_start=2063 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2091 (fs_start=2083)

A
GAAAGGAGGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2068 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2104
(fs_start=2083)

C
GAGGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=2091 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2125
(fs_start=2083)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAGGGGA

PK4: -29.045000(kcal/mol): PK_start=2098 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2135
(fs_start=2083)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGGA
TCCTCA
GAATTT

PK4B: -31.325000(kcal/mol): PK_start=2098 sp=7 s1=9 s2=4 l1=6 l2=32 L3=0 PK_end=2161
(fs_start=2083)

CCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT
GGACCGGAA GGGG
CCCCAC
GAATTTTCCTCAGAACAGGCTAGAGCCAACAG

=====
(2123) GQ386791
=====

PK1: -13.555000(kcal/mol): PK_start=2063 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2091
(fs_start=2083)

A
GAAAGGAGGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2068 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2104
(fs_start=2083)

C
GAGGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=2091 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2125
(fs_start=2083)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAGGGGA

PK4: -29.045000(kcal/mol): PK_start=2098 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2135
(fs_start=2083)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTC
GGACCGGAAG GGGG
TCCTCA
GAATTT

PK4B: -31.325000(kcal/mol): PK_start=2098 sp=7 s1=9 s2=4 l1=6 l2=32 L3=0 PK_end=2161
(fs_start=2083)

CCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT
GGACCGGAA GGGG
CCCCAC
GAATTTTCCTCAGAACAGGCTAGAGCCAACAG

=====
(2124) GQ386792
=====

PK1: -13.555000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2092
(fs_start=2084)

A
GAAAGGAGGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2105
(fs_start=2084)

C
GAGGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=2092 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2126
(fs_start=2084)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAGGGGA

PK4: -29.045000(kcal/mol): PK_start=2099 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=2136
(fs_start=2084)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGGG
TCCTCA
GAATTT

PK4B: -31.325000(kcal/mol): PK_start=2099 sp=7 s1=9 s2=4 l1=6 l2=32 l3=0 PK_end=2162
(fs_start=2084)

CCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAA GGGG
CCCCAC
GAATTTTCCTCAGAGCAGACTAGAGCCAACAG

=====
(2125) GQ386793
=====

PK1: -13.555000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=2092
(fs_start=2084)

A
GAAAGGAGGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=2105
(fs_start=2084)

C
GAGGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=2092 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=2126
(fs_start=2084)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAGGGGA

PK4: -29.045000(kcal/mol): PK_start=2099 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=2136
(fs_start=2084)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGGG
TCCTCA
GAATTT

PK4B: -31.325000(kcal/mol): PK_start=2099 sp=7 s1=9 s2=4 l1=6 l2=32 L3=0 PK_end=2162
(fs_start=2084)

CCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT
GGACCGGAA GGGG
CCCCAC
GAATTTTCCTCAGAGCAGACTAGAGCCAACAG

=====
(2126) GQ386794
=====

PK1: -13.555000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2092
(fs_start=2084)

A
GAAAGGAGGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2105
(fs_start=2084)

C
GAGGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=2092 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2126
(fs_start=2084)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAGGGGA

PK4: -29.045000(kcal/mol): PK_start=2099 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2136
(fs_start=2084)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGGG
TCCTCA
GAATTT

PK4B: -31.325000(kcal/mol): PK_start=2099 sp=7 s1=9 s2=4 l1=6 l2=32 L3=0 PK_end=2162
(fs_start=2084)

CCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT
GGACCGGAA GGGG
CCCCAC
GAATTTTCCTCAGAACAGACTAGAGCCAACAG

=====
(2127) GQ386795
=====

PK1: -13.555000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=2092
(fs_start=2084)

A
GAAAGGAGGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=2105
(fs_start=2084)

C
GAGGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=2092 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=2126
(fs_start=2084)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAGGGGA

PK4: -29.045000(kcal/mol): PK_start=2099 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=2136
(fs_start=2084)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGGA
TCCTCA
GAATTT

PK4B: -31.325000(kcal/mol): PK_start=2099 sp=7 s1=9 s2=4 l1=6 l2=32 l3=0 PK_end=2162
(fs_start=2084)

CCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAA GGGG
CCCCAC
GAATTTTCCTCAGAACAGACTAGAGCCAACAG

=====
(2128) GQ477441
=====

PK1: -15.100000(kcal/mol): PK_start=1270 sp=0 s1=3 s2=8 l1=2 l2=5 l3=0 PK_end=1298
(fs_start=1290)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC

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                TTTTTTAGGG
          GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1275 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1312
(fs_start=1290)
                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT   AATCGGA
                TTGGCCTTC
          GGAAAAT

PK3:  -18.565000(kcal/mol): PK_start=1299 sp=0 s1=3 s2=8 l1=3 l2=12 L3=0 PK_end=1335
(fs_start=1290)
                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                CCT   TCCGGTTT
                AGGCCGGGAA
          ACCAACAAGGGA

PK4:  -21.195000(kcal/mol): PK_start=1305 sp=7 s1=8 s2=5 l1=10 l2=5 L3=0 PK_end=1345
(fs_start=1290)
                TCCACCAACA
AGACAGGCTAATTTTTTAGGAAAATTTGGCCT
                GGGCCGGA   AGGGA
                TTCCTCA
          AAATT

=====
(2129) GQ477442
=====

PK1:  -15.100000(kcal/mol): PK_start=1267 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1295
(fs_start=1287)
                CA
GAAAAGAAGGACACCAAATGAAAGACTG
                GAC   AGAGAGTC
                TTTTTTAGGG
          GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1272 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1309
(fs_start=1287)
                C
GAAGGACACCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT   AATCGGA
                TTGGCCTTC
          GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1296 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1329
(fs_start=1287)
                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                CCT   TCCGGTTT

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                AGGCCAGGAA
            AACAAGGGG

PK4:  -27.000000(kcal/mol): PK_start=1302 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=1340
(fs_start=1287)
                TTCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCC

                GGACCGG    AGGGG
                TCCCCAG
            AAACTT

PK4B:  -24.080000(kcal/mol): PK_start=1303 sp=8 s1=6 s2=4 l1=9 l2=33 L3=1 PK_end=1364
(fs_start=1287)
                TTCCAACAA
GACAGGCTAATTTTTTAGGGAAAATTTGGCC

                GACCGG    A    GGGG
                CCCCAC
            GAAACTTTCCCCAGAGCAGACCAGAGCCAACAG

=====
(2130) GQ477443
=====
PK1:  -15.100000(kcal/mol): PK_start=1282 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1310
(fs_start=1302)
                CA
GGAAAGAAGGACACCAAATGAAAGACTG

                GAC    AGAGAGTC
                TTTTTTAGGG
            GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1287 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1324
(fs_start=1302)
                C
GAAGGACACCAAATGAAAGACTGCACTGAGAGA

                GATTTTTT    AATCGGA
                TTGGCCTTC
            GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1311 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1344
(fs_start=1302)
                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA

                CCT    TCCGGTTT
                AGGCCAGGAA
            AACAAGGGG

PK4:  -22.215000(kcal/mol): PK_start=1317 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1354
(fs_start=1302)
                CCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT

                GGACCGGAG    GGGA

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                                TCCTCA
AAATTT
PK4B: -26.865000(kcal/mol): PK_start=1317 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1380
(fs_start=1302)
                                TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                                GGACCGGA    GGGG
                                CCCCAC
AAATTTTCCTCAGAGCAGACCAGAGCCAACAG

=====
(2131) GQ477444
=====
PK1: -15.100000(kcal/mol): PK_start=1267 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1295
(fs_start=1287)
                                CA
GGAAAGAAGGACACCAAATGAAAGACTG
                                GAC    AGAGAGTC
                                TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1272 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1309
(fs_start=1287)
                                C
GAAGGACACCAAATGAAAGACTGCACTGAGAGA
                                GATTTTTT    AATCGGA
                                TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1296 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1329
(fs_start=1287)
                                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCT    TCCGGTTT
                                AGGCCAGGAA
AACAAGGGG

PK4: -22.215000(kcal/mol): PK_start=1302 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1339
(fs_start=1287)
                                CCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
                                GGACCGGAG    GGGG
                                TCCTCA
AAATTT

PK4B: -26.865000(kcal/mol): PK_start=1302 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1365
(fs_start=1287)
                                TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                                GGACCGGA    GGGG

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CCCCGC
AAATTTTCCTCAGAGCAGGCCAGAGCCAACAG

=====
(2132) GQ477445
=====

PK1: -15.100000(kcal/mol): PK_start=1267 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1295
(fs_start=1287)

CA
GGAAAGAAGGACACCAAATGAGAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1272 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1309
(fs_start=1287)

C
GAAGGACACCAAATGAGAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1296 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1329
(fs_start=1287)

AAA
ACTGAGAGACAGGCTAATTTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AACAAGGGG

PK4: -27.000000(kcal/mol): PK_start=1302 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=1340
(fs_start=1287)

TTCCAACAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCC
GGACCGG AGGGG
TCCCCAG
AAACTT

PK4B: -24.080000(kcal/mol): PK_start=1303 sp=8 s1=6 s2=4 l1=9 l2=33 L3=1 PK_end=1364
(fs_start=1287)

TTCCAACAA
GACAGGCTAATTTTTTTAGGGAAAATTTGGCC
GACCGG A GGGG
CCCCAC
GAAACTTTCCCAGAGCAGACCAGAGCCAACAG

=====
(2133) GQ477446
=====

PK1: -15.100000(kcal/mol): PK_start=1267 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1295
(fs_start=1287)

CA
GGAAAGAAGGACACCAAATGAAAGACTG


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          GAC   AGAGAGTC
          TTTTTTAGGG
    GCTAA
PK2:  -21.940000(kcal/mol): PK_start=1272 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1309
(fs_start=1287)
          C
    GAAGGACACCAAATGAAAGACTGCACTGAGAGA
          GATTTTTT   AATCGGA
          TTGGCCTTC
    GGAAAAT
PK3:  -20.285000(kcal/mol): PK_start=1296 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1329
(fs_start=1287)
          AAA
    ACTGAGAGACAGGCTAATTTTTTAGGGA
          CCT   TCCGGTTT
          AGGCCAGGAA
    AACAACGGG
PK4:  -20.990000(kcal/mol): PK_start=1302 sp=7 s1=7 s2=4 l1=10 l2=6 L3=0 PK_end=1339
(fs_start=1287)
          TTCCAACAAC
    AGACAGGCTAATTTTTTAGGGAAAATTTGGCC
          GGACCGG   AGGG
          TCCTCA
    AAATTT
=====
(2134) GQ477447
=====
PK1:  -15.100000(kcal/mol): PK_start=1267 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1295
(fs_start=1287)
          CA
    GGAAAGAAGGACACCAAATGAAAGACTG
          GAC   AGAGAGTC
          TTTTTTAGGG
    GCTAA
PK2:  -21.940000(kcal/mol): PK_start=1272 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1309
(fs_start=1287)
          C
    GAAGGACACCAAATGAAAGACTGCACTGAGAGA
          GATTTTTT   AATCGGA
          TTGGCCTTC
    GGAAAAT
PK3:  -20.285000(kcal/mol): PK_start=1296 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1329
(fs_start=1287)
          AAA
    ACTGAGAGACAGGCTAATTTTTTAGGGA

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          CCT      TCCGGTTT
                AGGCCAGGAA
          AACAAAGGGG

PK4:  -22.215000(kcal/mol): PK_start=1302 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1339
(fs_start=1287)
                CCAACA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTT
                GGACCGGAG      GGGA
                                TCCTCA
          AAATTT

PK4B:  -26.865000(kcal/mol): PK_start=1302 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1365
(fs_start=1287)
                TCCAACAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTT
                GGACCGGA      GGGG
                                CCCCCG
          AAATTTTCCTCAGAGCAGGCCAGAGCCAACAG

=====
(2135) GQ477448
=====

PK1:  -15.100000(kcal/mol): PK_start=1267 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1295
(fs_start=1287)
                CA
GGAAAGAAGGACATCAAATGAAAGACTG
                GAC      AGAGAGTC
                                TTTTTTAGGG
          GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1272 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1309
(fs_start=1287)
                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT      AATCGGA
                                TTGGCCTTC
          GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1296 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1329
(fs_start=1287)
                AAA
ACTGAGAGACAGGCTAATTTTTTTAGGGA
                CCT      TCCGGTTT
                                AGGCCAGGAA
          AACAAAGGGG

PK4:  -22.215000(kcal/mol): PK_start=1302 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1339
(fs_start=1287)
                CCAACA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTT

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                GGACCGGAG    GGGA
                    TCCTCA
AAATTT
PK4B:  -26.865000(kcal/mol): PK_start=1302 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1365
(fs_start=1287)
                    TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA    GGGG
                    CCCCCG
AAATTTTCCTCAGAGCAGACCAGAGCCAACAG

=====
(2136) GQ477449
=====
PK1:  -15.100000(kcal/mol): PK_start=1267 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1295
(fs_start=1287)
                    CA
GGAAAGAAGGACACCAAATGAAGGACTG
                GAC    AGAGAGTC
                    TTTTTTAGGG
                GCTAA
PK2:  -21.940000(kcal/mol): PK_start=1272 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1309
(fs_start=1287)
                    C
GAAGGACACCAAATGAAGGACTGCACTGAGAGA
                GATTTTTT    AATCGGA
                    TTGGCCTTC
                GGAAAAT
PK3:  -20.285000(kcal/mol): PK_start=1296 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1329
(fs_start=1287)
                    AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                CCT    TCCGGTTT
                    AGGCCAGGAA
                AACAAAGGG
PK4:  -22.215000(kcal/mol): PK_start=1302 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1339
(fs_start=1287)
                    CCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
                GGACCGGAG    GGGA
                    TCCTCA
AAATTT
PK4B:  -26.865000(kcal/mol): PK_start=1302 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1365
(fs_start=1287)
                    TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

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GGACCGGA    GGG
                CCCCAC
AAATTTTCCTCAGAGCAGACCAGAGCCAACAG

=====
(2137) GQ477450
=====
PK1:  -15.10000(kcal/mol): PK_start=1267 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1295
(fs_start=1287)
                CA
GGAAAGAAGGACACCAAATGAAAGACTG
                GAC    AGAGAGTC
                TTTTTTAGGG
GCTAA

PK2:  -21.94000(kcal/mol): PK_start=1272 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1309
(fs_start=1287)
                C
GAAGGACACCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT    AATCGGA
                TTGGCCTTC
GGAAAAT

PK3:  -20.28500(kcal/mol): PK_start=1296 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1329
(fs_start=1287)
                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                CCT    TCCGGTTT
                AGGCCAGGAA
AACAAGGGG

PK4:  -22.21500(kcal/mol): PK_start=1302 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1339
(fs_start=1287)
                CCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
                GGACCGGAG    GGGA
                TCCTCA
AAATTT

PK4B:  -26.86500(kcal/mol): PK_start=1302 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1365
(fs_start=1287)
                TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA    GGG
                CCCCAC
AAATTTTCCTCAGAGCAGACCAGAGCCAACAG

=====
(2138) GQ477451
=====

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PK1: -15.10000(kcal/mol): PK_start=1267 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1295 (fs_start=1287)

CA
GGAAAGAAGGACACCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTTAGGG
GCTAA

PK2: -21.94000(kcal/mol): PK_start=1272 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1309 (fs_start=1287)

C
GAAGGACACCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.28500(kcal/mol): PK_start=1296 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1329 (fs_start=1287)

AAA
ACTGAGAGACAGGCTAATTTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AACAAGGGA

PK4: -22.91500(kcal/mol): PK_start=1302 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1339 (fs_start=1287)

TCCAACA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
GGACCGGA AGGGA
TTCCTCA
AAATT

=====
(2139) GQ845124
=====

PK1: -15.14000(kcal/mol): PK_start=1295 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1323 (fs_start=1315)

CA
GGAAAGAAGGACATCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTTAGGG
GCTAA

PK2: -21.98000(kcal/mol): PK_start=1300 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1337 (fs_start=1315)

C
GAAGGACATCAAATGAAAGACTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1324 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1357
(fs_start=1315)

AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
ACAAGGGA

PK4: -22.915000(kcal/mol): PK_start=1330 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1367
(fs_start=1315)

TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(2140) GQ845125
=====

PK1: -10.925000(kcal/mol): PK_start=1281 sp=0 s1=3 s2=7 l1=4 l2=18 L3=0 PK_end=1322
(fs_start=1315)

CAAA
TTGTTGGAAATGTGGAAAGGAAGGACAT
GTA AGAAAGT
TTTTTTAGG
CACTGAGAGACAGGCTAA

PK2: -21.940000(kcal/mol): PK_start=1300 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1337
(fs_start=1315)

C
GAAGGACATCAAATGAAAGAATGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -22.025000(kcal/mol): PK_start=1323 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1357
(fs_start=1315)

AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCGGGGA
ACAAGGGA

PK4: -21.195000(kcal/mol): PK_start=1330 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1367
(fs_start=1315)

TCCCACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA AGGGA
TTCCTCA
GAATT

=====
(2141) GQ845126
=====

PK1: -15.140000(kcal/mol): PK_start=1295 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1323
(fs_start=1315)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -21.980000(kcal/mol): PK_start=1300 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1337
(fs_start=1315)

C
GAAGGACATCAAATGAAAGACTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAAT

PK3: -18.565000(kcal/mol): PK_start=1324 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1357
(fs_start=1315)

AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGGA
AACAAGGGA

PK4: -21.195000(kcal/mol): PK_start=1330 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1367
(fs_start=1315)

TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGCCGGA AGGGA
TTCCTCA
GAATT

=====
(2142) GQ999972
=====

PK1: -12.995000(kcal/mol): PK_start=1514 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1542
(fs_start=1534)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACG GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -18.760000(kcal/mol): PK_start=1519 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1555
(fs_start=1534)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGG
GATTTTTT A ATCGGA

TGGCCTTC

GGAAAATC

PK3: -24.395000(kcal/mol): PK_start=1542 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1576
(fs_start=1534)

AAA

TACTGAAAGGCAGGCTAATTTTTTTAGGGA

CTCT TCCGGTCT

AGGCCAGGGA

ACAAGGGG

PK4: -28.540000(kcal/mol): PK_start=1549 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1586
(fs_start=1534)

TCAC

AGGCAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAGG GGAA

CCTTCA

GAATTT

=====
(2143) GQ999973
=====

PK1: -15.025000(kcal/mol): PK_start=1511 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1539
(fs_start=1531)

A

GAAAGGAAGGACACCAAATGAAAGACTGT

GACG GAAAGTC

TTTTTAGGG

GCTAAT

PK2: -20.370000(kcal/mol): PK_start=1516 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1553
(fs_start=1531)

C

GAAGGACACCAAATGAAAGACTGTACTGAAAGG

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1540 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1573
(fs_start=1531)

AAA

ACTGAAAGGCAGGCTAATTTTTTTAGGGA

CCT TCCGGTTT

AGGCCAGGGA

AACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1546 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1583
(fs_start=1531)

CAAC

AGGCAGGCTAATTTTTTTAGGGAAAATTTGGCCTTC

GGACCGGAGG GGAA

CCTTCA

GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1546 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1609
(fs_start=1531)

TCCAACAA

AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG

CCCCAC

GAATTTCCCTCAGAACAGACCAGAGCCAACAG

=====

(2144) GQ999974

=====

PK1: -14.985000(kcal/mol): PK_start=1513 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1541
(fs_start=1533)

A

GAAAGGAAGGACACCAAATGAAAGACTGT

GACG GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1518 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1555
(fs_start=1533)

C

GAAGGACACCAAATGAAAGACTGTACTGAGAGG

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1541 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1575
(fs_start=1533)

AAA

TACTGAGAGGCAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT

AGGCCAGGGA

ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1548 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1585
(fs_start=1533)

CCAC

AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC

GGACCGGAGG GGAA

CCTTCA

GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1548 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1611
(fs_start=1533)

TCCCACAA

AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG

CCCCAC
GAATTTCCCTTCAGAACAGACCAGAGCCAACAG

=====
(2145) GQ999976
=====

PK1: -14.985000(kcal/mol): PK_start=1511 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1539
(fs_start=1531)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1516 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1553
(fs_start=1531)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -21.525000(kcal/mol): PK_start=1537 sp=0 s1=5 s2=8 l1=4 l2=7 L3=0 PK_end=1573
(fs_start=1531)

AAAA
TGTAAGGAGAGGCAGGCTAATTTTTTAGGG
ATCCT TCCGGTTT
AGGCCGGGGA
CAAGGGG

PK4: -23.290000(kcal/mol): PK_start=1546 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1583
(fs_start=1531)

CTAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGGCCGAGG GGAA
CCTTCA
GAATTT

PK4B: -25.145000(kcal/mol): PK_start=1546 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1609
(fs_start=1531)

TCCTACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA GGGG
CCCCAC
GAATTTCCCTTCAGAGCAGGCCAGAGCCAACAG

=====
(2146) GQ999977
=====

PK1: -12.995000(kcal/mol): PK_start=1515 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1543
(fs_start=1535)

A
GAAAAGAAGGACACCAAATGAAAGATTGT

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          GACG      GAAAGTC
                TTTT TAGGG
    GCTAAT
PK2:  -20.370000(kcal/mol): PK_start=1520 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1557
(fs_start=1535)
                C
GAAGGACACCAAATGAAAGATTGTACTGAAAGG
                GATTTTTT      AATCGGA
                TTGGCCTTC
    GGAAAAT

PK3:  -23.745000(kcal/mol): PK_start=1543 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1577
(fs_start=1535)
                AAA
TACTGAAAGGCAGGCTAATTTTTTAGGGA
                CCCT      TCCGGTTT
                AGGCCAGGGA
    ACAAGGGG

PK4:  -22.705000(kcal/mol): PK_start=1550 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1587
(fs_start=1535)
                CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
                GGACCGGAGG      GGAA
                TCTTCA
    GAATTT

PK4B:  -23.985000(kcal/mol): PK_start=1550 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1613
(fs_start=1535)
                TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA      GGGG
                CTCCAC
    GAATTTTCTTCAGAGCAGGCCAGAGCCAACAG

=====
(2147) GQ999978
=====
PK1:  -13.045000(kcal/mol): PK_start=1509 sp=0 s1=4 s2=6 l1=5 l2=6 L3=0 PK_end=1539
(fs_start=1532)
                ACTAA
GAAAGGAAGGACACCAAATGAAAGACTGT
                GACA      GAAAGT
                TTTT TAGG
    GCTAAT

PK2:  -19.700000(kcal/mol): PK_start=1518 sp=0 s1=7 s2=7 l1=1 l2=8 L3=0 PK_end=1554
(fs_start=1532)
                C
GACACCAAATGAAAGACTGTACTAATGAAAGA

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                ATTTTTT   AATCGGA
                    TTGGCCTTC
GGGAAAAT
PK3:  -23.745000(kcal/mol): PK_start=1540 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1574
(fs_start=1532)
                AAA
TAATGAAAGACAGGCTAATTTTTTTAGGGA
                CCCT   TCCGGTTT
                    AGGCCAGGGA
                ACAAGGGG
PK4:  -25.010000(kcal/mol): PK_start=1547 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1584
(fs_start=1532)
                    CCAC
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTTC
                GGACCGGAGG   GGAA
                    CCTTCA
                GAATTT
PK4B:  -26.865000(kcal/mol): PK_start=1547 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1610
(fs_start=1532)
                    TCCCACAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
                GGACCGGA   GGGG
                    CCCCAC
                GAATTTCTTCAGAGCAGGCCAGAGCCAACAG
=====
(2148) GQ999979
=====
PK1:  -14.985000(kcal/mol): PK_start=1514 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1542
(fs_start=1534)
                A
GAAAAGAAGGACACCAAATGAAAGACTGT
                GACG   GAGAGTC
                    TTTTTAGGG
                GCTAAT
PK2:  -20.330000(kcal/mol): PK_start=1519 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1556
(fs_start=1534)
                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
                GATTTTTT   AATCGGA
                    TTGGCCTTC
                GGAAAAT
PK3:  -23.745000(kcal/mol): PK_start=1542 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1576
(fs_start=1534)
                AAA
TACTGAGAGGCAGGCTAATTTTTTTAGGGA

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          CCCT   TCCGGTTT
                AGGCCAGGAA
ACAAGGGG
PK4:  -23.985000(kcal/mol): PK_start=1549 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1587
(fs_start=1534)
                TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA   GGGG
                CTCCAG
          AAATTTT

PK4B:  -26.865000(kcal/mol): PK_start=1549 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1612
(fs_start=1534)
                TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA   GGGG
                CCCCAC
          AAATTTCTCCAGAACAGACCAGAGCCGACAG

=====
(2149) GQ999980
=====
PK1:  -14.985000(kcal/mol): PK_start=1493 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1521
(fs_start=1513)
                A
GAAAGGAAGGACACCAAATGAAAGACTGT
                GACG   GAGAGTC
                TTTTTAGGG
          GCTAAT

PK2:  -20.330000(kcal/mol): PK_start=1498 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1535
(fs_start=1513)
                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
                GATTTTTT   AATCGGA
                TTGGCCTTC
          GGAAAGT

PK3:  -26.210000(kcal/mol): PK_start=1521 sp=0 s1=3 s2=10 l1=5 l2=3 L3=0 PK_end=1554
(fs_start=1513)
                AAAGT
TACTGAGAGGCAGGCTAATTTTTTAGGG
                CTC   CCTTCCGGTT
                GGGAGGCCAGGG
          AAG

PK4:  -25.010000(kcal/mol): PK_start=1528 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1565
(fs_start=1513)
                CCTC
AGGCAGGCTAATTTTTTAGGGAAAGTTTGGCCTTC

```

GGACCGGAGG GGAA
 CCTTCA
 GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1528 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1591
 (fs_start=1513)

TCCCTCAA
 AGGCAGGCTAATTTTTTAGGGAAAGTTTGGCCT

GGACCGGA GGGG
 CCCCAT
 GAATTTCC TTCAGAACAGGCCAGAGCCGACAG

=====
 (2150) GQ999982
 =====

PK1: -15.025000(kcal/mol): PK_start=1503 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1531
 (fs_start=1523)

A
 GAAAAGAAGGACACCAAATGAAAGACTGT

GACG GAAAGTC
 TTTTTAGGG
 GCTAAT

PK2: -18.990000(kcal/mol): PK_start=1508 sp=0 s1=8 s2=6 l1=2 l2=7 L3=0 PK_end=1544
 (fs_start=1523)

CA
 GAAGGACACCAAATGAAAGACTGTACTGAAAGG

GATTTTTT AATCGG
 TTGGCCCT
 GGAAAAT

PK3: -21.200000(kcal/mol): PK_start=1531 sp=0 s1=4 s2=7 l1=3 l2=9 L3=1 PK_end=1564
 (fs_start=1523)

AAA
 TACTGAAAGGCAGGCTAATTTTTTAGGGA

CCCT C CCGGTTT
 GGCCAGGGA
 ACAAGGGGA

PK4: -20.390000(kcal/mol): PK_start=1538 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=1576
 (fs_start=1523)

CTCCCACAA
 AGGCAGGCTAATTTTTTAGGGAAAATTTGGCC

GGACCGG AGGGG
 TCTTCAG
 GAATTT

PK4B: -23.610000(kcal/mol): PK_start=1538 sp=7 s1=7 s2=4 l1=9 l2=32 L3=1 PK_end=1600
 (fs_start=1523)

CTCCCACAA
 AGGCAGGCTAATTTTTTAGGGAAAATTTGGCC

GGACCGG A GGGG
CCCCAC
GAATTTTCTTCAGAACAGACCAGAGCCAACAG

=====
(2151) GQ999983
=====

PK1: -14.985000(kcal/mol): PK_start=1516 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1544
(fs_start=1536)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1521 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1558
(fs_start=1536)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1544 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1578
(fs_start=1536)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
AGAGGGGG

PK4: -28.730000(kcal/mol): PK_start=1553 sp=9 s1=9 s2=4 l1=2 l2=8 L3=0 PK_end=1588
(fs_start=1536)

CA
GCAGGCTAATTTTTTAGGGAAAATTTGGCCTTCC
ACCGGAGGG GGAG
CCTTCA
GGGAACTT

PK4B: -24.965000(kcal/mol): PK_start=1553 sp=9 s1=7 s2=4 l1=6 l2=34 L3=0 PK_end=1614
(fs_start=1536)

CCCAGA
GCAGGCTAATTTTTTAGGGAAAATTTGGCCTT
ACCGGAG GGGG
CTCCAC
GGGAACTTCCTTCAGAGCAGGCCAGAACCAACAG

=====
(2152) GQ999984
=====

PK1: -10.640000(kcal/mol): PK_start=1435 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1473
(fs_start=1466)

A
TTGGAATGTGGAAGGAAGGACACCAA
GTT AGAAAGT
TTTTTTAGG
CACTGAGAGACAGGCTAA

PK2: -21.940000(kcal/mol): PK_start=1451 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1488
(fs_start=1466)

C
GAAGGACACCAAATGAAAGATTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAAT

PK3: -20.285000(kcal/mol): PK_start=1475 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1508
(fs_start=1466)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AACAAGGGA

PK4: -25.490000(kcal/mol): PK_start=1481 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1518
(fs_start=1466)

CAAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(2153) GQ999985
=====

PK1: -17.225000(kcal/mol): PK_start=1513 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1541
(fs_start=1533)

A
GAAAGGAAGGACACCAAATGAAAGACTGC
GACG GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.370000(kcal/mol): PK_start=1518 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1555
(fs_start=1533)

C
GAAGGACACCAAATGAAAGACTGCACTGAAAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAAT

PK3: -23.745000(kcal/mol): PK_start=1541 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1575
(fs_start=1533)

AAA
CACTGAAAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1548 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1585
(fs_start=1533)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1548 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1611
(fs_start=1533)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCCTTCAGAACAGACCAGAGCCAACAG

=====
(2154) GQ999986
=====

PK1: -12.405000(kcal/mol): PK_start=1516 sp=0 s1=4 s2=6 l1=5 l2=6 L3=0 PK_end=1546
(fs_start=1539)

AGTAA
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGT
TTTTTAGG
GCTAAT

PK2: -18.050000(kcal/mol): PK_start=1525 sp=0 s1=7 s2=7 l1=1 l2=8 L3=0 PK_end=1561
(fs_start=1539)

C
GACACCAAATGAAAGACTGTAGTAATGAGAGG
ATTTTTT AATCGGA
TTGGCCTTC
GGGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1547 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1581
(fs_start=1539)

AAA
TAATGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -26.865000(kcal/mol): PK_start=1554 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=1617
(fs_start=1539)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAACTTTTTTCAGAACAGGCCAGAGCCAACAG

=====
(2155) GQ999987
=====

PK1: -13.005000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=6 l1=2 l2=6 l3=0 PK_end=1539
(fs_start=1532)

AA
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGT
TTTTTAGG
GCTAAT

PK2: -19.660000(kcal/mol): PK_start=1518 sp=0 s1=7 s2=7 l1=1 l2=8 l3=0 PK_end=1554
(fs_start=1532)

C
AAGGACACCAAATGAAAGACTGTAATGAGAGA
ATTTTTT AATCGGA
TTGGCCTTC
GGGAGGAT

PK3: -22.230000(kcal/mol): PK_start=1540 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1574
(fs_start=1532)

A
TAATGAGAGACAGGCTAATTTTTTAGGGAGG
CCCTTC CGGTTT
GCCAGGGA
ACAAGGGGAG

PK4: -18.485000(kcal/mol): PK_start=1547 sp=7 s1=9 s2=4 l1=6 l2=5 l3=0 PK_end=1583
(fs_start=1532)

CCCACA
AGACAGGCTAATTTTTTAGGGAGGATTTGGCCTT
GGACCGGAG GGGG
TTCTCC
GAATT

PK4B: -26.865000(kcal/mol): PK_start=1547 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=1610
(fs_start=1532)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAGGATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCTCCAGAACAGACCAGAGCCAACAA

=====
(2156) GQ999988
=====

PK1: -15.025000(kcal/mol): PK_start=1477 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1505
(fs_start=1497)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.370000(kcal/mol): PK_start=1482 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1519
(fs_start=1497)

C
GAAGGACACCAAATGAAAGACTGTACTGAAAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAGAAT

PK3: -18.840000(kcal/mol): PK_start=1505 sp=0 s1=5 s2=6 l1=2 l2=11 l3=0 PK_end=1539
(fs_start=1497)

AA
TACTGAAAGGCAGGCTAATTTTTTAGGGAG
CCTTC CGGTTT
GCCAGGGA
AACAAGGGGAG

PK4: -25.010000(kcal/mol): PK_start=1512 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1549
(fs_start=1497)

CAAC
AGGCAGGCTAATTTTTTAGGGAGAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1512 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=1575
(fs_start=1497)

TCCAACAA
AGGCAGGCTAATTTTTTAGGGAGAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCCCTCAGAACAGACCAGAGCCATCAG

=====
(2157) GQ999989
=====

PK1: -13.765000(kcal/mol): PK_start=1514 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1542
(fs_start=1534)

A
GAAAGGAAGGACACCAAATGAAGGATTGT
GACA AAGAGTC

TTTTTAGGG
GCTAAT
PK2: -21.980000(kcal/mol): PK_start=1519 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1556
(fs_start=1534)

C
GAAGGACACCAAATGAAGGATTGTACTGAGAAA
GATTTTTT AATCGGA
TTGGCCTTC
GGAGAAT

PK3: -17.120000(kcal/mol): PK_start=1542 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1576
(fs_start=1534)

AA
TACTGAGAAACAGGCTAATTTTTTAGGGAG
CCTTC CGGTTT
GCCGGGA
CACAAGGGGAG

PK4: -23.290000(kcal/mol): PK_start=1549 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1586
(fs_start=1534)

CCAC
AAACAGGCTAATTTTTTAGGGAGAATTTGGCCTTC
GGGCCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -25.145000(kcal/mol): PK_start=1549 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1612
(fs_start=1534)

TCCCACAA
AAACAGGCTAATTTTTTAGGGAGAATTTGGCCT
GGGCCGGA GGGG
CCCCAC
GAATTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2158) GQ999990
=====

PK1: -14.985000(kcal/mol): PK_start=1511 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1539
(fs_start=1531)

A
GAAAAGAAGGACATCAGATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1516 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1553
(fs_start=1531)

C
GAAGGACATCAGATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA

TTGGCCTTC

GGAAAGT

PK3: -22.025000(kcal/mol): PK_start=1539 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1573
(fs_start=1531)

AAG

TACTGAGAGGCAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT

AGGCCGGGAA

ACAAGGGG

PK4: -23.290000(kcal/mol): PK_start=1546 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1583
(fs_start=1531)

CCAC

AGGCAGGCTAATTTTTTAGGGAAAGTTTGGCCTTC

GGGCCGGAGG GGAA

CCTTCA

AAATTT

PK4B: -25.145000(kcal/mol): PK_start=1546 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1609
(fs_start=1531)

TCCCACAA

AGGCAGGCTAATTTTTTAGGGAAAGTTTGGCCT

GGGCCGGA GGGG

CCCCGC

AAATTTCTTCAGAACAGGCCAGAGCCAACAG

=====

(2159) GQ999991

=====

PK1: -11.500000(kcal/mol): PK_start=1501 sp=0 s1=3 s2=7 l1=5 l2=23 L3=1 PK_end=1548
(fs_start=1542)

CCAAA

GCTGTTGGAAATGTGGAAAGGAAGGACA

TGT C AGAAAGT

TTTTTTAGG

ACTGAAAGGGAAAGGCAGGCTAA

PK2: -17.190000(kcal/mol): PK_start=1528 sp=0 s1=6 s2=7 l1=2 l2=9 L3=0 PK_end=1564
(fs_start=1542)

GC

ACCAAATGAAAGACTGTACTGAAAGGGAAAG

TTTTTT AATCGGA

TTGGCCTTC

AGGGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1550 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1584
(fs_start=1542)

AAA

AAGGGAAAGGCAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT

AGGCCAGGGA

ACAAGGGG

PK4: -26.865000(kcal/mol): PK_start=1557 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=1620
(fs_start=1542)

TCCCACAA

AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG

CCCCAC

GAATTTTCATACAGAACAGACTAGAGCCAACAG

=====

(2160) GU177863

=====

PK1: -10.725000(kcal/mol): PK_start=2059 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=2087
(fs_start=2079)

A

GAAAGGAAGGACACCAAATGAAGGATTGT

GACA GAGAGTT

TTTTTAGGG

GCTAAT

PK2: -18.430000(kcal/mol): PK_start=2064 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=2100
(fs_start=2079)

C

GAAGGACACCAAATGAAGGATTGTATTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=2087 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=2121
(fs_start=2079)

A

TATTGAGAGACAGGCTAATTTTTTAGGGAAG

CCCTTC CGGTCT

GCCAGGGA

ACAAGGGGAG

PK4: -28.540000(kcal/mol): PK_start=2094 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=2131
(fs_start=2079)

CCAC

AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC

GGACCGGAGG GGAA

CCTTCA

GAACTT

PK4B: -30.395000(kcal/mol): PK_start=2094 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=2157
(fs_start=2079)

TCCCACAA

AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT

GGACCGGA GGGG

CCCCAC
GAACTTCCTTCAGAGCAGAACAGAGCCAACAG

=====
(2161) GU201494
=====

PK1: -15.585000(kcal/mol): PK_start=1254 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1282
(fs_start=1274)

A
GGAAAGAAGGACACCAAATGAAAGACTGT

GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -21.940000(kcal/mol): PK_start=1259 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1296
(fs_start=1274)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA

GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1283 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1316
(fs_start=1274)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT
AGGCCAGGGA
AACAAAGGG

PK4: -21.815000(kcal/mol): PK_start=1289 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1326
(fs_start=1274)

TCCAACAA
AGACAGGCTAATTTTTTAGGAAAATTTGGCCT

GGACCGGA GGA
TCCTCA
GAATTT

=====
(2162) GU201495
=====

PK1: -15.100000(kcal/mol): PK_start=1278 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1306
(fs_start=1298)

CA
GAAAGGAAGGACACCAAATGAAAGACTG

GAC AGAGAGTC
TTTTTTAGGG
GCGAA

PK2: -13.950000(kcal/mol): PK_start=1283 sp=0 s1=8 s2=4 l1=4 l2=6 L3=0 PK_end=1316
(fs_start=1298)

CAGG
GAAGGACACCAAATGAAAGACTGCACTGAGAGA

GATTTTTT AAGC
TTTGGC
GGAAAA
PK3: -20.285000(kcal/mol): PK_start=1307 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1340
(fs_start=1298)

AAA
ACTGAGAGACAGGCGAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AACAAAGGGG

PK4: -22.215000(kcal/mol): PK_start=1313 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1350
(fs_start=1298)

CCAACA
AGACAGGCGAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGAG GGGA
TCCTCA
AAATTT

PK4B: -26.865000(kcal/mol): PK_start=1313 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1376
(fs_start=1298)

TCCAACAA
AGACAGGCGAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGA GGGG
CCCCAC
AAATTTTCCTCAGAGCAGACCAGAACCAACAG

=====
(2163) GU201497
=====

PK1: -15.585000(kcal/mol): PK_start=1254 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1282
(fs_start=1274)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -21.940000(kcal/mol): PK_start=1259 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1296
(fs_start=1274)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1283 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1316
(fs_start=1274)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA


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          CCT      TCCGGTTT
                AGGCCAGGAA
          AGCAAGGGG

PK4:  -27.000000(kcal/mol): PK_start=1289 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=1327
(fs_start=1274)
                TTCCAGCAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCC
                GGACCGG      AGGGG
                TCCCCAG
          AAATTT

PK4B:  -24.080000(kcal/mol): PK_start=1290 sp=8 s1=6 s2=4 l1=9 l2=33 L3=1 PK_end=1351
(fs_start=1274)
                TTCCAGCAA
GACAGGCTAATTTTTTTAGGGAAAATTTGGCC
                GACCGG  A  GGGG
                CCCCAC
          GAAATTTTCCCCAGAGCAGACCAGCCAACAG

=====
(2164) GU201498
=====
PK1:  -15.100000(kcal/mol): PK_start=1251 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1279
(fs_start=1271)
                CA
GAAAGGAAGGACACCAAATGAAAGACTG
                GAC      AGAGAGTC
                TTTTTTAGGG
          GCAAA

PK2:  -14.310000(kcal/mol): PK_start=1256 sp=0 s1=8 s2=4 l1=4 l2=6 L3=0 PK_end=1289
(fs_start=1271)
                CAGG
GAAGGACACCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT      AAAC
                TTTGGC
          GGAGAA

PK3:  -18.840000(kcal/mol): PK_start=1279 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1313
(fs_start=1271)
                AA
CACTGAGAGACAGGCAAATTTTTTAGGGAG
                CCTTC      CGGTTT
                GCCAGGAA
          AACAAAGGGAG

PK4:  -21.815000(kcal/mol): PK_start=1286 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1323
(fs_start=1271)
                TCCAACAA
AGACAGGCAAATTTTTTTAGGGAGAATTTGGCCT

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                GGACCGGA    GGG
                TCCTCA
AAATTT

=====
(2165) GU201499
=====
PK1:  -15.585000(kcal/mol): PK_start=1272 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1300
(fs_start=1292)
                A
GAAAGGAAGGACACCAAATGAAAGACTGT
                GACA    GAGAGTC
                TTTTtaggg
GCTAAT

PK2:  -21.940000(kcal/mol): PK_start=1277 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1314
(fs_start=1292)
                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
                GATTTTTT    AATCGGA
                TTGGCCTTC
GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1301 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1334
(fs_start=1292)
                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                CCT    TCCGGTTT
                AGGCCAGGAA
AGCAAGGGG

PK4:  -27.000000(kcal/mol): PK_start=1307 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=1345
(fs_start=1292)
                TTCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCC
                GGACCGG    AGGGG
                TCCCAG
AAATTT

PK4B:  -24.080000(kcal/mol): PK_start=1308 sp=8 s1=6 s2=4 l1=9 l2=33 L3=1 PK_end=1369
(fs_start=1292)
                TTCCAGCAA
GACAGGCTAATTTTTTAGGGAAAATTTGGCC
                GACCGG  A  GGGG
                CCCCAC
GAAATTTTCCCAGAGCAGACCAGAACCAACAG

=====
(2166) GU201500
=====

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PK1: -15.10000(kcal/mol): PK_start=1254 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1282
(fs_start=1274)

CA
GGAAAGAAGGACACCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTTAGGG
GCTAA

PK2: -20.46000(kcal/mol): PK_start=1259 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1295
(fs_start=1274)

C
GAAGGACACCAAATGAAAGACTGCACTGAGAGA
GATTTTTT A ATCGGA
TGCCCTTC
GGAAAATC

PK3: -27.27500(kcal/mol): PK_start=1282 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1316
(fs_start=1274)

AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGAA
ACAAAGGG

PK4: -27.75000(kcal/mol): PK_start=1289 sp=7 s1=7 s2=5 l1=9 l2=5 L3=0 PK_end=1326
(fs_start=1274)

TTCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCC
GGACCGG AGGGA
TCCCTCA
AAATT

=====
(2167) GU201504
=====

PK1: -15.10000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
(fs_start=1283)

CA
GAAAGGAGGGACACCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTTAGGG
GCAAA

PK2: -14.31000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=4 l1=4 l2=6 L3=0 PK_end=1301
(fs_start=1283)

CAGG
GAGGGACACCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AAAC
TTTGGC
GGAAAA

PK3: -20.285000(kcal/mol): PK_start=1292 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1325
(fs_start=1283)

AAA
ACTGAGAGACAGGCAAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AGCAAGGGA

PK4: -22.915000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1335
(fs_start=1283)

TCCAGCA
AGACAGGCAAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA AGGGA
TTCCTCA
AAATT

=====
(2168) GU201505
=====

PK1: -15.100000(kcal/mol): PK_start=1254 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1282
(fs_start=1274)

CA
GAAAGGAAGGACACCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1259 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1296
(fs_start=1274)

C
GAAGGACACCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -18.720000(kcal/mol): PK_start=1283 sp=0 s1=4 s2=4 l1=5 l2=10 L3=0 PK_end=1313
(fs_start=1274)

AATTT
ACTGAGAGACAGGCTAATTTTTTAGGGAA
CCTT CCGG
GGCCTG
AACAAGGGGA

PK4: -20.515000(kcal/mol): PK_start=1292 sp=10 s1=7 s2=4 l1=4 l2=9 L3=0 PK_end=1326
(fs_start=1274)

CAAC
CAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
CCGGAGG GGAA
TCTTCA
TGGAATTT

PK4B: -24.675000(kcal/mol): PK_start=1292 sp=10 s1=5 s2=4 l1=8 l2=35 L3=0
PK_end=1352 (fs_start=1274)

TCCAACAA
CAGGCTAATTTTTTAGGGAAAATTTGGCCT
CCGGA GGGG
CCCCGC
TGGAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2169) GU201508
=====

PK1: -15.100000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
(fs_start=1283)

CA
GGAAGGAAGGACACCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -20.460000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1304
(fs_start=1283)

C
GAAGGACACCAAATGAAAGACTGCACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -23.815000(kcal/mol): PK_start=1292 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1325
(fs_start=1283)

AAA
ACTGAGAGACAGGCTAATTTTTTTAGGGA
CCT TCCGGTCT
AGGCCAGGGA
AGCAAGGGG

PK4: -25.745000(kcal/mol): PK_start=1298 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1335
(fs_start=1283)

CCAGCA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTT
GGACCGGAG GGGG
TCCTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=4 l1=8 l2=35 L3=0 PK_end=1364
(fs_start=1283)

TCCAGCAA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCTTCAGAGCAGGCGATTGGAGCCAACAG

=====
(2170) GU201511
=====

PK1: -15.585000(kcal/mol): PK_start=1254 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1282
(fs_start=1274)

A
GGAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -21.940000(kcal/mol): PK_start=1259 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1296
(fs_start=1274)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAAT

PK3: -20.285000(kcal/mol): PK_start=1283 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1316
(fs_start=1274)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AACAAGGGG

PK4: -22.215000(kcal/mol): PK_start=1289 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1326
(fs_start=1274)

CCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGAG GGGG
TCCTCA
AAATTT

PK4B: -26.865000(kcal/mol): PK_start=1289 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1352
(fs_start=1274)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTTCCTCAGAGCAGACCAGAACCAACAG

=====
(2171) GU201512
=====

PK1: -15.100000(kcal/mol): PK_start=1251 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1279
(fs_start=1271)

CA
GGAAGGAAGGACACCAAATGAAAGACTG
GAC AGAGAGTC

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                TTTTTTAGGG
            GCGAA
PK2:  -13.95000(kcal/mol): PK_start=1256 sp=0 s1=8 s2=4 l1=4 l2=6 L3=0 PK_end=1289
(fs_start=1271)
                CAGG
GAAGGACACCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT    AAGC
                TTTGGC
            GGAAAA
PK3:  -20.28500(kcal/mol): PK_start=1280 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1313
(fs_start=1271)
                AAA
ACTGAGAGACAGGCGAATTTTTTAGGGA
                CCT    TCCGGTTT
                AGGCCAGGAA
            AACAAGGGG
PK4:  -22.21500(kcal/mol): PK_start=1286 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1323
(fs_start=1271)
                CCAACA
AGACAGGCGAATTTTTTAGGGAAAATTTGGCCTT
                GGACCGGAG    GGGA
                TCCTCA
            AAATTT
PK4B:  -26.86500(kcal/mol): PK_start=1286 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1349
(fs_start=1271)
                TCCAACAA
AGACAGGCGAATTTTTTAGGGAAAATTTGGCCTT
                GGACCGGA    GGGG
                CCCCAC
            AAATTTTCCTCAGAGCAGACCAGAACCAACAG
=====
(2172) GU201513
=====
PK1:  -18.36000(kcal/mol): PK_start=1251 sp=0 s1=3 s2=9 l1=1 l2=5 L3=0 PK_end=1280
(fs_start=1271)
                C
GGAAGGAAGGACACCAAATGAAAGACTG
                GAC    AGAGAGTCC
                TTTTTTAGGGA
            GCTAA
PK2:  -25.52000(kcal/mol): PK_start=1254 sp=0 s1=10 s2=7 l1=1 l2=5 L3=0 PK_end=1293
(fs_start=1271)
                C
AGGAAGGACACCAAATGAAAGACTGCCCTGAGAGA
                GGGATTTTTT    AATCGGA

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TTGGTCTCC

AGAAT

PK3: -19.875000(kcal/mol): PK_start=1279 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1313
(fs_start=1271)

AA

CCCTGAGAGACAGGCTAATTTTTTAGGGAG

CCCTC TGGTTT

GCCAGGCA

CACAAAGGGGAG

PK4: -24.250000(kcal/mol): PK_start=1286 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1323
(fs_start=1271)

CCCACA

AGACAGGCTAATTTTTTAGGGAGAATTTGGTCTC

GGACCGGAG GGGG

CCCTCA

CAATTT

PK4B: -24.225000(kcal/mol): PK_start=1286 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1349
(fs_start=1271)

CCCCACAA

AGACAGGCTAATTTTTTAGGGAGAATTTGGTCT

GGACCGGA GGGG

CCCCGC

CAATTTCCCTCAGAGCAGACCGGAACCAACAG

=====
(2173) GU201514
=====

PK1: -15.585000(kcal/mol): PK_start=1254 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1282
(fs_start=1274)

A

GGAAGGAAGGACACCAAATGAAAGACTGT

GACA GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -21.940000(kcal/mol): PK_start=1259 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1296
(fs_start=1274)

C

GAAGGACACCAAATGAAAGACTGTACTGAGAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1283 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1316
(fs_start=1274)

AAA

ACTGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT


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                AGGCCAGGAA
            AACAAGGGG

PK4:  -27.000000(kcal/mol): PK_start=1289 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=1327
(fs_start=1274)
                TTCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCC

                GGACCGG    AGGGG
                TCCCCAG
            AAATTT

PK4B:  -24.080000(kcal/mol): PK_start=1290 sp=8 s1=6 s2=4 l1=9 l2=33 L3=1 PK_end=1351
(fs_start=1274)
                TTCCAACAA
GACAGGCTAATTTTTTAGGGAAAATTTGGCC

                GACCGG  A  GGGG
                CCCCCG
            GAAATTTTCCCCAGAGCAGACCAGAACCAACAG

=====
(2174) GU201516
=====
PK1:  -10.440000(kcal/mol): PK_start=1252 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1290
(fs_start=1283)
                A
CTGGAAATGTGGGAAGGAAGGACATCAA

                GTT    AGAAAGT
                TTTTTTAGG
            CACTGAGAGACAGGCTAA

PK2:  -20.460000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1304
(fs_start=1283)
                C
GAAGGACATCAAATGAAAGATTGCACTGAGAGA

                GATTTTTT  A  ATCGGA
                TGGCCTCC
            GGAAAATC

PK3:  -25.770000(kcal/mol): PK_start=1291 sp=0 s1=4 s2=7 l1=3 l2=10 L3=0 PK_end=1325
(fs_start=1283)
                AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA

                CCCT    CCGGTCT
                GGCCAGGAA
            AACAAAGGGA

PK4:  -26.370000(kcal/mol): PK_start=1298 sp=7 s1=7 s2=4 l1=10 l2=6 L3=0 PK_end=1335
(fs_start=1283)
                TCCAACAAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCC

                GGACCGG    AGGG

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                                TCCCCA
AAACTT
=====
(2175) GU201611
=====
PK1:  -16.280000(kcal/mol): PK_start=1257 sp=0 s1=6 s2=7 l1=5 l2=17 L3=1 PK_end=1304
(fs_start=1298)
                                CCAAA
AGGGCTGTTGGAAATGTGGAAAGGAAGGACA
                                TCTTGT  C  AGAAAGT
                                TTTTTTAGG
                                AATGAAAGACAGGCTAA

PK2:  -19.700000(kcal/mol): PK_start=1284 sp=0 s1=7 s2=7 l1=1 l2=8 L3=0 PK_end=1320
(fs_start=1298)
                                C
GACACCAAATGAAAGACTGTTCTAATGAAAGA
                                ATTTTTT  AATCGGA
                                TTGGCCTTC
                                GGGAAAAT

PK3:  -23.745000(kcal/mol): PK_start=1306 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1340
(fs_start=1298)
                                AAA
TAATGAAAGACAGGCTAATTTTTTAGGGA
                                CCCT  TCCGGTTT
                                AGGCCAGGGA
                                ACAAGGGA

PK4:  -22.915000(kcal/mol): PK_start=1313 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1350
(fs_start=1298)
                                TCCCACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                                GGACCGGA  AGGGA
                                TTCCTCA
                                GAACT

=====
(2176) GU207884
=====
PK1:  -15.140000(kcal/mol): PK_start=1426 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1454
(fs_start=1446)
                                CA
GAAAAGAAGGACACCAAATGAAAGACTG
                                GAC  AGAAAGTC
                                TTTTTTAGGG
                                GCTAA

PK2:  -21.980000(kcal/mol): PK_start=1431 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1468
(fs_start=1446)
                                C
GAAGGACACCAAATGAAAGACTGCACTGAAAGA

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          GATTTTTT   AATCGGA
                    TTGGCCTTC
GGAGAAT
PK3:  -21.415000(kcal/mol): PK_start=1454 sp=0 s1=5 s2=4 l1=5 l2=9 L3=0 PK_end=1485
(fs_start=1446)
                    AATTT
CACTGAAAGACAGGCTAATTTTTTTAGGGAG
                    CCCTT   CCGG
                                GGCCCG
ACAAGGGGA
PK4:  -22.820000(kcal/mol): PK_start=1464 sp=10 s1=7 s2=4 l1=4 l2=9 L3=0 PK_end=1498
(fs_start=1446)
                    CCAC
CAGGCTAATTTTTTTAGGGAGAATTTGGCCTTC
                    CCGGAGG   GGAA
                                CCTTCA
CGGGAATTT
PK4B:  -24.675000(kcal/mol): PK_start=1464 sp=10 s1=5 s2=4 l1=8 l2=35 L3=0
PK_end=1524 (fs_start=1446)
                    TCCCACAA
CAGGCTAATTTTTTTAGGGAGAATTTGGCCT
                    CCGGA   GGGG
                                CCCCAC
CGGGAATTTCTTCAGAACAGAACAGAGCCAACAG
=====
(2177) GU230137
=====
PK1:  -11.420000(kcal/mol): PK_start=1269 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=1295
(fs_start=1289)
                    CACA
GAAAGGAGGGACATCAAATGAAGGACTG
                    GAC   AGAGAG
                                TTTTTTAG
GCTAA
PK2:  -18.660000(kcal/mol): PK_start=1276 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1311
(fs_start=1289)
                    C
GGGACATCAAATGAAGGACTGCACAGAGAGA
                    TTTTTT   AATCGGA
                                TTGGCCTTC
AGGGAAAAT
PK3:  -20.285000(kcal/mol): PK_start=1298 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1331
(fs_start=1289)
                    AAA
ACAGAGAGACAGGCTAATTTTTTTAGGGA

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          CCT   TCCGGTTT
                AGGCCAGGGA
AACAAAGGGG

PK4:  -22.705000(kcal/mol): PK_start=1304 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1341
(fs_start=1289)
                CAAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
                GGACCGGAGG   GGAA
                                TCTTCA
                GAATTT

PK4B:  -26.865000(kcal/mol): PK_start=1304 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1367
(fs_start=1289)
                TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA   GGGG
                                CCCAC
                GAATTTTCTTCAGAACAGGCCAGAGCCAACAG

=====
(2178) GU237072
=====
PK1:  -15.100000(kcal/mol): PK_start=1582 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1610
(fs_start=1602)
                CA
GACAGGAAGGACAYCAAATGAAAGACTG
                GAC   AGAGAGTC
                                TTTTTTAGGG
                GCTAA

PK2:  -20.460000(kcal/mol): PK_start=1587 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1623
(fs_start=1602)
                C
GAAGGACAYCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT   A   ATCGGA
                                TGGCCTTC
                GGAARATC

PK3:  -23.815000(kcal/mol): PK_start=1611 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1644
(fs_start=1602)
                ARA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                CCT   TCCGGTCT
                                AGGCCAGGGA
                AACAAAGGG

PK4:  -21.610000(kcal/mol): PK_start=1617 sp=7 s1=7 s2=4 l1=10 l2=5 L3=0 PK_end=1653
(fs_start=1602)
                TTCCAACAAR
AGACAGGCTAATTTTTTAGGGAARATCTGGCC

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                GGACCGG    AGGG
                    TTCTYC
    GAACT
=====
(2179) GU362013
=====
PK1:  -13.245000(kcal/mol): PK_start=1289 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1316
(fs_start=1308)
                    A
AAAGGAAGGACACCAAATGAAAGAGTGT
                ACA    GAAAGTC
                    TTTTTAGGG
    GGCTAAT

PK2:  -20.500000(kcal/mol): PK_start=1293 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1329
(fs_start=1308)
                    C
GAAGGACACCAAATGAAAGAGTGTACTGAAAGA
                GATTTTTT  A  ATCGGA
                    TGGCCTTC
    GGAAAATA

PK3:  -24.465000(kcal/mol): PK_start=1316 sp=0 s1=4 s2=6 l1=5 l2=8 L3=0 PK_end=1348
(fs_start=1308)
                    AAATA
TACTGAAAGACAGGCTAATTTTTTAGGGA
                CCCT    TCCGGT
                    AGGCCAGG
    ACAAGGGA

PK4:  -25.710000(kcal/mol): PK_start=1325 sp=9 s1=8 s2=4 l1=4 l2=8 L3=0 PK_end=1360
(fs_start=1308)
                    CCAC
ACAGGCTAATTTTTTAGGGAAAATATGGCCTTC
                ACCGGAAG    GGAA
                    CCTTCA
    GGGAATTT

=====
(2180) GU362881
=====
PK1:  -13.595000(kcal/mol): PK_start=1520 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1548
(fs_start=1540)
                    A
GAAGGGAAGGACATCAAATGAAAGATTGT
                GACA    GAAAGTC
                    TTTTTAGGG
    GCTAAT

```

PK2: -20.50000(kcal/mol): PK_start=1525 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1561
(fs_start=1540)

C
GAAGGACATCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.11000(kcal/mol): PK_start=1548 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1582
(fs_start=1540)

A
TACTGAAAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAAGGAAG

PK4: -26.92500(kcal/mol): PK_start=1555 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1592
(fs_start=1540)

TCCCACA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGAA
TCCTTCA
GAATT

=====
(2181) GU362882
=====

PK1: -11.42000(kcal/mol): PK_start=1535 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=1561
(fs_start=1555)

CACA
GAAAGGAGGGACATCAAATGAAAGACTG
GAC AGAGAG
TTTTTTAG
GCTAA

PK2: -18.66000(kcal/mol): PK_start=1542 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1577
(fs_start=1555)

C
GGGACATCAAATGAAAGACTGCACAGAGAGA
TTTTTT AATCGGA
TTGGCCTTC
AGGGAGAAT

PK3: -18.84000(kcal/mol): PK_start=1563 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1597
(fs_start=1555)

AA
CACAGAGAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTTT
GCCAGGGA
AACAAGGAAG

PK4: -21.465000(kcal/mol): PK_start=1570 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1607
(fs_start=1555)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
GGACCGGA AGGG
TCTCCA
GAATTT

=====
(2182) GU362883
=====

PK1: -12.270000(kcal/mol): PK_start=1527 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1555
(fs_start=1547)

CA
GAAAGGAAGGACACCAAATGAAAGACTG
GAC AGAGAGTT
TTTTTTAGGG
GCTAA

PK2: -18.430000(kcal/mol): PK_start=1532 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1568
(fs_start=1547)

C
GAAGGACACCAAATGAAAGACTGCATTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -31.920000(kcal/mol): PK_start=1555 sp=0 s1=3 s2=10 l1=5 l2=3 L3=0 PK_end=1588
(fs_start=1547)

AAAAAT
CATTGAGAGACAGGCTAATTTTTTTAGGG
CCC CCTTCCGGTC
GGGAGGCCAGGA
AAG

PK4: -28.540000(kcal/mol): PK_start=1562 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1599
(fs_start=1547)

CCCC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
AAATTT

PK4B: -30.395000(kcal/mol): PK_start=1562 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1625
(fs_start=1547)

TCCCCCAA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCGA
AAATTTCTTCAGAACAGACCAGAGCCAACAG

=====
(2183) GU362886
=====

PK1: -13.595000(kcal/mol): PK_start=1515 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1543
(fs_start=1535)

A
GAAGGGAAGGACATCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1520 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1556
(fs_start=1535)

C
GAAGGACATCAAATGAAAGATTGTTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -23.815000(kcal/mol): PK_start=1544 sp=0 s1=3 s2=8 l1=3 l2=9 l3=0 PK_end=1577
(fs_start=1535)

AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTCT
AGGCCAGGGA
AACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=1550 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1587
(fs_start=1535)

CAAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1550 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=1613
(fs_start=1535)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCTTCAAAGCAGACCAGAGCCAACAG

=====
(2184) GU564221
=====

PK1: -15.100000(kcal/mol): PK_start=1279 sp=0 s1=3 s2=8 l1=2 l2=5 l3=0 PK_end=1307
(fs_start=1299)

CA
GGCAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC


```

                TTTTTTAGGA
      GCTAA
PK2:  -20.460000(kcal/mol): PK_start=1284 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1320
(fs_start=1299)
                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT  A  ATCGGA
                TGGCCTTC
      GAAAGCTC
PK3:  -16.670000(kcal/mol): PK_start=1310 sp=0 s1=3 s2=6 l1=1 l2=13 L3=0 PK_end=1341
(fs_start=1299)
                C
TGAGAGACAGGCTAATTTTTTAGGAAAG
                TTC    CGGTCT
                GCCGGGAA
      CCAACAAGGGAAG
PK4:  -25.775000(kcal/mol): PK_start=1314 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1351
(fs_start=1299)
                TCCAACA
AGACAGGCTAATTTTTTAGGAAAGCTCTGGCCT
                GGGCCGGA    AGGGA
                TTCCTCA
      AAATT
=====
(2185) GU564222
=====
PK1:  -15.140000(kcal/mol): PK_start=1282 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1310
(fs_start=1302)
                CA
GGAATGAAGGACATCAAATGAAAGACTG
                GAC    AGAAAGTC
                TTTTTTAGGA
      GCTAA
PK2:  -21.980000(kcal/mol): PK_start=1287 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1324
(fs_start=1302)
                C
GAAGGACATCAAATGAAAGACTGCACTGAAAGA
                GATTTTTT    AATCGGA
                TTGGCCTTC
      GAAGATT
PK3:  -18.295000(kcal/mol): PK_start=1310 sp=0 s1=3 s2=9 l1=3 l2=9 L3=0 PK_end=1345
(fs_start=1302)
                AGA
CACTGAAAGACAGGCTAATTTTTTAGGA
                CCT    TCCGGTTTT

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AGGCCGGGAA

AACAAGGGA

PK4: -23.535000(kcal/mol): PK_start=1316 sp=6 s1=9 s2=5 l1=7 l2=4 L3=0 PK_end=1354
(fs_start=1302)

TCCAACA

AAGACAGGCTAATTTTTTTAGGAAGATTTTGGCCT

GGGCCGGA AGGGA

TCCCTCA

AATT

=====
(2186) GU564223
=====

PK1: -15.140000(kcal/mol): PK_start=1291 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1319
(fs_start=1311)

CA

GGAAGGAAGGACATCAAATGAAAGACTG

GAC AGAAAGTC

TTTTTTAGGG

GCTAA

PK2: -21.980000(kcal/mol): PK_start=1296 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1333
(fs_start=1311)

C

GAAGGACATCAAATGAAAGACTGCACTGAAAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1320 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1353
(fs_start=1311)

AAA

ACTGAAAGACAGGCTAATTTTTTTAGGGA

CCT TCCGGTTT

AGGCCGGGAA

AGCAAGGGA

PK4: -21.195000(kcal/mol): PK_start=1326 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1363
(fs_start=1311)

TCCAGCA

AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT

GGGCCGGA AGGGA

TTCCTCA

AAATT

=====
(2187) GU564224
=====

PK1: -15.140000(kcal/mol): PK_start=1289 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1317
(fs_start=1309)

CA

GGAAGGAAGGACATCAAATGAAAGACTG

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                GAC   AGAAAGTC
                TTTTTTAGGC
    GCTAA
PK2:  -21.980000(kcal/mol): PK_start=1294 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1331
(fs_start=1309)
                C
    GAAGGACATCAAATGAAAGACTGCACTGAAAGA
                GATTTTTT   AATCGGA
                TTGGCCTTG
    GCAAGAT
PK3:  -17.320000(kcal/mol): PK_start=1318 sp=0 s1=5 s2=6 l1=1 l2=11 L3=0 PK_end=1351
(fs_start=1309)
                A
    ACTGAAAGACAGGCTAATTTTTTAGGCAAG
                CGTTC   CGGTTT
                GCCGGGGA
    AACAAGGGAAG
PK4:  -21.195000(kcal/mol): PK_start=1324 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1361
(fs_start=1309)
                TGCAACA
    AGACAGGCTAATTTTTTAGGCAAGATTGGCCT
                GGGCCGGA   AGGGA
                TTCCTCA
    GAATT
=====
(2188) GU564225
=====
PK1:  -15.140000(kcal/mol): PK_start=1290 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1318
(fs_start=1310)
                CA
    GGAAGGAAGGACATCAAATGAAAGACTG
                GAC   AGAAAGTC
                TTTTTTAGGG
    GCTAA
PK2:  -21.980000(kcal/mol): PK_start=1295 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1332
(fs_start=1310)
                C
    GAAGGACATCAAATGAAAGACTGCACTGAAAGA
                GATTTTTT   AATCGGA
                TTGGCCTTC
    GGAAAAT
PK3:  -22.025000(kcal/mol): PK_start=1318 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1352
(fs_start=1310)
                AAA
    CACTGAAAGACAGGCTAATTTTTTAGGGA

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          CCCT   TCCGGTTT
                AGGCCGGGGA
ACAAGGGA

PK4:  -21.195000(kcal/mol): PK_start=1325 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1362
(fs_start=1310)
                TCCCACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGGCCGGA   AGGGA
                TTCCTCA
          GAATT

=====
(2189) GU564227
=====
PK1:  -15.140000(kcal/mol): PK_start=1295 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1323
(fs_start=1315)
                CA
GGAAGGAAGGACATCAAATGAAAGACTG
                GAC   AGAAAGTC
                TTTTTTAGGG
          GCTAA

PK2:  -21.980000(kcal/mol): PK_start=1300 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1337
(fs_start=1315)
                C
GAAGGACATCAAATGAAAGACTGCACTGAAAGA
                GATTTTTT   AATCGGA
                TTGGCCTTC
          GGAAAAT

PK3:  -22.025000(kcal/mol): PK_start=1323 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1357
(fs_start=1315)
                AAA
CACTGAAAGACAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTTT
                AGGCCGGGGA
          ACAAGGGG

PK4:  -20.495000(kcal/mol): PK_start=1330 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1367
(fs_start=1315)
                CCCACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
                GGGCCGAG   GGGA
                TCCTCA
          GAATTT

PK4B:  -25.145000(kcal/mol): PK_start=1330 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1393
(fs_start=1315)
                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

```

GGGCCGGA GGGG
CCCCAC
GAATTTTCCTCAGAGCAGACCAGAGCCAACAG

=====
(2190) GU564228
=====

PK1: -15.140000(kcal/mol): PK_start=1269 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1297
(fs_start=1289)

CA
GGAAGGAAGGACATCAAATGAAAGACTG

GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -21.980000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1311
(fs_start=1289)

C
GAAGGACATCAAATGAAAGACTGCACTGAAAGA

GATTTTTT AATCGGA
TTGGCCTTC
GGAGAAT

PK3: -17.120000(kcal/mol): PK_start=1297 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1331
(fs_start=1289)

AA
CACTGAAAGACAGGCTAATTTTTTAGGGAG

CCTTC CGGTTT
GCCGGGGA
ACAAGGGAAG

PK4: -21.195000(kcal/mol): PK_start=1304 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1341
(fs_start=1289)

TCCAACA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT

GGGCCGGA AGGGA
TTCCTCA
GAATT

=====
(2191) GU564229
=====

PK1: -15.140000(kcal/mol): PK_start=1295 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1323
(fs_start=1315)

CA
GGAATGAAGGACATCAAATGAAAGACTG

GAC AGAAAGTC
TTTTTTAGGA
GCTAA

PK2: -21.980000(kcal/mol): PK_start=1300 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1337
(fs_start=1315)

C
GAAGGACATCAAATGAAAGACTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GAAAGCT

PK3: -12.090000(kcal/mol): PK_start=1326 sp=0 s1=3 s2=6 l1=1 l2=13 L3=0 PK_end=1357
(fs_start=1315)

C
TGAAAGACAGGCTAATTTTTTAGGAAAG
TTC CGGTTT
GCCGGGA
CCCACAAGGGAAG

PK4: -23.505000(kcal/mol): PK_start=1329 sp=6 s1=9 s2=5 l1=7 l2=4 L3=0 PK_end=1367
(fs_start=1315)

TCCCACA
AAGACAGGCTAATTTTTTAGGAAAGCTTTGGCCT
GGGGCCGGA AGGGA
TTCCTCA
AATT

=====
(2192) GU564230

=====
PK1: -15.100000(kcal/mol): PK_start=1286 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1314
(fs_start=1306)

CA
GGCAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1291 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1328
(fs_start=1306)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAGCT

PK3: -19.120000(kcal/mol): PK_start=1315 sp=0 s1=5 s2=6 l1=1 l2=11 L3=0 PK_end=1348
(fs_start=1306)

C
ACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCTTC CGGTTT
GCCAGGGA
AACAAGGGAAG

PK4: -25.225000(kcal/mol): PK_start=1320 sp=6 s1=9 s2=5 l1=7 l2=4 L3=0 PK_end=1358
(fs_start=1306)

TCCAACA
GAGACAGGCTAATTTTTTAGGGAAGCTTTGGCCT
GGGACCGGA AGGGA
TTCCTCA
AATT

=====
(2193) GU595148
=====

PK1: -15.140000(kcal/mol): PK_start=1338 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1366
(fs_start=1358)

CA
GAAGAGAAGGACACCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -20.500000(kcal/mol): PK_start=1343 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1379
(fs_start=1358)

C
GAAGGACACCAAATGAAAGACTGCACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAGAATC

PK3: -22.370000(kcal/mol): PK_start=1366 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1400
(fs_start=1358)

AA
CACTGAAAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTCT
GCCAGGGA
AACAAGGGGAG

PK4: -28.540000(kcal/mol): PK_start=1373 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1410
(fs_start=1358)

CAAC
AGACAGGCTAATTTTTTAGGGAGAATCTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1373 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1436
(fs_start=1358)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAGAATCTGGCCT
GGACCGGA GGGG
CCCCGC
GAATTTCTTCAGAACAGGCCAGAGCCAACAG

=====
(2194) GU595149
=====

PK1: -15.10000(kcal/mol): PK_start=1357 sp=0 s1=3 s2=8 l1=2 l2=5 l3=0 PK_end=1385
(fs_start=1377)

CA
GAAGAGAAGGACACCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTWA

PK2: -19.46000(kcal/mol): PK_start=1362 sp=0 s1=8 s2=5 l1=1 l2=9 l3=2 PK_end=1397
(fs_start=1377)

C
GAAGGACACCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AW TCGGA
GGCCTTC
GGAAAATTT

PK3: -22.02500(kcal/mol): PK_start=1385 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=1419
(fs_start=1377)

AAA
CACTGAGAGACAGGCTWATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCGGGAA
ACAAGGGG

PK4: -23.29000(kcal/mol): PK_start=1392 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1429
(fs_start=1377)

CCAC
AGACAGGCTWATTTTTTAGGGAAAATTTGGCCTTC
GGGCCGGAGG GGAA
CCTTCA
AAATTT

PK4B: -25.14500(kcal/mol): PK_start=1392 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=1455
(fs_start=1377)

TCCCACAA
AGACAGGCTWATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA GGGG
CCCCGC
AAATTTCTTCAGAGCAGACCAGAACCAACAG

=====
(2195) GU595150
=====

PK1: -15.14000(kcal/mol): PK_start=1941 sp=0 s1=3 s2=8 l1=2 l2=5 l3=0 PK_end=1969
(fs_start=1961)

CM
GAAGAGAAGGACAYCAAATGAAAGACTG
GAC AGAAAGTC


```

          TTTTTTAGGG
      GTTAA
PK2:  -17.990000(kcal/mol): PK_start=1946 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1983
(fs_start=1961)
          C
GAAGGACAYCAAATGAAAGACTGCMCTGAAAGA
          GATTTTTT   AATTGGA
          TTGGCCTTC
      GGAAAAAT
PK3:  -23.745000(kcal/mol): PK_start=1969 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2003
(fs_start=1961)
          AAA
CMCTGAAAGACAGGTTAATTTTTTAGGGA
          CCCT   TCCGGTTT
          AGGCCAGGAA
      ACAAGGGG
PK4:  -25.075000(kcal/mol): PK_start=1976 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2013
(fs_start=1961)
          TCCCACA
AGACAGGTTAATTTTTTAGGGAAAATTTGGCCT
          GGACCGGA   GGGGA
          TCCCTCA
      AAATT
PK4B:  -26.865000(kcal/mol): PK_start=1976 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2039
(fs_start=1961)
          TCCCACAA
AGACAGGTTAATTTTTTAGGGAAAATTTGGCCT
          GGACCGGA   GGGG
          CCCCAC
      AAATTTCCCTCAGAACAGGCTAGAGCCAACAG
=====
(2196) GU595151
=====
PK1:  -15.140000(kcal/mol): PK_start=1723 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1751
(fs_start=1743)
          CA
GAAAAGAAGGACACCCARATGAAAGACTG
          GAC   AGAAAGTC
          TTTTTTAGGG
      GCTAA
PK2:  -21.980000(kcal/mol): PK_start=1728 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1765
(fs_start=1743)
          C
GAAGGACACCCARATGAAAGACTGCACTGAAAGA
          GATTTTTT   AATCGGA

```

TTGCCTTC

GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1752 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1785
(fs_start=1743)

AAA

ACTGAAAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT

AGGCCAGGWA

AACAAGGGG

PK4: -26.865000(kcal/mol): PK_start=1758 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1821
(fs_start=1743)

TCCAACAA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG

CCCCAC

WAATTTTCATTCAGAGCAGGCCAGAGCCAACAG

=====

(2197) GU595152

=====

PK1: -13.555000(kcal/mol): PK_start=1832 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1860
(fs_start=1852)

A

GAAGGGAAGGACACCAAATGAAAGATTGT

GACA GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1837 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1873
(fs_start=1852)

C

GAAGGACACCAAATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1860 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1894
(fs_start=1852)

A

TACTGAGAGACAGGCTAATTTTTTAGGGAAG

TCCTTC CGGTCT

GCCAGGGA

ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1867 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1904
(fs_start=1852)

CTAC

AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC

GGACCGGAGG GGAA

TCTTCA

GAACTT

PK4B: -30.395000(kcal/mol): PK_start=1867 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1930
(fs_start=1852)

TCCTACAA

AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT

GGACCGGA GGGG

CCCCAC

GAACTTTCTTCAGAGCAGACCAGAGCCAACAG

=====

(2198) GU595153

=====

PK1: -11.015000(kcal/mol): PK_start=1684 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=1711
(fs_start=1704)

AC

GAAAGGAAGGACACCAAATGAAAGATTGT

GACA GAAAGT

TTTTTAAG

GCTAAT

PK2: -18.020000(kcal/mol): PK_start=1690 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1725
(fs_start=1704)

C

AAGGACACCAAATGAAAGATTGTACTGAAAGA

ATTTTTT A ATCGGA

TGGCCTTC

AGGAGAATC

PK3: -21.205000(kcal/mol): PK_start=1713 sp=0 s1=3 s2=6 l1=5 l2=9 L3=0 PK_end=1744
(fs_start=1704)

GAATC

ACTGAAAGACAGGCTAATTTTTTAAGGA

CCT TCCGGT

AGGCCAAG

CACAAAGGGG

PK4: -25.030000(kcal/mol): PK_start=1721 sp=9 s1=8 s2=4 l1=4 l2=8 L3=0 PK_end=1756
(fs_start=1704)

CCAC

ACAGGCTAATTTTTTAAGGAGAATCTGGCCTTC

ACCGGAGG GGAA

CCTTCA

AGGAATTT

PK4B: -26.885000(kcal/mol): PK_start=1721 sp=9 s1=6 s2=4 l1=8 l2=34 L3=0 PK_end=1782
(fs_start=1704)

TCCCACAA

ACAGGCTAATTTTTTAAGGAGAATCTGGCCT

ACCGGA GGGG

CCCCGC
AGGAATTTTCCTTCAGAACAGGCCAGAGCCCACAG

=====
(2199) GU595158
=====

PK1: -10.725000(kcal/mol): PK_start=1718 sp=0 s1=3 s2=6 l1=2 l2=7 L3=0 PK_end=1744
(fs_start=1737)

GA
AAAGGAAGGACACCAAATGAAAGAATGT
ACA GAGAGT
TTTTTAGG
GGCTAAT

PK2: -18.180000(kcal/mol): PK_start=1723 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1758
(fs_start=1737)

C
AAGGACACCAAATGAAAGAATGTGATGAGAGA
ATTTTTT A ATCGGA
TGGCCTTC
GGGAAGANC

PK3: -30.700000(kcal/mol): PK_start=1746 sp=0 s1=3 s2=10 l1=4 l2=3 L3=0 PK_end=1778
(fs_start=1737)

AGAN
GATGAGAGACAGGCTAATTTTTTAGGGA
CCT CCTTCCGGTC
GGAAGGCCAGGG
AAG

PK4: -27.490000(kcal/mol): PK_start=1753 sp=8 s1=9 s2=4 l1=4 l2=7 L3=0 PK_end=1789
(fs_start=1737)

CTCC
GACAGGCTAATTTTTTAGGGAAGANCTGGCCTTC
GACCGGAAG GGAA
CCTTCA
GGAATTT

=====
(2200) GU647196
=====

PK1: -10.765000(kcal/mol): PK_start=2059 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2087
(fs_start=2079)

A
GAAAGGAAGGACACCAAATGAAGGATTGT
GACA GAAAGTT
TTTTTAGGG
GCTAAT

PK2: -15.830000(kcal/mol): PK_start=2064 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2100
(fs_start=2079)

C
GAAGGACACCAAATGAAGGATTGTATTGAAAGA

GATTTTTT A ATCGGA
TGGTCTTC
GGAAGATC

PK3: -24.335000(kcal/mol): PK_start=2087 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=2121
(fs_start=2079)

A
TATTGAAAGACAGGCTAATTTTTTAGGGAAG
CCCTTC TGGTCT
GCCAGGGA
ACAAGGGGAG

PK4: -25.900000(kcal/mol): PK_start=2094 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2131
(fs_start=2079)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGTCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -27.755000(kcal/mol): PK_start=2094 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2157
(fs_start=2079)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGTCT
GGACCGGA GGGG
CCCCAC
GAATTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2201) GU647197
=====

PK1: -10.725000(kcal/mol): PK_start=2059 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2087
(fs_start=2079)

A
GAAAGGAAGGACACCAAATGAAGGATTGT
GACA GAGAGTT
TTTTTAGGG
GCTAAT

PK2: -18.430000(kcal/mol): PK_start=2064 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2100
(fs_start=2079)

C
GAAGGACACCAAATGAAGGATTGTATTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=2087 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=2121
(fs_start=2079)

A
TATTGAGAGACAGGCTAATTTTTTAGGGAAG

```

          CCCTTC   CGGTCT
                    GCCAGGGA
ACAAGGGGAG

PK4:  -26.235000(kcal/mol): PK_start=2094 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2131
(fs_start=2079)
                    CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
                    GGACCGGAGG   GGAA
                                TCTTCA
                    GAACTT

PK4B:  -30.395000(kcal/mol): PK_start=2094 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2157
(fs_start=2079)
                    TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
                    GGACCGGA   GGGG
                                CCCAC
                    GAACTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2202) GU647198
=====
PK1:  -10.725000(kcal/mol): PK_start=2059 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2087
(fs_start=2079)
                    A
GAAAGGAAGGACACCAAATGAAGGATTGT
                    GACA   GAGAGTT
                                TTTTTAGGG
                    GCTAAT

PK2:  -18.430000(kcal/mol): PK_start=2064 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2100
(fs_start=2079)
                    C
GAAGGACACCAAATGAAGGATTGTATTGAGAGA
                    GATTTTTT   A   ATCGGA
                                TGGCCTTC
                    GGAAGATC

PK3:  -26.110000(kcal/mol): PK_start=2087 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=2121
(fs_start=2079)
                    A
TATTGAGAGACAGGCTAATTTTTTAGGGAAG
                    CCCTTC   CGGTCT
                                GCCAGGGA
                    ACAAGGGGAG

PK4:  -26.235000(kcal/mol): PK_start=2094 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2131
(fs_start=2079)
                    CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC

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                GGACCGGAGG    GGAA
                                TCTTCA
          GAACTT
PK4B:  -30.395000(kcal/mol): PK_start=2094 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2157
(fs_start=2079)
                                TCCCACAA
AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCT
                GGACCGGA    GGGG
                                CCCCAC
          GAACTTTCTTCAGAGCAGACCAGAGCCAACAG

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=====
(2203) GU733713
=====

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PK1:  -10.975000(kcal/mol): PK_start=2076 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=2103
(fs_start=2096)

```

```

                                AA
GAAAGGAAGGACACCAAATGAAAGATTGT
                GACA    GAGAGT
                                TTTTTAGG
          GTTAAT

```

```

PK2:  -14.690000(kcal/mol): PK_start=2082 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=2117
(fs_start=2096)

```

```

                                C
AAGGACACCAAATGAAAGATTGTAATGAGAGA
                ATTTTTT  A  ATTGGA
                                TGGCCTTC
          GGGAAAATC

```

```

PK3:  -27.275000(kcal/mol): PK_start=2104 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2138
(fs_start=2096)

```

```

                                AAA
TAATGAGAGACAGGTTAATTTTTTTAGGGA
                CCCT    TCCGGTCT
                                AGGCCAGGGA
          ACAAGGGA

```

```

PK4:  -26.715000(kcal/mol): PK_start=2111 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2148
(fs_start=2096)

```

```

                                CCAC
AGACAGGTTAATTTTTTTAGGGAAAATCTGGCCTTC
                GGACCGGAAG    GGAA
                                TCTTCA
          GAATTT

```

```

=====
(2204) GU733714
=====

```

PK1: -10.975000(kcal/mol): PK_start=2076 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=2103
(fs_start=2096)

AA
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGT
TTTTTAGG
GTTAAT

PK2: -14.690000(kcal/mol): PK_start=2082 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=2117
(fs_start=2096)

C
AAGGACACCAAATGAAAGATTGTAATGAGAGA
ATTTTTT A ATTGGA
TGGCCTTC
GGGAAAATC

PK3: -27.275000(kcal/mol): PK_start=2104 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2138
(fs_start=2096)

AAA
TAATGAGAGACAGGTTAATTTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=2111 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2148
(fs_start=2096)

CCAC
AGACAGGTTAATTTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2205) GU733715
=====

PK1: -10.975000(kcal/mol): PK_start=2076 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=2103
(fs_start=2096)

AA
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGT
TTTTTAGG
GTTAAT

PK2: -14.690000(kcal/mol): PK_start=2082 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=2117
(fs_start=2096)

C
AAGGACACCAAATGAAAGATTGTAATGAGAGA
ATTTTTT A ATTGGA
TGGCCTTC
GGGAAAATC

PK3: -27.275000(kcal/mol): PK_start=2104 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2138
(fs_start=2096)

AAA
TAATGAGAGACAGGTTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=2111 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2148
(fs_start=2096)

CCAC
AGACAGGTTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2206) GU733716
=====

PK1: -10.975000(kcal/mol): PK_start=2076 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=2103
(fs_start=2096)

AA
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGT
TTTTTAGG
GTTAAT

PK2: -14.690000(kcal/mol): PK_start=2082 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=2117
(fs_start=2096)

C
AAGGACACCAAATGAAAGATTGTAATGAGAGA
ATTTTTT A ATTGGA
TGGCCTTC
GGGAAAATC

PK3: -27.275000(kcal/mol): PK_start=2104 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2138
(fs_start=2096)

AAA
TAATGAGAGACAGGTTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=2111 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2148
(fs_start=2096)

CCAC
AGACAGGTTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2207) GU733717
=====

PK1: -10.975000(kcal/mol): PK_start=2076 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=2103
(fs_start=2096)

AA
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGT
TTTTTAGG
GTTAAT

PK2: -14.690000(kcal/mol): PK_start=2082 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=2117
(fs_start=2096)

C
AAGGACACCAAATGAAAGATTGTAATGAGAGA
ATTTTTT A ATTGGA
TGGCCTTC
GGGAAAATC

PK3: -27.275000(kcal/mol): PK_start=2104 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2138
(fs_start=2096)

AAA
TAATGAGAGACAGGTTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=2111 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2148
(fs_start=2096)

CCAC
AGACAGGTTAATTTTTTAGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2208) HH978650
=====

PK1: -13.555000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2092
(fs_start=2084)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2105
(fs_start=2084)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA

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                                TGGCCTTC
                GGAAGATC
PK3:  -25.060000(kcal/mol): PK_start=2092 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=2126
(fs_start=2084)
                                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                                TCCTTC    CGGTCT
                                GCCAGGGA
                ACAAGGGAAG

PK4:  -26.715000(kcal/mol): PK_start=2099 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2136
(fs_start=2084)
                                CTAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
                                GGACCGGAAG    GGAA
                                TCTTCA
                GAATTT

=====
(2209) HI964165
=====
PK1:  -13.555000(kcal/mol): PK_start=1610 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1638
(fs_start=1630)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                                GACA    GAGAGTC
                                TTTTTAGGG
                GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1615 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1651
(fs_start=1630)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                                GATTTTTT    A    ATCGGA
                                TGGCCTTC
                GGAAGATC

PK3:  -25.060000(kcal/mol): PK_start=1638 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1672
(fs_start=1630)
                                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                                TCCTTC    CGGTCT
                                GCCAGGGA
                ACAAGGGAAG

PK4:  -26.715000(kcal/mol): PK_start=1645 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1682
(fs_start=1630)
                                CTAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
                                GGACCGGAAG    GGAA

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                                TCTTCA
                                GAATTT
=====
(2210) HM026455
=====
PK1:  -15.140000(kcal/mol): PK_start=1511 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1539
(fs_start=1531)
                                CA
GAAGGGAGGGACACCAAATGAAAGACTG
                                GAC   AGAAAGTC
                                TTTTTTAGGG
                                GCTAA

PK2:  -21.980000(kcal/mol): PK_start=1516 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1553
(fs_start=1531)
                                C
GAGGGACACCAAATGAAAGACTGCACTGAAAGA
                                GATTTTTT   AATCGGA
                                TTGGCCTTC
                                GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1540 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1573
(fs_start=1531)
                                AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
                                CCT   TCCGGTTT
                                AGGCCAGGGA
                                GACAAGGGG

PK4:  -25.010000(kcal/mol): PK_start=1546 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1583
(fs_start=1531)
                                CGAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
                                GGACCGGAGG   GGAA
                                CCTTCA
                                GAATTT

PK4B:  -26.865000(kcal/mol): PK_start=1546 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1609
(fs_start=1531)
                                TCCGACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                                GGACCGGA   GGGG
                                CCCCAC
                                GAATTTCTTCAGAACAGGCCAGAGCCAACAG

=====
(2211) HM026456
=====
PK1:  -15.140000(kcal/mol): PK_start=1502 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1530
(fs_start=1522)
                                CA
GAAGAGAAGGACACCAAATGAAAGACTG

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                GAC   AGAAAGTC
                TTTTTTAGGG
            GCTAA

PK2:  -21.980000(kcal/mol): PK_start=1507 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1544
(fs_start=1522)
                C
GAAGGACACCAAATGAAAGACTGCACTGAAAGA
                GATTTTTT   AATCGGA
                TTGGCCTTC
            GGAAAAT

PK3:  -18.320000(kcal/mol): PK_start=1531 sp=0 s1=4 s2=4 l1=5 l2=10 L3=0 PK_end=1561
(fs_start=1522)
                AATTT
ACTGAAAGACAGGCTAATTTTTTAGGGAA
                CCTT   CCGG
                GGCCCG
            AACAAAGGGGA

PK4:  -22.820000(kcal/mol): PK_start=1540 sp=10 s1=7 s2=4 l1=4 l2=9 L3=0 PK_end=1574
(fs_start=1522)
                CAAC
CAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
                CCGGAGG   GGAA
                CCTTCA
            CGGAAATTT

PK4B:  -24.675000(kcal/mol): PK_start=1540 sp=10 s1=5 s2=4 l1=8 l2=35 L3=0
PK_end=1600 (fs_start=1522)
                TCCAACAA
CAGGCTAATTTTTTAGGGAAAATTTGGCCT
                CCGGA   GGGG
                CCCCCG
            CGGAAATTTCTTCAGAACAGGCCAGAGCCAACAG

=====
(2212) HMO26457
=====

PK1:  -15.140000(kcal/mol): PK_start=1459 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1487
(fs_start=1479)
                CA
GAAGAGAAGGACACCAAATGAAAGACTG
                GAC   AGAAAGTC
                TTTTTTAGGG
            GCTAA

PK2:  -21.980000(kcal/mol): PK_start=1464 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1501
(fs_start=1479)
                C
GAAGGACACCAAATGAAAGACTGCACTGAAAGA

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          GATTTTTT   AATCGGA
                    TTGGCCTTC
      GGAAAAT

PK3:  -18.320000(kcal/mol): PK_start=1488 sp=0 s1=4 s2=4 l1=5 l2=10 L3=0 PK_end=1518
(fs_start=1479)
                    AATTT
ACTGAAAGACAGGCTAATTTTTTTAGGGAA

          CCTT   CCGG
                    GGCCCG
      AGCAAAGGGA

PK4:  -20.555000(kcal/mol): PK_start=1497 sp=10 s1=5 s2=5 l1=7 l2=8 L3=0 PK_end=1531
(fs_start=1479)
                    TCCAGCA
CAGGCTAATTTTTTTAGGGAAAATTTGGCCT

          CCGGA   GGGAA
                    TCCTTCA
      CGGAAATT

=====
(2213) HM026458
=====
PK1:  -15.140000(kcal/mol): PK_start=1501 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1529
(fs_start=1521)
                    CA
GAAGAGAAGGACATCAAATGAAAGACTG

          GAC   AGAAAGTC
                    TTTTTTAGGG
      GCTAA

PK2:  -21.980000(kcal/mol): PK_start=1506 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1543
(fs_start=1521)
                    C
GAAGGACATCAAATGAAAGACTGCACTGAAAGA

          GATTTTTT   AATCGGA
                    TTGGCCTTC
      GGAAAAT

PK3:  -21.780000(kcal/mol): PK_start=1529 sp=0 s1=5 s2=4 l1=5 l2=9 L3=0 PK_end=1560
(fs_start=1521)
                    AATTT
CACTGAAAGACAGGCTAATTTTTTTAGGGAA

          CCCTT   CCGG
                    GGCCCG
      ACAAGGGGA

PK4:  -22.820000(kcal/mol): PK_start=1539 sp=10 s1=7 s2=4 l1=4 l2=9 L3=0 PK_end=1573
(fs_start=1521)
                    CCAC
CAGGCTAATTTTTTTAGGGAAAATTTGGCCTTC

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CCGGAGG GGAA
 CCTTCA
 CGGGAATTT
 PK4B: -24.675000(kcal/mol): PK_start=1539 sp=10 s1=5 s2=4 l1=8 l2=35 L3=0
 PK_end=1599 (fs_start=1521)
 TCCCACAA
 CAGGCTAATTTTTTAGGGAAAATTTGGCCT
 CCGGA GGGG
 CCCCCG
 CGGGAATTTCTTCAGAACAGGCCAGAGCCAACAG

=====
 (2214) HMO26459
 =====

PK1: -15.140000(kcal/mol): PK_start=1516 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1544
 (fs_start=1536)
 CA
 GAAAAGAAGGACACCAAATGAAAGACTG
 GAC AGAAAGTC
 TTTTTTAGGG
 GCTAA

PK2: -21.980000(kcal/mol): PK_start=1521 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1558
 (fs_start=1536)
 C
 GAAGGACACCAAATGAAAGACTGCACTGAAAGA
 GATTTTTT AATCGGA
 TTGGCCTTC
 GGAAAAT

PK3: -21.780000(kcal/mol): PK_start=1544 sp=0 s1=5 s2=4 l1=5 l2=12 L3=0 PK_end=1578
 (fs_start=1536)
 AATTT
 CACTGAAAGACAGGCTAATTTTTTAGGGAA
 CCCTT CCGG
 GGCCCC
 ACAAGGGGGGA

PK4: -30.295000(kcal/mol): PK_start=1554 sp=10 s1=9 s2=5 l1=2 l2=8 L3=0 PK_end=1591
 (fs_start=1536)
 AC
 CAGGCTAATTTTTTAGGGAAAATTTGGCCTTCCC
 CCGGAGGGG GGAA
 TCCTTCA
 CGGAAATT

PK4B: -31.190000(kcal/mol): PK_start=1554 sp=10 s1=8 s2=4 l1=5 l2=35 L3=0
 PK_end=1617 (fs_start=1536)
 CACAA
 CAGGCTAATTTTTTAGGGAAAATTTGGCCTTCC

CCGGAGGG GGGG
CCCCAC
CGGAAATTCCTTCAGAACAGGATAGAGCCAACAG

=====
(2215) HM026460
=====

PK1: -10.640000(kcal/mol): PK_start=1488 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1526
(fs_start=1519)

A
TTGGAAATGTGGAAGAGAAGGACACCAA

GTT AGAAAGT
TTTTTTAGG
CACTGAAAGACAGGCTAA

PK2: -21.980000(kcal/mol): PK_start=1504 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1541
(fs_start=1519)

C
GAAGGACACCAAATGAAAGATTGCACTGAAAGA

GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -18.320000(kcal/mol): PK_start=1528 sp=0 s1=4 s2=4 l1=5 l2=10 L3=0 PK_end=1558
(fs_start=1519)

AATTT
ACTGAAAGACAGGCTAATTTTTTAGGGAA

CCTT CCGG
GGCCCG
AACAAAGGGGA

PK4: -22.820000(kcal/mol): PK_start=1537 sp=10 s1=7 s2=4 l1=4 l2=9 L3=0 PK_end=1571
(fs_start=1519)

CAAC
CAGGCTAATTTTTTAGGGAAAATTTGGCCTTC

CCGGAGG GGAA
CCTTCA
CGGAACTT

PK4B: -24.675000(kcal/mol): PK_start=1537 sp=10 s1=5 s2=4 l1=8 l2=35 L3=0
PK_end=1597 (fs_start=1519)

TCCAACAA
CAGGCTAATTTTTTAGGGAAAATTTGGCCT

CCGGA GGGG
CCCCAC
CGGAACTTCCTTCAGAACAGGCCAGAGCCAACAG

=====
(2216) HM067749
=====

PK1: -11.420000(kcal/mol): PK_start=2054 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=2080
(fs_start=2074)

CACG
GAAAGGAGGGACATCAAATGAGAGACTG
GAC AGAGAG
TTTTTTAG
GCTAA

PK2: -17.280000(kcal/mol): PK_start=2061 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=2095
(fs_start=2074)

C
GGGACATCAAATGAGAGACTGCACGGAGAGA
TTTTTT A ATCGGA
TGGCCTTC
AGGGAGAATG

PK3: -21.005000(kcal/mol): PK_start=2083 sp=0 s1=3 s2=6 l1=5 l2=9 L3=0 PK_end=2114
(fs_start=2074)

GAATG
ACGGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGT
AGGCCAGG
AGCAAAGGA

PK4: -23.515000(kcal/mol): PK_start=2091 sp=9 s1=6 s2=5 l1=7 l2=7 L3=0 PK_end=2126
(fs_start=2074)

TCCAGCA
ACAGGCTAATTTTTTAGGGAGAATGTGGCCT
ACCGGA AGGAA
TCCTTCA
GGGAACT

=====
(2217) HM100716
=====

PK1: -14.985000(kcal/mol): PK_start=2079 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2107
(fs_start=2099)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=2084 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2121
(fs_start=2099)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=2107 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2141 (fs_start=2099)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGAA
ACAAGGGG

PK4: -23.985000(kcal/mol): PK_start=2114 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=2152 (fs_start=2099)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CTCCAG
AAATTTTC

PK4B: -26.865000(kcal/mol): PK_start=2114 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2177 (fs_start=2099)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTTCCTCCAGAGCAGACCAGGCCAACAG

=====
(2218) HM138656
=====

PK1: -15.025000(kcal/mol): PK_start=1300 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1328 (fs_start=1320)

A
GAAAGGAAGGACATCAAATGAAAGACTGT
GACG GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.370000(kcal/mol): PK_start=1305 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1342 (fs_start=1320)

C
GAAGGACATCAAATGAAAGACTGTACTGAAAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1328 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1362 (fs_start=1320)

AAA
TACTGAAAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -26.865000(kcal/mol): PK_start=1335 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1373
(fs_start=1320)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAG
GAATTTTC

PK4B: -26.865000(kcal/mol): PK_start=1335 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1398
(fs_start=1320)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCCCCCAGAACAGACTAGAGCCAACAG

=====
(2219) HM215249
=====

PK1: -15.585000(kcal/mol): PK_start=2069 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2097
(fs_start=2089)

A
GGAAGGAGGGACATCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -21.940000(kcal/mol): PK_start=2074 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2111
(fs_start=2089)

C
GAGGGACATCAAATGAAAGACTGTACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAGAAT

PK3: -18.840000(kcal/mol): PK_start=2097 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=2131
(fs_start=2089)

AA
TACTGAGAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTTT
GCCAGGGA
CACAAAGGAAG

PK4: -22.915000(kcal/mol): PK_start=2104 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2141
(fs_start=2089)

TCCCACA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAACT

=====
(2220) HM215251
=====

PK1: -15.585000(kcal/mol): PK_start=2066 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2094
(fs_start=2086)

A
GAAAGGAGGGACATCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -21.940000(kcal/mol): PK_start=2071 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2108
(fs_start=2086)

C
GAGGGACATCAAATGAAAGACTGTACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAGAAT

PK3: -18.840000(kcal/mol): PK_start=2094 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=2128
(fs_start=2086)

AA
TACTGAGAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTTT
GCCAGGGA
CACAAAGGGAG

PK4: -24.595000(kcal/mol): PK_start=2101 sp=7 s1=8 s2=4 l1=8 l2=5 L3=0 PK_end=2137
(fs_start=2086)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
GGACCGGA GGGG
TCCCAC
GAACT

PK4B: -26.865000(kcal/mol): PK_start=2101 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2164
(fs_start=2086)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAACTTCCCACAGAGCAGACCAGAGCCAACAG

=====
(2221) HM469972
=====

PK1: -13.555000(kcal/mol): PK_start=2063 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2091
(fs_start=2083)

A
GAAAGGAGGGACACCAAATGAAAGATTGT
GACA GAGAGTC

TTTTTAGGG
GCTAAT
PK2: -20.460000(kcal/mol): PK_start=2068 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2104
(fs_start=2083)

C
GAGGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=2091 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2125
(fs_start=2083)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -25.745000(kcal/mol): PK_start=2098 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=2135
(fs_start=2083)

CCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT
GGACCGGAG GGGA
TCCTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=2098 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2161
(fs_start=2083)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCCTCAGAACAGACTAGAGCCAACAG

=====
(2222) HM469973
=====

PK1: -13.555000(kcal/mol): PK_start=2063 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2091
(fs_start=2083)

A
GAAAGGAGGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2068 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2104
(fs_start=2083)

C
GAGGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA

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                                TGGCCTTC
                    GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=2091 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2125
(fs_start=2083)
                                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCCT    TCCGGTCT
                                AGGCCAGGGA
                    ACAAGGGG
PK4:  -25.745000(kcal/mol): PK_start=2098 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=2135
(fs_start=2083)
                                CCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT
                                GGACCGGAG    GGGG
                                TCCTCA
                    GAATTT
PK4B:  -30.395000(kcal/mol): PK_start=2098 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2161
(fs_start=2083)
                                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                                GGACCGGA    GGGG
                                CCCCAC
                    GAATTTTCCTCAGAACAGACTAGAGCCAACAG

=====
(2223) HM469974
=====
PK1:  -13.555000(kcal/mol): PK_start=2063 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2091
(fs_start=2083)
                                A
GAAAGGAGGGACACCAAATGAAAGATTGT
                                GACA    GAGAGTC
                                TTTTtaggg
                    GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=2068 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2104
(fs_start=2083)
                                C
GAGGGACACCAAATGAAAGATTGTACTGAGAGA
                                GATTTTTT    A    ATCGGA
                                TGGCCTTC
                    GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=2091 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2125
(fs_start=2083)
                                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCCT    TCCGGTCT

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                                AGGCCAGGGA
                ACAAGGGG
PK4:  -25.745000(kcal/mol): PK_start=2098 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=2135
(fs_start=2083)
                                CCCACA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTT
                                GGACCGGAG    GGGA
                                TCCTCA
                GAATTT

PK4B:  -30.395000(kcal/mol): PK_start=2098 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2161
(fs_start=2083)
                                TCCCACAA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT
                                GGACCGGA    GGGG
                                CCCCAC
                GAATTTTCCTCAGAACAGACTAGAGCCAACAG

=====
(2224) HM469975
=====
PK1:  -13.555000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2092
(fs_start=2084)
                                A
GAAAGGAGGGACACCAAATGAAAGATTGT
                                GACA    GAGAGTC
                                TTTTTAGGG
                GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2105
(fs_start=2084)
                                C
GAGGGACACCAAATGAAAGATTGTACTGAGAGA
                                GATTTTTT  A  ATCGGA
                                TGGCCTTC
                GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=2092 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2126
(fs_start=2084)
                                AAA
TACTGAGAGACAGGCTAATTTTTTTAGGGA
                                CCCT    TCCGGTCT
                                AGGCCAGGGA
                ACAGGGGA

PK4:  -29.045000(kcal/mol): PK_start=2099 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2136
(fs_start=2084)
                                CCAC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAAG    GGGA

```

TCCTCA

GAATTT

PK4B: -31.325000(kcal/mol): PK_start=2099 sp=7 s1=9 s2=4 l1=6 l2=32 L3=0 PK_end=2162
(fs_start=2084)

CCCACA

AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTT

GGACCGGAA GGGG

CCCCAC

GAATTTTCCTCAGAGCAGACTAGAGCCAACAG

=====

(2225) HM469976

=====

PK1: -13.555000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2092
(fs_start=2084)

M

GAAAGGAGGGACACCAAATGAAAGATTGT

GACA GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -19.960000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2105
(fs_start=2084)

C

GAGGGACACCAAATGAAAGATTGTMCTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=2092 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2126
(fs_start=2084)

AAA

TMCTGAGAGACAGGCTAATTTTTTTAGGGA

CCCT TCCGGTCT

AGGCCAGGGA

ACAGGGGA

PK4: -29.045000(kcal/mol): PK_start=2099 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2136
(fs_start=2084)

CCAC

AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAAG GGGA

TCCTCA

GAATTT

PK4B: -31.325000(kcal/mol): PK_start=2099 sp=7 s1=9 s2=4 l1=6 l2=32 L3=0 PK_end=2162
(fs_start=2084)

CCCACA

AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTT

GGACCGGAA GGGG

CCCCAC
GAATTTTCCTCAGAACAGACTAGAKCCAACAG

=====
(2226) HM469977
=====

PK1: -13.555000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2092
(fs_start=2084)

A
GAAAGGAGGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2105
(fs_start=2084)

C
GAGGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=2092 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2126
(fs_start=2084)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAGGGGA

PK4: -29.045000(kcal/mol): PK_start=2099 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2136
(fs_start=2084)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGGG
TCCTCA
GAATTT

PK4B: -31.325000(kcal/mol): PK_start=2099 sp=7 s1=9 s2=4 l1=6 l2=32 L3=0 PK_end=2162
(fs_start=2084)

CCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT
GGACCGGAA GGGG
CCCCAC
GAATTTTCCTCAGAACAGACTAGAGCCAACAG

=====
(2227) HM469978
=====

PK1: -13.555000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2092
(fs_start=2084)

A
GAAAGGAGGGACACCAAATGAAAGATTGT

GACA GAGAGTC
TTTTTAGGG
GCTAAT
PK2: -20.46000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2105
(fs_start=2084)

C
GAGGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=2092 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2126
(fs_start=2084)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAGGGGA

PK4: -29.045000(kcal/mol): PK_start=2099 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2136
(fs_start=2084)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGGA
TCCTCA
GAATTT

PK4B: -31.325000(kcal/mol): PK_start=2099 sp=7 s1=9 s2=4 l1=6 l2=32 L3=0 PK_end=2162
(fs_start=2084)

CCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT
GGACCGGAA GGGG
CCCCAC
GAATTTTCCTCAGAACAGACTAGAGCCAACAG

=====
(2228) HM469979
=====

PK1: -13.555000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2092
(fs_start=2084)

A
GAAAGGAGGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2105
(fs_start=2084)

C
GAGGGACACCAAATGAAAGATTGTACTGAGAGA

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          GATTTTTT A ATCGGA
                                TGGCCTTC
      GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=2092 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2126
(fs_start=2084)
          AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
          CCCT   TCCGGTCT
                                AGGCCAGGGA
      ACAGGGGA
PK4:  -29.045000(kcal/mol): PK_start=2099 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2136
(fs_start=2084)
                                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
          GGACCGGAAG   GGGA
                                TCCTCA
      GAATTT
PK4B:  -31.325000(kcal/mol): PK_start=2099 sp=7 s1=9 s2=4 l1=6 l2=32 L3=0 PK_end=2162
(fs_start=2084)
                                CCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT
          GGACCGGAA   GGGG
                                CCCCAC
      GAATTTTCCTCAGAACAGACTAGAGCCAACAG
=====
(2229) HM469980
=====
PK1:  -13.555000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2092
(fs_start=2084)
          A
GAAAGGAGGGACACCAAATGAAAGATTGT
          GACA   GAGAGTC
                                TTTTTAGGG
      GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2105
(fs_start=2084)
          C
GAGGGACACCAAATGAAAGATTGTACTGAGAGA
          GATTTTTT A ATCGGA
                                TGGCCTTC
      GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=2092 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2126
(fs_start=2084)
          AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA

```

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          CCCT   TCCGGTCT
                AGGCCAGGGA
ACAGGGGA

PK4:  -29.045000(kcal/mol): PK_start=2099 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2136
(fs_start=2084)
                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                GGACCGGAAG   GGGA
                                TCCTCA
                GAATTT

PK4B:  -31.325000(kcal/mol): PK_start=2099 sp=7 s1=9 s2=4 l1=6 l2=32 L3=0 PK_end=2162
(fs_start=2084)
                CCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                GGACCGGAA   GGGG
                                CCCCAC
                GAATTTTCCTCAGAACAGACTAGAGCCAACAG

=====
(2230) HM469981
=====
PK1:  -13.555000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2092
(fs_start=2084)
                A
GAAAGGAGGGACACCAAATGAAAGATTGT
                GACA   GAGAGTC
                                TTTTATAGGG
                GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2105
(fs_start=2084)
                C
GAGGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT   A   ATCGGA
                                TGGCCTTC
                GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=2092 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2126
(fs_start=2084)
                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTCT
                                AGGCCAGGGA
                ACAGGGGA

PK4:  -29.045000(kcal/mol): PK_start=2099 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2136
(fs_start=2084)
                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

```

GGACCGGAAG GGA
 TCCTCA
 GAATTT

PK4B: -29.625000(kcal/mol): PK_start=2099 sp=7 s1=9 s2=4 l1=6 l2=32 L3=0 PK_end=2162
 (fs_start=2084)

CCCACA
 AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT

GGACCGGAA GGG
 CCCCWC
 GAATTTTCCTCAGAACAGACTAGAGCCAACAG

=====
 (2231) HM469982
 =====

PK1: -13.555000(kcal/mol): PK_start=2063 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2091
 (fs_start=2083)

A
 GAAAGGAGGGACACCAAATGAAAGATTGT

GACA GAGAGTC
 TTTTTAGGG
 GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2068 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2104
 (fs_start=2083)

C
 GAGGGACACCAAATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA
 TGGCCTTC
 GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=2091 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2125
 (fs_start=2083)

AAA
 TACTGAGAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT
 AGGCCAGGGA
 ACAGGGGA

PK4: -29.045000(kcal/mol): PK_start=2098 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2135
 (fs_start=2083)

CCAC
 AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAAG GGA
 TCCTCA
 GAATTT

PK4B: -31.325000(kcal/mol): PK_start=2098 sp=7 s1=9 s2=4 l1=6 l2=32 L3=0 PK_end=2161
 (fs_start=2083)

CCCACA
 AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT

GGACCGGAA GGGG
CCCCAC
GAATTTTCCTCAGAACAGGCTAGAGCCAACAG

=====
(2232) HM469983
=====

PK1: -21.465000(kcal/mol): PK_start=2060 sp=0 s1=7 s2=7 l1=1 l2=3 L3=0 PK_end=2091
(fs_start=2083)

A
GTGGAAAGGAGGGCCACCAMCTGAAAGCTTGT
TCGGACA GAGAGTC
TTTTTAGGG
AAT

PK2: -20.460000(kcal/mol): PK_start=2068 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2104
(fs_start=2083)

C
GAGGGCCACCAMCTGAAAGCTTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -18.070000(kcal/mol): PK_start=2091 sp=0 s1=5 s2=5 l1=2 l2=25 L3=2 PK_end=2137
(fs_start=2083)

AA
TACTGAGAGACAGGCTAATTTTTTAGGGAA
CCCTT CC GGTCT
TCAGAMC
ACAGGGGAAGTCCAGGGAATTTTCC

PK4: -21.410000(kcal/mol): PK_start=2098 sp=7 s1=5 s2=7 l1=10 l2=4 L3=1 PK_end=2135
(fs_start=2083)

CCTTCCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGG
GGACC T GAAGGGG
TTTCCTCAG
GAAT

PK4B: -20.460000(kcal/mol): PK_start=2098 sp=7 s1=5 s2=4 l1=10 l2=32 L3=4
PK_end=2157 (fs_start=2083)

CCTTCCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGG
GGACC TGAA GGGG
CCCCAC
GAATTTTCCTCAGAMCAGGCTAGAGCCAACAG

=====
(2233) HM586187
=====

PK1: -13.595000(kcal/mol): PK_start=1275 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1303
(fs_start=1295)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1280 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1316
(fs_start=1295)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1303 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1337
(fs_start=1295)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1310 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1347
(fs_start=1295)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2234) HM586193
=====

PK1: -13.555000(kcal/mol): PK_start=1275 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1303
(fs_start=1295)

A
GACAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1280 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1316
(fs_start=1295)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1303 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1337
(fs_start=1295)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -29.020000(kcal/mol): PK_start=1310 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1347
(fs_start=1295)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(2235) HM586198
=====

PK1: -13.555000(kcal/mol): PK_start=1278 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1306
(fs_start=1298)

A
GAAGGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1283 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1319
(fs_start=1298)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1306 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1340
(fs_start=1298)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -29.020000(kcal/mol): PK_start=1313 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1350
(fs_start=1298)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(2236) HM586200
=====

PK1: -13.555000(kcal/mol): PK_start=1278 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1306
(fs_start=1298)

A
GAAGGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1283 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1319
(fs_start=1298)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1306 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1340
(fs_start=1298)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -29.020000(kcal/mol): PK_start=1313 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1350
(fs_start=1298)

CCAC
AGACAGGCTAATTTTTTAGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(2237) HM586202
=====

PK1: -13.555000(kcal/mol): PK_start=1278 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1306
(fs_start=1298)

A
GAAGGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1283 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1319
(fs_start=1298)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA

```

                                TGGCCTTC
          GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1306 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1340
(fs_start=1298)
                                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTCT
                                AGGCCAGGGA
          ACAAGGGA

PK4:  -29.020000(kcal/mol): PK_start=1313 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1350
(fs_start=1298)
                                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAAG   GGAA
                                CCTTCA
          GAATTT

=====
(2238) HM586204
=====
PK1:  -13.555000(kcal/mol): PK_start=1278 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1306
(fs_start=1298)
                                A
GAAGGGAAGGACACCAAATGAAAGATTGT
                                GACA   GAGAGTC
                                TTTTTAGGG
          GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1283 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1319
(fs_start=1298)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                                GATTTTTT   A   ATCGGA
                                TGGCCTTC
          GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1306 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1340
(fs_start=1298)
                                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTCT
                                AGGCCAGGGA
          ACAAGGGA

PK4:  -29.020000(kcal/mol): PK_start=1313 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1350
(fs_start=1298)
                                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAAG   GGAA

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                                CCTTCA
                                GAATTT
=====
(2239) HM586206
=====
PK1:  -15.585000(kcal/mol): PK_start=1284 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1312
(fs_start=1304)
                                A
GAAGGGAAGGGCACCAAATGAAAGACTGT
                                GACA   GAGAGTC
                                TTTTtaggg
                                GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1289 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1325
(fs_start=1304)
                                C
GAAGGGCACCAAATGAAAGACTGTACTGAGAGA
                                GATTTTTT A  ATCGGA
                                TGGCCTCC
                                GGAAAATC
PK3:  -28.440000(kcal/mol): PK_start=1312 sp=0 s1=3 s2=9 l1=4 l2=7 L3=0 PK_end=1346
(fs_start=1304)
                                AAAA
TACTGAGAGACAGGCTAATTTTTTAGGG
                                CCC   CTCCGGTCT
                                GAGGCCAGGGA
                                ACAAGGG
PK4:  -29.045000(kcal/mol): PK_start=1319 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1356
(fs_start=1304)
                                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTCC
                                GGACCGGAGG   GGAA
                                TCTTCA
                                GAATTT
PK4B: -30.395000(kcal/mol): PK_start=1319 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1382
(fs_start=1304)
                                CCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                                GGACCGGA   GGGG
                                CCCCAA
                                GAATTTTCTTCAGAGCAGACCAGAGCCAACAG
=====
(2240) HM586207
=====
PK1:  -15.585000(kcal/mol): PK_start=1284 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1312
(fs_start=1304)
                                A
GAAGGGAAGGGCACCAAATGAAAGACTGT

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          GACA    GAGAGTC
                TTTTATAGGG
    GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1289 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1325
(fs_start=1304)
                C
GAAGGGCACCAAATGAAAGACTGTACTGAGAGA
                GATTTTTT A  ATCGGA
                        TGGCCTCC
    GGAAAATC
PK3:  -28.440000(kcal/mol): PK_start=1312 sp=0 s1=3 s2=9 l1=4 l2=7 L3=0 PK_end=1346
(fs_start=1304)
                AAAA
TACTGAGAGACAGGCTAATTTTTATAGGG
                CCC    CTCCGGTCT
                        GAGGCCAGGGA
    ACAAGGG
PK4:  -29.045000(kcal/mol): PK_start=1319 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1356
(fs_start=1304)
                CCAC
AGACAGGCTAATTTTTATAGGGAAAATCTGGCCTCC
                GGACCGGAGG    GGAA
                        TCTTCA
    GAATTT
PK4B:  -30.395000(kcal/mol): PK_start=1319 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1382
(fs_start=1304)
                CCCCACAA
AGACAGGCTAATTTTTATAGGGAAAATCTGGCCT
                GGACCGGA    GGGG
                        CCCCACAA
    GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2241) HM586208
=====
PK1:  -15.585000(kcal/mol): PK_start=1284 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1312
(fs_start=1304)
                A
GAAGGGAAGGGCACCAAATGAAAGACTGT
                GACA    GAGAGTC
                        TTTTATAGGG
    GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1289 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1325
(fs_start=1304)
                C
GAAGGGCACCAAATGAAAGACTGTACTGAGAGA

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          GATTTTTT A ATCGGA
                                TGGCCTTC
      GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1312 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1346
(fs_start=1304)
          AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
          CCCT   TCCGGTCT
                                AGGCCAGGGA
          ACAAGGGG
PK4:  -26.235000(kcal/mol): PK_start=1319 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1356
(fs_start=1304)
                                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
          GGACCGGAGG   GGAA
                                TCTTCA
          GAATTT
PK4B:  -30.395000(kcal/mol): PK_start=1319 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1382
(fs_start=1304)
                                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
          GGACCGGA   GGGG
                                CCCCAA
          GAATTTTCTTCAGAGCAGACCAGAGCCAACAG
=====
(2242) HM586209
=====
PK1:  -15.585000(kcal/mol): PK_start=1284 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1312
(fs_start=1304)
          A
GAAGGGAAGGGCACCAAATGAAAGACTGT
          GACA   GAGAGTC
                                TTTTTTAGGG
          GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1289 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1325
(fs_start=1304)
          C
GAAGGGCACCAAATGAAAGACTGTACTGAGAGA
          GATTTTTT A ATCGGA
                                TGGCCTTC
          GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1312 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1346
(fs_start=1304)
          AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA

```

```

          CCCT   TCCGGTCT
                AGGCCAGGGA
ACAAGGGG
PK4:  -26.235000(kcal/mol): PK_start=1319 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1356
(fs_start=1304)
                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                GGACCGGAGG   GGAA
                                TCTTCA
                GAATTT

PK4B:  -30.395000(kcal/mol): PK_start=1319 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1382
(fs_start=1304)
                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                GGACCGGA   GGGG
                                CCCCAA
                GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2243) HM586210
=====
PK1:  -13.005000(kcal/mol): PK_start=1468 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=1495
(fs_start=1488)
                AA
GAAAGGAAGGGCACCAAATGAAAGACTGT
                GACA   GAGAGT
                                TTTTTAGG
                GCTAAT

PK2:  -18.180000(kcal/mol): PK_start=1474 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1509
(fs_start=1488)
                C
AAGGGCACCAAATGAAAGACTGTAATGAGAGA
                ATTTTTT   A   ATCGGA
                                TGGCCTTC
                GGAAGATC

PK3:  -26.110000(kcal/mol): PK_start=1496 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1530
(fs_start=1488)
                A
TAATGAGAGACAGGCTAATTTTTTAGGGAAG
                CCCTTC   CGGTCT
                                GCCAGGGA
                ACAAGGGAAG

PK4:  -26.715000(kcal/mol): PK_start=1503 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1540
(fs_start=1488)
                CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC

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                GGACCGGAAG    GGAA
                                TCTTCA
          GAATTT

=====
(2244) HM586211
=====
PK1:  -13.005000(kcal/mol): PK_start=1468 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=1495
(fs_start=1488)
                AA
GAAAGGAAGGGCACCAAATGAAAGACTGT

                GACA    GAGAGT
                                TTTTTAGG
          GCTAAT

PK2:  -18.180000(kcal/mol): PK_start=1474 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1509
(fs_start=1488)
                C
AAGGGCACCAAATGAAAGACTGTAATGAGAGA

                ATTTTTT  A  ATCGGA
                                TGGCCTTC
          GGAAGATC

PK3:  -26.110000(kcal/mol): PK_start=1496 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1530
(fs_start=1488)
                A
TAATGAGAGACAGGCTAATTTTTTAGGGAAG

                CCCTTC    CGGTCT
                                GCCAGGGA
          ACAAGGGAAG

PK4:  -26.715000(kcal/mol): PK_start=1503 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1540
(fs_start=1488)
                CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC

                GGACCGGAAG    GGAA
                                TCTTCA
          GAATTT

=====
(2245) HM586212
=====
PK1:  -13.005000(kcal/mol): PK_start=1468 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=1495
(fs_start=1488)
                AA
GAAAGGAAGGGCACCAAATGAAAGACTGT

                GACA    GAGAGT
                                TTTTTAGG
          GCTAAT

```

PK2: -18.18000(kcal/mol): PK_start=1474 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1509
(fs_start=1488)

C
AAGGGCACCAAATGAAAGACTGTAATGAGAGA
ATTTTTT A ATCGGA
TGGCCTTC
GGGAAGATC

PK3: -26.11000(kcal/mol): PK_start=1496 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1530
(fs_start=1488)

A
TAATGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.71500(kcal/mol): PK_start=1503 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1540
(fs_start=1488)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2246) HM776938
=====

PK1: -10.87500(kcal/mol): PK_start=1420 sp=0 s1=4 s2=6 l1=2 l2=5 L3=0 PK_end=1446
(fs_start=1440)

AC
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAAAGG
TTTTTTAG
GCTAA

PK2: -17.19000(kcal/mol): PK_start=1427 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1462
(fs_start=1440)

C
AGGACACCAAATGAAAGACTGTACGGAAAGG
TTTTTT AATCGGA
TTGGCCTTC
AGGGAGATT

PK3: -23.27500(kcal/mol): PK_start=1448 sp=0 s1=4 s2=9 l1=2 l2=8 L3=0 PK_end=1483
(fs_start=1440)

GA
TACGGAAAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTTT
AGGCCAGGGAA
ACAAGGGG

PK4: -23.515000(kcal/mol): PK_start=1454 sp=6 s1=9 s2=4 l1=8 l2=6 L3=0 PK_end=1493
(fs_start=1440)

```
TCCCACAA
AAGGCAGGCTAATTTTTTAGGGAGATTTTGGCCT
GGGACCGGA GGGG
CTCCAG
AATTTC
```

PK4B: -26.395000(kcal/mol): PK_start=1454 sp=6 s1=9 s2=4 l1=8 l2=31 L3=0 PK_end=1518
(fs_start=1440)

```
TCCCACAA
AAGGCAGGCTAATTTTTTAGGGAGATTTTGGCCT
GGGACCGGA GGGG
CCCCGC
AATTTCTCCAGAGCAGACCAGAGCCAACAG
```

=====
(2247) HM776939
=====

PK1: -17.225000(kcal/mol): PK_start=1428 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1456
(fs_start=1448)

```
A
GAAAGGAAGGACACCAAATGAAAGACTGC
GACG GAAAGTC
TTTTTAGGG
GCTAAT
```

PK2: -20.370000(kcal/mol): PK_start=1433 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1470
(fs_start=1448)

```
C
GAAGGACACCAAATGAAAGACTGCACTGAAAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAACT
```

PK3: -26.955000(kcal/mol): PK_start=1456 sp=0 s1=4 s2=9 l1=2 l2=8 L3=0 PK_end=1491
(fs_start=1448)

```
AA
CACTGAAAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTTC
AGGCCAGGGAA
ACAAGGGG
```

PK4: -22.865000(kcal/mol): PK_start=1462 sp=6 s1=9 s2=4 l1=8 l2=6 L3=0 PK_end=1501
(fs_start=1448)

```
TCCCACAA
AAGGCAGGCTAATTTTTTAGGGAACTTTGGCCT
GGGACCGGA GGGG
CTTCAG
AATTTC
```

PK4B: -29.475000(kcal/mol): PK_start=1462 sp=6 s1=9 s2=4 l1=8 l2=31 L3=0 PK_end=1526
(fs_start=1448)

TCCCACAA
AAGGCAGGCTAATTTTTTAGGGAACTTTGGCCT
GGGACCGGA GGGG
CCCCAC
AATTTTCCTTCAGAGCAGACCAGAGCCAACAG

=====
(2248) HQ21552
=====

PK1: -15.585000(kcal/mol): PK_start=1288 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1316
(fs_start=1308)

A
GAAAAGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCCAAT

PK2: -21.340000(kcal/mol): PK_start=1293 sp=0 s1=8 s2=5 l1=2 l2=8 L3=1 PK_end=1328
(fs_start=1308)

CA
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT A ACCGG
TGGCCCT
GGAAAATC

PK3: -24.730000(kcal/mol): PK_start=1316 sp=0 s1=4 s2=7 l1=3 l2=9 L3=1 PK_end=1349
(fs_start=1308)

AAA
TACTGAGAGACAGGCCAATTTTTTAGGGA
CCCT C CCGGTCT
GGCCAGGGA
ACAAGGGAA

PK4: -23.190000(kcal/mol): PK_start=1323 sp=7 s1=7 s2=6 l1=8 l2=4 L3=0 PK_end=1360
(fs_start=1308)

CTCCCACA
AGACAGGCCAATTTTTTAGGGAAAATCTGGCC
GGACCGG AAGGGA
TTTCTTCA
GAAT

=====
(2249) HQ21554
=====

PK1: -10.640000(kcal/mol): PK_start=1307 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1345
(fs_start=1338)

A
TTGGAAATGTGGAAAGGAAGGACACCAA
GTT AGAAAGT

TTTTTTAGG
CACTGAGAGACAGGCTAA

PK2: -20.460000(kcal/mol): PK_start=1323 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1359
(fs_start=1338)

C
GAAGGACACCAAATGAAAGATTGCACTGAGAGA

GATTTTTT A ATCGGA
TGGCCTTC
GGAGGCTC

PK3: -25.760000(kcal/mol): PK_start=1346 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1380
(fs_start=1338)

C
CACTGAGAGACAGGCTAATTTTTTTAGGGAGG

CCCTTC CGGTCT
GCCAGGGA
ACAAGGGGAG

PK4: -32.705000(kcal/mol): PK_start=1352 sp=6 s1=9 s2=4 l1=8 l2=31 L3=0 PK_end=1416
(fs_start=1338)

TCCCACAA
GAGACAGGCTAATTTTTTTAGGGAGGCTCTGGCCT

GGGACCGGA GGGG
CCCCAC
AATTTTCTTCAGAGCAGACCAGAGCCGACAG

=====
(2250) HQ21555
=====

PK1: -15.100000(kcal/mol): PK_start=1300 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1328
(fs_start=1320)

CA
GGAAGGAAGGACATCAAATGAAAGACTG

GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1305 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1342
(fs_start=1320)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA

GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1329 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1362
(fs_start=1320)

AAA
ACTGAGAGACAGGCTAATTTTTTTAGGGA

CCT TCCGGTTT

```

                                AGGCCGGGGA
                                AACAAGGGA

PK4:  -20.715000(kcal/mol): PK_start=1335 sp=7 s1=8 s2=4 l1=8 l2=5 L3=0 PK_end=1371
(fs_start=1320)
                                TCCAACAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
                                GGGCCGGA    AGGG
                                TTCCGC
                                GAATT

=====
(2251) HQ215556
=====
PK1:  -13.555000(kcal/mol): PK_start=1303 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1331
(fs_start=1323)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                                GACA    GAGAGTC
                                TTTTtaggg
                                GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1308 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1344
(fs_start=1323)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                                GATTTTTT A ATCGGA
                                TGGCCTTC
                                GGAAATTC

PK3:  -26.805000(kcal/mol): PK_start=1331 sp=0 s1=4 s2=9 l1=2 l2=8 L3=0 PK_end=1366
(fs_start=1323)
                                AA
TACTGAGAGACAGGCTAATTTTTTTAGGGA
                                CCCT    TCCGGTCTT
                                AGGCCAGGGAA
                                ACAAGGGG

PK4:  -29.925000(kcal/mol): PK_start=1337 sp=6 s1=9 s2=4 l1=8 l2=31 L3=0 PK_end=1401
(fs_start=1323)
                                TCCCACAA
GAGACAGGCTAATTTTTTTAGGGAAATTTCTGGCCT
                                GGGACCGGA    GGGG
                                CCCCAC
                                AATTTTGCTCAGAGCAGACTAGAGCCGACAG

=====
(2252) HQ225812
=====
PK1:  -15.025000(kcal/mol): PK_start=1288 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1316
(fs_start=1308)
                                A
GAAAGGAAGGACACCAAATGAAAGACTGT

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          GACG    GAAAGTC
                TTTT TAGGG
    GCGAAT
PK2:  -6.275000(kcal/mol): PK_start=1302 sp=0 s1=3 s2=6 l1=1 l2=4 L3=0 PK_end=1324
(fs_start=1308)
                C
CAAATGAAAGACTGTACTGAAAGGCAGG
                TTT    TTTAAG
                AAATTTTG
    AGGG
PK3:  -23.275000(kcal/mol): PK_start=1316 sp=0 s1=4 s2=9 l1=2 l2=8 L3=0 PK_end=1351
(fs_start=1308)
                AA
TACTGAAAGGCAGGCCGAATTTTTTAGGGA
                CCCT    TCCGGTTTT
                AGCCAGGGAA
    ACAAGGGG
PK4:  -23.515000(kcal/mol): PK_start=1322 sp=6 s1=9 s2=4 l1=8 l2=6 L3=0 PK_end=1361
(fs_start=1308)
                TCCCACAA
AAGGCAGGCCGAATTTTTTAGGGAAATTTTGGCCT
                GGGACCGGA    GGGG
                CTCCAG
    AATTTC
PK4B:  -26.395000(kcal/mol): PK_start=1322 sp=6 s1=9 s2=4 l1=8 l2=31 L3=0 PK_end=1386
(fs_start=1308)
                TCCCACAA
AAGGCAGGCCGAATTTTTTAGGGAAATTTTGGCCT
                GGGACCGGA    GGGG
                CCCC GC
AATTTCTCCAGAGCAGACCAGAGCCGACTG

=====
(2253) HQ385478
=====
PK1:  -14.055000(kcal/mol): PK_start=1507 sp=0 s1=4 s2=6 l1=2 l2=5 L3=0 PK_end=1533
(fs_start=1527)
                AC
GGAAAGAAGGACACCAAATGAAGGACTGC
                GACG    GAGAGA
                TTTTTTAG
    GCTAA
PK2:  -18.070000(kcal/mol): PK_start=1513 sp=0 s1=6 s2=7 l1=2 l2=9 L3=0 PK_end=1549
(fs_start=1527)
                GC
AAGGACACCAAATGAAGGACTGCACAGAGAG

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          TTTTTT   AATCGGA
                    TTGGCCTTC
AGGGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1536 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1569
(fs_start=1527)
          AAA
ACAGAGAGGCAGGCTAATTTTTTTAGGGA
          CCT   TCCGGTTT
                    AGGCCAGGAA
          AACAAGGGG

PK4:  -18.485000(kcal/mol): PK_start=1542 sp=7 s1=9 s2=4 l1=6 l2=5 L3=0 PK_end=1578
(fs_start=1527)
                    CCAACA
AGGCAGGCTAATTTTTTTAGGGAAAATTTGGCCTT
          GGACCGGAG   GGGA
                    TTCTCC
          AAATT

PK4B:  -26.865000(kcal/mol): PK_start=1542 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1605
(fs_start=1527)
                    TCCAACAA
AGGCAGGCTAATTTTTTTAGGGAAAATTTGGCCTT
          GGACCGGA   GGGG
                    CCCCAC
          AAATTTTCTCCAGAACAGACCAGAGCCAACAG

=====
(2254) HV199807
=====
PK1:  -13.065000(kcal/mol): PK_start=1617 sp=0 s1=3 s2=8 l1=5 l2=22 L3=0 PK_end=1665
(fs_start=1658)
          TCAAA
GCTGTTGGAAGTGTGGGCAAGAAGGACA
          TGT   TAGAAAGT
                    ATTTTTTAGG
          AAAAATGAAGGAAGACAGGCTA

PK2:  -14.180000(kcal/mol): PK_start=1641 sp=0 s1=7 s2=6 l1=4 l2=9 L3=1 PK_end=1679
(fs_start=1658)
                    AGAC
GACATCAAATGAAAGATTGTAAAAATGAAGGA
          ATTTTTT   A   ATCGGA
                    TGGTCTCC
          GGAAGAGC

PK3:  -28.610000(kcal/mol): PK_start=1668 sp=0 s1=3 s2=10 l1=3 l2=3 L3=0 PK_end=1699
(fs_start=1658)
          GAG
AAGGAAGACAGGCTAATTTTTTTAGGGAA

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          CTT   CCCTCTGGTC
                GGGAGACCAGGA
AAA
PK4:  -22.950000(kcal/mol): PK_start=1674 sp=8 s1=6 s2=4 l1=10 l2=6 L3=0 PK_end=1709
(fs_start=1658)
                TCCCTTCAAA
GACAGGCTAATTTTTTAGGGAAGAGCTGGTC
                GACCAG   AGGG
                TCCCCC
          GAAACT

=====
(2255) JA806687
=====
PK1:  -13.555000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2092
(fs_start=2084)
                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                GACA   GAGAGTC
                TTTTTAGGG
          GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2105
(fs_start=2084)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT A  ATCGGA
                TGGCCTTC
          GGAAGATC

PK3:  -25.060000(kcal/mol): PK_start=2092 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=2126
(fs_start=2084)
                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                TCCTTC   CGGTCT
                GCCAGGGA
          ACAAGGGAAG

PK4:  -26.715000(kcal/mol): PK_start=2099 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2136
(fs_start=2084)
                CTAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
                GGACCGGAAG   GGAA
                TCTTCA
          GAATTT

=====
(2256) JF320003
=====

```

PK1: -13.595000(kcal/mol): PK_start=1498 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1526
(fs_start=1518)

A
GAAAGGAAGGACACCAAATGAAGAATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1503 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1539
(fs_start=1518)

C
GAAGGACACCAAATGAAGAATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1526 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1560
(fs_start=1518)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -29.020000(kcal/mol): PK_start=1533 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1570
(fs_start=1518)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(2257) JF320005
=====

PK1: -13.595000(kcal/mol): PK_start=1498 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1526
(fs_start=1518)

A
GAAAGGAAGGACACCAAATGAAGAATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1503 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1539
(fs_start=1518)

C
GAAGGACACCAAATGAAGAATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1526 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1560
(fs_start=1518)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -29.020000(kcal/mol): PK_start=1533 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1570
(fs_start=1518)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(2258) JF320006
=====

PK1: -13.595000(kcal/mol): PK_start=1498 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1526
(fs_start=1518)

A
GAAAGGAAGGACACCAAATGAAGAATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1503 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1539
(fs_start=1518)

C
GAAGGACACCAAATGAAGAATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1526 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1560
(fs_start=1518)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -29.020000(kcal/mol): PK_start=1533 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1570
(fs_start=1518)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(2259) JF320008
=====

PK1: -13.305000(kcal/mol): PK_start=1414 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1441
(fs_start=1433)

A
AAAGGAAGGACACCAAATGAAAGAATGT
ACA GAGAGTC
TTTTTAGGG
GGCTAAT

PK2: -20.460000(kcal/mol): PK_start=1418 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1454
(fs_start=1433)

C
GAAGGACACCAAATGAAAGAATGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -31.130000(kcal/mol): PK_start=1441 sp=0 s1=4 s2=10 l1=3 l2=4 L3=0 PK_end=1475
(fs_start=1433)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT CTTCCGGTCT
GAAGGCCAGGGA
AAGG

PK4: -26.715000(kcal/mol): PK_start=1448 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1485
(fs_start=1433)

TCCC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGAAG GGAA
TCTTCA
GAATTT

PK4B: -21.620000(kcal/mol): PK_start=1448 sp=7 s1=7 s2=4 l1=1 l2=40 L3=9 PK_end=1510
(fs_start=1433)

T
AGACAGGCTAATTTTTTAGGGAAAATCTGGCC
GGACCGG AAGGGAACC CTCT
GAGGAG
GAATTTTCTTCAGAGCAGACCAGAGCCAACAGCCCCACCA

=====
(2260) JF320009
=====

PK1: -13.305000(kcal/mol): PK_start=1414 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1441
(fs_start=1433)

A
AAAGGAAGGACACCAAATGAAAGAATGT
ACA GAGAGTC

```

                TTTTTAGGG
          GGCTAAT
PK2:  -16.720000(kcal/mol): PK_start=1418 sp=0 s1=8 s2=4 l1=3 l2=8 L3=1 PK_end=1452
(fs_start=1433)
                CAG
GAAGGACACCAAATGAAAGAATGTACTGAGAGA
                GATTTTTT A  ATCG
                TGGCAT
          GGAAAATC
PK3:  -19.520000(kcal/mol): PK_start=1441 sp=0 s1=5 s2=6 l1=2 l2=10 L3=1 PK_end=1474
(fs_start=1433)
                AA
TACTGAGAGACAGGCTAATTTTTTTAGGGAA
                CTCTT A  CGGTCT
                GCCAGGGA
          CCAAGGGAAG
PK4:  -20.495000(kcal/mol): PK_start=1448 sp=7 s1=6 s2=7 l1=9 l2=3 L3=0 PK_end=1485
(fs_start=1433)
                ATTCTCCA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGC
                GGACCG  GAAGGGA
                TTTTCTTCA
          GAA
PK4B:  -20.430000(kcal/mol): PK_start=1448 sp=7 s1=6 s2=5 l1=1 l2=40 L3=10
PK_end=1510 (fs_start=1433)
                A
AGACAGGCTAATTTTTTTAGGGAAAATCTGGC
                GGACCG  GAAGGGAACC  CTCTT
                GAGGAGA
          GAATTTTCTTCAGAGCAGACCAGAGCCAACAGCCCCACCA

=====
(2261) JF320010
=====
PK1:  -13.305000(kcal/mol): PK_start=1414 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1441
(fs_start=1433)
                A
AAAGGAAGGACACCAAATGAAAGAATGT
                ACA  GAGAGTC
                TTTTTAGGG
          GGCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1418 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1454
(fs_start=1433)
                C
GAAGGACACCAAATGAAAGAATGTACTGAGAGA
                GATTTTTT A  ATCGGA

```

TGGCCTTC

GGAAAATC

PK3: -31.130000(kcal/mol): PK_start=1441 sp=0 s1=4 s2=10 l1=3 l2=4 l3=0 PK_end=1475
(fs_start=1433)

AAA

TACTGAGAGACAGGCTAATTTTTTAGGGA

CCCT CTTCCGGTCT

GAAGGCCAGGGA

AAGG

PK4: -26.715000(kcal/mol): PK_start=1448 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1485
(fs_start=1433)

TCCC

AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

GGACCGAAG GGAA

TCTTCA

GAATTT

PK4B: -21.620000(kcal/mol): PK_start=1448 sp=7 s1=7 s2=4 l1=1 l2=40 l3=9 PK_end=1510
(fs_start=1433)

T

AGACAGGCTAATTTTTTAGGGAAAATCTGGCC

GGACCGG AAGGGAACC CTCT

GAGGAG

GAATTTTCTTCAGAGCAGACCAGAGCCAACAGCCCCACCA

=====
(2262) JF320012
=====

PK1: -13.065000(kcal/mol): PK_start=1468 sp=0 s1=3 s2=8 l1=5 l2=19 l3=0 PK_end=1513
(fs_start=1506)

TCAAA

GCTGTTGGAAATGTGGAAAGGAAGGACA

TGT TAGAAAGT

ATTTTTTAGG

ACTAATGAGAGGCAGGCTA

PK2: -16.440000(kcal/mol): PK_start=1492 sp=0 s1=7 s2=6 l1=1 l2=9 l3=1 PK_end=1527
(fs_start=1506)

C

GACATCAAATGAAAGATTGTACTAATGAGAGG

ATTTTTT A ATCGGA

TGGCCTTC

GGGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1514 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1548
(fs_start=1506)

A

TAATGAGAGGCAGGCTAATTTTTTAGGGAAG

TCCTTC CGGTCT

GCCAGGGA

ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1521 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1558
(fs_start=1506)

CTAC

AGGCAGGCTAATTTTTTTAGGGAAGATCTGGCCTTC

GGACCGGAGG GGAA

TCTTCA

GAATTT

PK4B: -27.515000(kcal/mol): PK_start=1521 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1584
(fs_start=1506)

TCCTACAA

AGGCAGGCTAATTTTTTTAGGGAAGATCTGGCCT

GGACCGGA GGGG

CTCCAC

GAATTTTCTTCAGAGCAGACCAGAGCCATCAG

=====
(2263) JF320013
=====

PK1: -13.065000(kcal/mol): PK_start=1468 sp=0 s1=3 s2=8 l1=5 l2=19 L3=0 PK_end=1513
(fs_start=1506)

TCAAA

GCTGTTGGAAATGTGGAAAGGAAGGACA

TGT TAGAAAGT

ATTTTTTAGG

ACTAATGAGAGGCAGGCTA

PK2: -16.440000(kcal/mol): PK_start=1492 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1527
(fs_start=1506)

C

GACATCAAATGAAAGATTGTACTAATGAGAGG

ATTTTTT A ATCGGA

TGGCCTTC

GGGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1514 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1548
(fs_start=1506)

A

TAATGAGAGGCAGGCTAATTTTTTTAGGGAAG

TCCTTC CGGTCT

GCCAGGGA

ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1521 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1558
(fs_start=1506)

CTAC

AGGCAGGCTAATTTTTTTAGGGAAGATCTGGCCTTC

GGACCGGAGG GGAA

TCTTCA

GAATTT

PK4B: -27.515000(kcal/mol): PK_start=1521 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1584
(fs_start=1506)

TCCTACAA

AGGCAGGCTAATTTTTTTAGGGAAGATCTGGCCT

GGACCGGA GGGG

CTCCAC

GAATTTTCTTCAGAGCAGACCAGAGCCATCAG

=====

(2264) JF320014

=====

PK1: -13.065000(kcal/mol): PK_start=1469 sp=0 s1=3 s2=8 l1=5 l2=19 L3=0 PK_end=1514
(fs_start=1507)

CCAAA

GCTGTTGGAAATGTGGAAAGGAAGGACA

TGT TAGAAAGT

ATTTTTTAGG

ACTAATGAGAGGCAGGCTA

PK2: -16.440000(kcal/mol): PK_start=1493 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1528
(fs_start=1507)

C

GACACCAAATGAAAGATTGTACTAATGAGAGG

ATTTTTT A ATCGGA

TGGCCTTC

GGGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1515 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1549
(fs_start=1507)

A

TAATGAGAGGCAGGCTAATTTTTTTAGGGAAG

TCCTTC CGGTCT

GCCAGGGA

ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1522 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1559
(fs_start=1507)

CTAC

AGGCAGGCTAATTTTTTTAGGGAAGATCTGGCCTTC

GGACCGGAGG GGAA

TCTTCA

GAATTT

PK4B: -27.515000(kcal/mol): PK_start=1522 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1585
(fs_start=1507)

TCCTACAA

AGGCAGGCTAATTTTTTTAGGGAAGATCTGGCCT

GGACCGGA GGGG

CTCCAC
GAATTTTCTTCAGAGCAGACCAGAGCCATCAG

=====
(2265) JF320015
=====

PK1: -13.065000(kcal/mol): PK_start=1467 sp=0 s1=3 s2=8 l1=5 l2=19 L3=0 PK_end=1512
(fs_start=1505)

CCAAA
GCTGTTGGAAATGTGGAAAGGAAGGACA

TGT TAGAAAGT

ATTTTTTAGG
ACTAATGAGAGGCAGGCTA

PK2: -16.440000(kcal/mol): PK_start=1491 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1526
(fs_start=1505)

C
GACACCAAATGAAAGATTGTACTAATGAGAGG

ATTTTTT A ATCGGA

TGGCCTTC
GGGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1513 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1547
(fs_start=1505)

A
TAATGAGAGGCAGGCTAATTTTTTAGGGAAG

TCCTTC CGGTCT

GCCAGGGA
ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1520 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1557
(fs_start=1505)

CTAC
AGGCAGGCTAATTTTTTAGGGAAGATCTGGCCTTC

GGACCGGAGG GGAA

TCTTCA
GAATTT

PK4B: -27.515000(kcal/mol): PK_start=1520 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1583
(fs_start=1505)

TCCTACAA
AGGCAGGCTAATTTTTTAGGGAAGATCTGGCCT

GGACCGGA GGGG

CTCCAC
GAATTTTCTTCAGAGCAGACCAGAGCCATCAG

=====
(2266) JF320016
=====

PK1: -13.065000(kcal/mol): PK_start=1468 sp=0 s1=3 s2=8 l1=5 l2=19 L3=0 PK_end=1513
(fs_start=1506)

CCAAA
GCTGTTGGAAATGTGGAAAGGAAGGACA

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          TGT   TAGAAAGT
                ATTTTTTAGG
ACTAATGAGAGGCAGGCTA

PK2:  -16.440000(kcal/mol): PK_start=1492 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1527
(fs_start=1506)
                C
GACACCAAATGAAAGATTGTACTAATGAGAGG
                ATTTTTT  A  ATCGGA
                                TGGCCTTC
                GGAAGATC

PK3:  -25.060000(kcal/mol): PK_start=1514 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1548
(fs_start=1506)
                A
TAATGAGAGGCAGGCTAATTTTTTAGGGAAG
                TCCTTC   CGGTCT
                                GCCAGGGA
                ACAAGGGGAG

PK4:  -26.235000(kcal/mol): PK_start=1521 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1558
(fs_start=1506)
                CTAC
AGGCAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
                GGACCGGAGG   GGAA
                                TCTTCA
                GAATTT

PK4B:  -27.515000(kcal/mol): PK_start=1521 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1584
(fs_start=1506)
                TCCTACAA
AGGCAGGCTAATTTTTTAGGGAAGATCTGGCCT
                GGACCGGA   GGGG
                                CTCCAC
                GAATTTTCTTCAGAGCAGACCAGAGCCATCAG

=====
(2267) JF320017
=====
PK1:  -13.035000(kcal/mol): PK_start=1473 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1501
(fs_start=1493)
                A
GAGAGGAAGGACATCAAATGAAAGACTGT
                GACA   AAGGGTC
                                TTTTTAGGG
                GCTAAT

PK2:  -17.740000(kcal/mol): PK_start=1478 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1514
(fs_start=1493)
                C
GAAGGACATCAAATGAAAGACTGTACTGGGAAA

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GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -22.650000(kcal/mol): PK_start=1502 sp=0 s1=5 s2=6 l1=1 l2=11 L3=0 PK_end=1535
(fs_start=1493)

A
ACTGGGAAACAGGCTAATTTTTTTAGGGAAG
CCTTC CGGTCT
GCCAGGGA
AACAAAGGGAG

PK4: -26.275000(kcal/mol): PK_start=1508 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1545
(fs_start=1493)

TCCAACA
AAACAGGCTAATTTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGAA
TCCTTCA
GAATT

=====
(2268) JF320018
=====

PK1: -9.390000(kcal/mol): PK_start=1490 sp=0 s1=3 s2=6 l1=1 l2=5 L3=0 PK_end=1513
(fs_start=1507)

T
GAAAGGAAGGACACCAAATGAAAGATTG
GAC AGAGAG
TTTTTTAG
GCTAA

PK2: -18.080000(kcal/mol): PK_start=1493 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1528
(fs_start=1507)

C
AGGAAGGACACCAAATGAAAGATTGTGAGAGA
ATTTTTT A ATCGGA
TGGCCTTC
GGGAAAATC

PK3: -23.815000(kcal/mol): PK_start=1516 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1549
(fs_start=1507)

AAA
TGTGAGAGACAGGCTAATTTTTTTAGGGA
CCT TCCGGTCT
AGGCCAGGAA
AACAAAGGGG

PK4: -26.235000(kcal/mol): PK_start=1522 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1559
(fs_start=1507)

CAAC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC

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                GGACCGGAGG    GGAA
                    TCTTCA
AAATTT
PK4B:  -30.395000(kcal/mol): PK_start=1522 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1585
(fs_start=1507)
                    TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                GGACCGGA    GGGG
                    CCCCAC
AAATTTTCTTCAGGGCAGACCAGAGCCAACAG

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=====
(2269) JF320019
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PK1:  -13.035000(kcal/mol): PK_start=1473 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1501
(fs_start=1493)
                    A
GAGAGGAAGGACATCAAATGAAAGACTGT
                GACA    AAGGTC
                    TTTTTAGGG
GCTAAT

```

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PK2:  -17.740000(kcal/mol): PK_start=1478 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1514
(fs_start=1493)
                    C
GAAGGACATCAAATGAAAGACTGTACTGGGAAA
                GATTTTTT    A    ATCGGA
                    TGGCCTTC
GGAAGATC

```

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PK3:  -22.650000(kcal/mol): PK_start=1502 sp=0 s1=5 s2=6 l1=1 l2=11 L3=0 PK_end=1535
(fs_start=1493)
                    A
ACTGGGAAACAGGCTAATTTTTTAGGGAAG
                CCTTC    CGGTCT
                    GCCAGGGA
AACAAAGGGAG

```

```

PK4:  -26.275000(kcal/mol): PK_start=1508 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1545
(fs_start=1493)
                    TCCAACA
AAACAGGCTAATTTTTTAGGGAAGATCTGGCCT
                GGACCGGA    GGGAA
                    TCCTTCA
GAATT

```

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=====
(2270) JF320020
=====

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PK1: -9.390000(kcal/mol): PK_start=1282 sp=0 s1=3 s2=6 l1=1 l2=5 L3=0 PK_end=1305
(fs_start=1299)

T
GAAAGGAAGGACACCAAATGAAAGATTG
GAC AGAGAG
TTTTTTAG
GCTAA

PK2: -18.080000(kcal/mol): PK_start=1285 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1320
(fs_start=1299)

C
AGGAAGGACACCAAATGAAAGATTGTGAGAGA
ATTTTTT A ATCGGA
TGGCCTTC
GGGAAAATC

PK3: -23.815000(kcal/mol): PK_start=1308 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1341
(fs_start=1299)

AAA
TGTGAGAGACAGGCTAATTTTTTTAGGGA
CCT TCCGGTCT
AGGCCAGGAA
AACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=1314 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1351
(fs_start=1299)

CAAC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
AAATTT

PK4B: -30.395000(kcal/mol): PK_start=1314 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1377
(fs_start=1299)

TCCAACAA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTTCTTCAGGGCAGACCAGAGCCAACAG

=====
(2271) JF320021
=====

PK1: -9.390000(kcal/mol): PK_start=1490 sp=0 s1=3 s2=6 l1=1 l2=5 L3=0 PK_end=1513
(fs_start=1507)

T
GAAAGGAAGGACACCAAATGAAAGATTG
GAC AGAGAG
TTTTTTAG
GCTAA

PK2: -18.08000(kcal/mol): PK_start=1493 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1528
(fs_start=1507)

C
AGGAAGGACACCAAATGAAAGATTGTGAGAGA
 A ATCGGA
 TGGCCTTC
 GGGAAAATC

PK3: -23.815000(kcal/mol): PK_start=1516 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1549
(fs_start=1507)

AAA
TGTGAGAGACAGGCTAATTTTTTAGGGA
 CCT TCCGGTCT
 AGGCCAGGAA
 AACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=1522 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1559
(fs_start=1507)

CAAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
 GGACCGGAGG GGAA
 TCTTCA
 AAATTT

PK4B: -30.395000(kcal/mol): PK_start=1522 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1585
(fs_start=1507)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
 GGACCGGA GGGG
 CCCCAC
 AAATTTTCTTCAGGGCAGACCAGAGCCAACAG

=====
(2272) JF320023
=====

PK1: -9.390000(kcal/mol): PK_start=1490 sp=0 s1=3 s2=6 l1=1 l2=5 L3=0 PK_end=1513
(fs_start=1507)

T
GAAAGGAAGGACACCAAATGAAAGATTG
 GAC AGAGAG
 TTTTTTAG
 GCTAA

PK2: -18.080000(kcal/mol): PK_start=1493 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1528
(fs_start=1507)

C
AGGAAGGACACCAAATGAAAGATTGTGAGAGA
 ATTTTTT A ATCGGA
 TGGCCTTC
 GGGAAAATC

PK3: -23.815000(kcal/mol): PK_start=1516 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1549
(fs_start=1507)

AAA
TGTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTCT
AGGCCAGGAA
AACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=1522 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1559
(fs_start=1507)

CAAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTC
GGACCGGAGG GGAA
TCTTCA
AAATTT

PK4B: -30.395000(kcal/mol): PK_start=1522 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1585
(fs_start=1507)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTTCTTCAGGGCAGACCAGCCAACAG

=====
(2273) JF320024
=====

PK1: -9.390000(kcal/mol): PK_start=1490 sp=0 s1=3 s2=6 l1=1 l2=5 L3=0 PK_end=1513
(fs_start=1507)

T
GAAAGGAAGGACACCAAATGAAAGATTG
GAC AGAGAG
TTTTTTAG
GCTAA

PK2: -18.080000(kcal/mol): PK_start=1493 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1528
(fs_start=1507)

C
AGGAAGGACACCAAATGAAAGATTGTGAGAGA
ATTTTTT A ATCGGA
TGGCCTTC
GGGAAAATC

PK3: -23.815000(kcal/mol): PK_start=1516 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1549
(fs_start=1507)

AAA
TGTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTCT
AGGCCAGGAA
AACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=1522 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1559
(fs_start=1507)

CAAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
AAATTT

PK4B: -30.395000(kcal/mol): PK_start=1522 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=1585
(fs_start=1507)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTTCTTCAGGGCAGACCAGAGCCAACAG

=====
(2274) JF320025
=====

PK1: -13.035000(kcal/mol): PK_start=1443 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1471
(fs_start=1463)

A
GAGAGGAAGGACATCAAATGAAAGACTGT
GACA AAGGGTC
TTTTTAGGG
GCTAAT

PK2: -17.740000(kcal/mol): PK_start=1448 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1484
(fs_start=1463)

C
GAAGGACATCAAATGAAAGACTGTACTGGGAAA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -22.650000(kcal/mol): PK_start=1472 sp=0 s1=5 s2=6 l1=1 l2=11 l3=0 PK_end=1505
(fs_start=1463)

A
ACTGGGAAACAGGCTAATTTTTTAGGGAAG
CCTTC CGGTCT
GCCAGGGA
AACAAAGGGAG

PK4: -26.275000(kcal/mol): PK_start=1478 sp=7 s1=8 s2=5 l1=7 l2=5 l3=0 PK_end=1515
(fs_start=1463)

TCCAACA
AAACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGAA
TCCTTCA
GAATT

=====
(2275) JF320026
=====

PK1: -6.630000(kcal/mol): PK_start=1490 sp=0 s1=3 s2=6 l1=1 l2=5 L3=0 PK_end=1513
(fs_start=1507)

T
GAAAGGAAGGACACCAAATGAAAGATTG
GAC AGGGAG
TTTTTTAG
GCTAA

PK2: -15.320000(kcal/mol): PK_start=1493 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1528
(fs_start=1507)

C
AGGAAGGACACCAAATGAAAGATTGTGAGGGA
ATTTTTT A ATCGGA
TGGCCTTC
GGGAAAATC

PK3: -23.815000(kcal/mol): PK_start=1516 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1549
(fs_start=1507)

AAA
TGTGAGGGACAGGCTAATTTTTTAGGGA
CCT TCCGGTCT
AGGCCAGGAA
AACAAGGGG

PK4: -25.245000(kcal/mol): PK_start=1522 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1559
(fs_start=1507)

TCCAACAA
GGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
TCTCAG
AAATTT

=====
(2276) JF320027
=====

PK1: -13.035000(kcal/mol): PK_start=1473 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1501
(fs_start=1493)

A
GAGAGGAAGGACATCAAATGAAAGACTGT
GACA AAGGGTC
TTTTTAGGG
GCTAAT

PK2: -17.740000(kcal/mol): PK_start=1478 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1514
(fs_start=1493)

C
GAAGGACATCAAATGAAAGACTGTACTGGGAAA
GATTTTTT A ATCGGA

TGGCCTTC

GGAAGATC

PK3: -22.65000(kcal/mol): PK_start=1502 sp=0 s1=5 s2=6 l1=1 l2=11 l3=0 PK_end=1535
(fs_start=1493)

A

ACTGGGAAACAGGCTAATTTTTTAGGGAAG

CCTTC CGGTCT

GCCAGGGA

AACAAAGGGAG

PK4: -26.27500(kcal/mol): PK_start=1508 sp=7 s1=8 s2=5 l1=7 l2=5 l3=0 PK_end=1545
(fs_start=1493)

TCCAACA

AAACAGGCTAATTTTTTAGGGAAGATCTGGCCT

GGACCGGA GGGAA

TCCTTCA

GAATT

=====
(2277) JF320028
=====

PK1: -13.55500(kcal/mol): PK_start=1482 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1510
(fs_start=1502)

A

GAAAGGAAGGACACCAAATGAAAGATTGT

GACA GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.46000(kcal/mol): PK_start=1487 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1523
(fs_start=1502)

C

GAAGGACACCAAATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAAATC

PK3: -26.60500(kcal/mol): PK_start=1510 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=1544
(fs_start=1502)

AAA

TACTGAGAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT

AGGCCGGGGA

ACAAGGGA

PK4: -26.04500(kcal/mol): PK_start=1517 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1554
(fs_start=1502)

CCAC

AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

GGGCCGGAAG GGAA


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                                TCTTCA
                                GAATTT
=====
(2278) JF320029
=====
PK1:  -13.555000(kcal/mol): PK_start=1459 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1487
(fs_start=1479)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                                GACA    GAGAGTC
                                TTTTtaggg
                                GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1464 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1500
(fs_start=1479)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                                GATTTTTT A  ATCGGA
                                TGGCCTTC
                                GGAAAATC

PK3:  -26.605000(kcal/mol): PK_start=1487 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1521
(fs_start=1479)
                                AAA
TACTGAGAGACAGGCTAATTTTTTtaggga
                                CCCT    TCCGGTCT
                                AGGCCGGGGA
                                ACAAGGGA

PK4:  -26.045000(kcal/mol): PK_start=1494 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1531
(fs_start=1479)
                                CCAC
AGACAGGCTAATTTTTTtaggaaaatctggccttc
                                GGGCCGGAAG    GGAA
                                TCTTCA
                                GAATTT

=====
(2279) JF320030
=====
PK1:  -13.035000(kcal/mol): PK_start=1473 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1501
(fs_start=1493)
                                A
GAGAGGAAGGACATCAAATGAAAGACTGT
                                GACA    AAGGTC
                                TTTTtaggg
                                GCTAAT

PK2:  -17.740000(kcal/mol): PK_start=1478 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1514
(fs_start=1493)
                                C
GAAGGACATCAAATGAAAGACTGTACTGGGAAA

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          GATTTTTT A ATCGGA
                    TGGCCTTC
          GGAAGATC

PK3:  -22.650000(kcal/mol): PK_start=1502 sp=0 s1=5 s2=6 l1=1 l2=11 L3=0 PK_end=1535
(fs_start=1493)
          A
ACTGGGAAACAGGCTAATTTTTTTAGGGAAG
          CCTTC   CGGTCT
                    GCCAGGGA
          AACAAAGGGAG

PK4:  -26.275000(kcal/mol): PK_start=1508 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1545
(fs_start=1493)
                    TCCAACA
AAACAGGCTAATTTTTTTAGGGAAGATCTGGCCT
          GGACCGGA   GGGAA
                    TCCTTCA
          GAATT

=====
(2280) JF320031
=====
PK1:  -13.555000(kcal/mol): PK_start=1482 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1510
(fs_start=1502)
          A
GAAAGGAAGGACACCAAATGAAAGATTGT
          GACA   GAGAGTC
                    TTTTTAGGG
          GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1487 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1523
(fs_start=1502)
          C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
          GATTTTTT A ATCGGA
                    TGGCCTTC
          GGAAAATC

PK3:  -26.605000(kcal/mol): PK_start=1510 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1544
(fs_start=1502)
          AAA
TACTGAGAGACAGGCTAATTTTTTTAGGGA
          CCCT   TCCGGTCT
                    AGGCCGGGGA
          ACAAGGGA

PK4:  -26.045000(kcal/mol): PK_start=1517 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1554
(fs_start=1502)
                    CCAC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC

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GGGCCGGAAG    GGAA
                TCTTCA
GAATTT
=====
(2281) JF320033
=====
PK1:  -13.035000(kcal/mol): PK_start=1473 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1501
(fs_start=1493)
                A
GAGAGGAAGGACATCAAATGAAAGACTGT
                GACA    AAGGGTC
                TTTTTAGGG
GCTAAT

PK2:  -17.740000(kcal/mol): PK_start=1478 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1514
(fs_start=1493)
                C
GAAGGACATCAAATGAAAGACTGTACTGGGAAA
                GATTTTTT    A    ATCGGA
                TGGCCTTC
GGAAGATC

PK3:  -22.650000(kcal/mol): PK_start=1502 sp=0 s1=5 s2=6 l1=1 l2=11 L3=0 PK_end=1535
(fs_start=1493)
                A
ACTGGGAAACAGGCTAATTTTTTAGGGAAG
                CCTTC    CGGTCT
                GCCAGGGA
AACAAAGGGAG

PK4:  -26.275000(kcal/mol): PK_start=1508 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1545
(fs_start=1493)
                TCCAACA
AAACAGGCTAATTTTTTAGGGAAGATCTGGCCT
                GGACCGGA    GGGAA
                TCCTTCA
GAATT

=====
(2282) JF320034
=====
PK1:  -13.035000(kcal/mol): PK_start=1473 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1501
(fs_start=1493)
                A
GAGAGGAAGGACATCAAATGAAAGACTGT
                GACA    AAGGGTC
                TTTTTAGGG
GCTAAT

```

PK2: -17.740000(kcal/mol): PK_start=1478 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1514
(fs_start=1493)

C
GAAGGACATCAAATGAAAGACTGTACTGGGAAA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -22.650000(kcal/mol): PK_start=1502 sp=0 s1=5 s2=6 l1=1 l2=11 L3=0 PK_end=1535
(fs_start=1493)

A
ACTGGGAAACAGGCTAATTTTTTAGGGAAG
CCTTC CGGTCT
GCCAGGGA
AACAAAGGGAG

PK4: -26.275000(kcal/mol): PK_start=1508 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1545
(fs_start=1493)

TCCAACA
AAACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGAA
TCCTTCA
GAATT

=====
(2283) JF320035
=====

PK1: -13.035000(kcal/mol): PK_start=1473 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1501
(fs_start=1493)

A
GAGAGGAAGGACATCAAATGAAAGACTGT
GACA AAGGTC
TTTTTAGGG
GCTAAT

PK2: -17.740000(kcal/mol): PK_start=1478 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1514
(fs_start=1493)

C
GAAGGACATCAAATGAAAGACTGTACTGGGAAA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -22.650000(kcal/mol): PK_start=1502 sp=0 s1=5 s2=6 l1=1 l2=11 L3=0 PK_end=1535
(fs_start=1493)

A
ACTGGGAAACAGGCTAATTTTTTAGGGAAG
CCTTC CGGTCT
GCCAGGGA
AACAAAGGGAG

PK4: -26.275000(kcal/mol): PK_start=1508 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1545
(fs_start=1493)

TCCAACA
AAACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGAA
TCCTTCA
GAATT

=====
(2284) JF320036
=====

PK1: -12.955000(kcal/mol): PK_start=1276 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1304
(fs_start=1296)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -18.720000(kcal/mol): PK_start=1281 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1317
(fs_start=1296)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -23.815000(kcal/mol): PK_start=1305 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1338
(fs_start=1296)

AAA
ACTGAGAGGCAGGCTAATTTTTTAGGGA
CCT TCCGGTCT
AGGCCAGGGA
AACAAGGGA

PK4: -26.445000(kcal/mol): PK_start=1311 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1348
(fs_start=1296)

TCCAACA
AGGCAGGCTAATTTTTTAGGAAAATCTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(2285) JF320038
=====

PK1: -13.555000(kcal/mol): PK_start=1279 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1307
(fs_start=1299)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC

```

          TTTT TAGGG
    GCTAAT
PK2:  -20.46000(kcal/mol): PK_start=1284 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1320
(fs_start=1299)
          C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
          GATTTTTT A  ATCGGA
          TGGCCTTC
    GGAAAATC
PK3:  -27.27500(kcal/mol): PK_start=1307 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1341
(fs_start=1299)
          AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
          CCCT   TCCGGTCT
          AGGCCAGGGA
    ACAAAGGA
PK4:  -24.11500(kcal/mol): PK_start=1314 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1351
(fs_start=1299)
          TCCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
          GGACCGGA   AGGAA
          TTCTTCA
    GAATT

=====
(2286) JF320039
=====
PK1:  -13.55500(kcal/mol): PK_start=1279 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1307
(fs_start=1299)
          A
GAAAGGAAGGACACCAAATGAAAGATTGT
          GACA   GAGAGTC
          TTTT TAGGG
    GCTAAT
PK2:  -20.46000(kcal/mol): PK_start=1284 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1320
(fs_start=1299)
          C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
          GATTTTTT A  ATCGGA
          TGGCCTTC
    GGAAAATC
PK3:  -27.27500(kcal/mol): PK_start=1307 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1341
(fs_start=1299)
          AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
          CCCT   TCCGGTCT

```

AGGCCAGGGA

ACAAAGGA

PK4: -24.115000(kcal/mol): PK_start=1314 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1351
(fs_start=1299)

TCCCACA

AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT

GGACCGGA AGGAA

TTCTTCA

GAATT

=====
(2287) JF320040
=====

PK1: -13.555000(kcal/mol): PK_start=1279 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1307
(fs_start=1299)

A

GAAAGGAAGGACACCAAATGAAAGATTGT

GACA GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1284 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1320
(fs_start=1299)

C

GAAGGACACCAAATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1307 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1341
(fs_start=1299)

AAA

TACTGAGAGACAGGCTAATTTTTTTAGGGA

CCCT TCCGGTCT

AGGCCAGGGA

ACAAAGGA

PK4: -24.115000(kcal/mol): PK_start=1314 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1351
(fs_start=1299)

TCCCACA

AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT

GGACCGGA AGGAA

TTCTTCA

GAATT

=====
(2288) JF320041
=====

PK1: -13.555000(kcal/mol): PK_start=1279 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1307
(fs_start=1299)

A

GAAAGGAAGGACACCAAATGAAAGATTGT

GACA GAGAGTC
TTTTTAGGG
GCTAAT
PK2: -20.460000(kcal/mol): PK_start=1284 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1320
(fs_start=1299)
C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC
PK3: -27.275000(kcal/mol): PK_start=1307 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1341
(fs_start=1299)
AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT
AGGCCAGGGA
ACAAAGGA
PK4: -24.115000(kcal/mol): PK_start=1314 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1351
(fs_start=1299)
TCCCACA
AGACAGGCTAATTTTTTAGGAAAATCTGGCCT

GGACCGGA AGGAA
TTCTTCA
GAATT

=====
(2289) JF320042
=====

PK1: -13.555000(kcal/mol): PK_start=1279 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1307
(fs_start=1299)
A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1284 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1320
(fs_start=1299)
C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1307 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1341
(fs_start=1299)
AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT
 AGGCCAGGGA
 ACAAAGGA

PK4: -24.115000(kcal/mol): PK_start=1314 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1351
 (fs_start=1299)

TCCCACA
 AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT

GGACCGGA AGGAA
 TTCTTCA
 GAATT

=====
 (2290) JF320043
 =====

PK1: -12.995000(kcal/mol): PK_start=1442 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1470
 (fs_start=1462)

A
 GAAAGGAAGGACACCAAATGAAAGATTGT

GACG GAAAGTC
 TTTTTAGGA
 GCTAAT

PK2: -18.760000(kcal/mol): PK_start=1447 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1483
 (fs_start=1462)

C
 GAAGGACACCAAATGAAAGATTGTACTGAAAGG

GATTTTTT A ATCGGA
 TGGCCTTC
 GAAAAATC

PK3: -24.015000(kcal/mol): PK_start=1470 sp=0 s1=3 s2=8 l1=4 l2=9 L3=0 PK_end=1504
 (fs_start=1462)

AAAA
 TACTGAAAGGCAGGCTAATTTTTTAGGA

CCT TCCGGTCT
 AGGCCAGGGA
 AACAAGGGG

PK4: -24.345000(kcal/mol): PK_start=1477 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1514
 (fs_start=1462)

TCCAACAA
 AGGCAGGCTAATTTTTTAGGAAAAATCTGGCCT

GGACCGGA GGGG
 TCTCCA
 GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1477 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1540
 (fs_start=1462)

TCCAACAA
 AGGCAGGCTAATTTTTTAGGAAAAATCTGGCCT

GGACCGGA GGGG
CCCCAG
GAATTTTCTCCAGAACAGACCAGACCAACAG

=====
(2291) JF320044
=====

PK1: -13.555000(kcal/mol): PK_start=1494 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1522
(fs_start=1514)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1499 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1535
(fs_start=1514)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1522 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1556
(fs_start=1514)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1529 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1566
(fs_start=1514)

CCAC
AGACAGGCTAATTTTTTAGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2292) JF320045
=====

PK1: -13.555000(kcal/mol): PK_start=1489 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1517
(fs_start=1509)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.46000(kcal/mol): PK_start=1494 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1530
(fs_start=1509)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.27500(kcal/mol): PK_start=1517 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1551
(fs_start=1509)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -26.23500(kcal/mol): PK_start=1524 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1561
(fs_start=1509)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAACTT

PK4B: -30.39500(kcal/mol): PK_start=1524 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1587
(fs_start=1509)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAACTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2293) JF320046
=====

PK1: -12.99500(kcal/mol): PK_start=1442 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1470
(fs_start=1462)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACG GAAAGTC
TTTTTAGGA
GCTAAT

PK2: -18.76000(kcal/mol): PK_start=1447 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1483
(fs_start=1462)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGG
GATTTTTT A ATCGGA
TGGCCTTC
GAAAATC

PK3: -24.015000(kcal/mol): PK_start=1470 sp=0 s1=3 s2=8 l1=4 l2=9 L3=0 PK_end=1504
(fs_start=1462)

AAAA
TACTGAAAGGCAGGCTAATTTTTTAGGA
CCT TCCGGTCT
AGGCCAGGGA
AACAAGGGG

PK4: -24.345000(kcal/mol): PK_start=1477 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1514
(fs_start=1462)

TCCAACAA
AGGCAGGCTAATTTTTTAGGAAAAATCTGGCCT
GGACCGGA GGGG
TCTCCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1477 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1540
(fs_start=1462)

TCCAACAA
AGGCAGGCTAATTTTTTAGGAAAAATCTGGCCT
GGACCGGA GGGG
CCCCAG
GAATTTTCTCCAGAACAGACCAGAGCCAACAG

=====
(2294) JF320047
=====

PK1: -13.555000(kcal/mol): PK_start=1494 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1522
(fs_start=1514)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1499 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1535
(fs_start=1514)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1522 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1556
(fs_start=1514)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1529 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1566
(fs_start=1514)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2295) JF320048
=====

PK1: -13.555000(kcal/mol): PK_start=1279 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1307
(fs_start=1299)

A
GGAAAGAAGGACATCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1284 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1320
(fs_start=1299)

C
GAAGGACATCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1307 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1341
(fs_start=1299)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1314 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1351
(fs_start=1299)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2296) JF320049
=====

PK1: -13.555000(kcal/mol): PK_start=1494 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1522
(fs_start=1514)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC

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                TTTT TAGGG
      GCTAAT
PK2:  -20.46000(kcal/mol): PK_start=1499 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1535
(fs_start=1514)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT A ATCGGA
                TGGCCTTC
      GGAAAATC
PK3:  -27.27500(kcal/mol): PK_start=1522 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1556
(fs_start=1514)
                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTCT
                AGGCCAGGGA
      ACAAGGGA
PK4:  -26.71500(kcal/mol): PK_start=1529 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1566
(fs_start=1514)
                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                GGACCGGAAG   GGAA
                TCTTCA
      GAATTT

=====
(2297) JF320050
=====
PK1:  -12.99500(kcal/mol): PK_start=1442 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1470
(fs_start=1462)
                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                GACG   GAAAGTC
                TTTT TAGGA
      GCTAAT
PK2:  -18.76000(kcal/mol): PK_start=1447 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1483
(fs_start=1462)
                C
GAAGGACACCAAATGAAAGATTGTACTGAAAGG
                GATTTTTT A ATCGGA
                TGGCCTTC
      GAAAATC
PK3:  -24.01500(kcal/mol): PK_start=1470 sp=0 s1=3 s2=8 l1=4 l2=9 L3=0 PK_end=1504
(fs_start=1462)
                AAAA
TACTGAAAGGCAGGCTAATTTTTTAGGA
                CCT   TCCGGTCT

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                                AGGCCAGGGA
                                AACAAGGGG

PK4:  -24.345000(kcal/mol): PK_start=1477 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1514
(fs_start=1462)
                                TCCAACAA
AGGCAGGCTAATTTTTTTAGGAAAAATCTGGCCT
                                GGACCGGA    GGGG
                                TCTCCA
                                GAATTT

PK4B:  -30.395000(kcal/mol): PK_start=1477 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1540
(fs_start=1462)
                                TCCAACAA
AGGCAGGCTAATTTTTTTAGGAAAAATCTGGCCT
                                GGACCGGA    GGGG
                                CCCCAG
                                GAATTTTCTCCAGAACAGACCAGAGCCAACAG

=====
(2298) JF320051
=====

PK1:  -13.555000(kcal/mol): PK_start=1494 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1522
(fs_start=1514)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                                GACA    GAGAGTC
                                TTTTTAGGG
                                GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1499 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1535
(fs_start=1514)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                                GATTTTTT  A  ATCGGA
                                TGGCCTTC
                                GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1522 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1556
(fs_start=1514)
                                AAA
TACTGAGAGACAGGCTAATTTTTTTAGGGA
                                CCCT    TCCGGTCT
                                AGGCCAGGGA
                                ACAAGGGA

PK4:  -26.715000(kcal/mol): PK_start=1529 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1566
(fs_start=1514)
                                CCAC
AGACAGGCTAATTTTTTTAGGAAAAATCTGGCCTTC
                                GGACCGGAAG    GGAA

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                                TCTTCA
                                GAATTT

=====
(2299) JF320052
=====
PK1:  -13.555000(kcal/mol): PK_start=1489 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1517
(fs_start=1509)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                                GACA    GAGAGTC
                                TTTTtaggg
                                GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1494 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1530
(fs_start=1509)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                                GATTTTTT  A  ATCGGA
                                TGGCCTTC
                                GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1517 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1551
(fs_start=1509)
                                AAA
TACTGAGAGACAGGCTAATTTTTTtaggga
                                CCCT    TCCGGTCT
                                AGGCCAGGGA
                                ACAAGGGG

PK4:  -26.235000(kcal/mol): PK_start=1524 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1561
(fs_start=1509)
                                CCAC
AGACAGGCTAATTTTTTtagggaaaatctggccttc
                                GGACCGGAGG    GGAA
                                TCTTCA
                                GAACTT

PK4B:  -30.395000(kcal/mol): PK_start=1524 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1587
(fs_start=1509)
                                TCCCACAA
AGACAGGCTAATTTTTTtagggaaaatctggcct
                                GGACCGGA    GGGG
                                CCCCAC
                                GAACTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2300) JF320053
=====
PK1:  -13.555000(kcal/mol): PK_start=1497 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1525
(fs_start=1517)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT

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          GACA    GAGAGTC
                TTTTATAGG
    GCTAAT
PK2:  -20.46000(kcal/mol): PK_start=1502 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1538
(fs_start=1517)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT  A  ATCGGA
                                TGGCCTTC
                GGAAAATC

PK3:  -27.27500(kcal/mol): PK_start=1525 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1559
(fs_start=1517)
                AAA
TACTGAGAGACAGGCTAATTTTTATAGGGA
                CCCT    TCCGGTCT
                                AGGCCAGGGA
                ACAAGGGA

PK4:  -26.71500(kcal/mol): PK_start=1532 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1569
(fs_start=1517)
                CCAC
AGACAGGCTAATTTTTATAGGAAAATCTGGCCTTC
                GGACCGAAG    GGAA
                                TCTTCA
                GAATTT

=====
(2301) JF320054
=====
PK1:  -10.63000(kcal/mol): PK_start=1439 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1477
(fs_start=1470)
                A
TTGGAAATGTGGAAAGGAAGGACACCAA
                GTT    AGAAAAT
                                TTTTTTAGG
                CACTGAGAGACAGGCTAA

PK2:  -20.46000(kcal/mol): PK_start=1455 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1491
(fs_start=1470)
                C
GAAGGACACCAAATAAAAGATTGCACTGAGAGA
                GATTTTTT  A  ATCGGA
                                TGGCCTTC
                GGAAAATC

PK3:  -27.27500(kcal/mol): PK_start=1478 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1512
(fs_start=1470)
                AAA
CACTGAGAGACAGGCTAATTTTTATAGGGA

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CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA
PK4: -26.715000(kcal/mol): PK_start=1485 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1522
(fs_start=1470)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2302) JF320055
=====

PK1: -13.555000(kcal/mol): PK_start=1497 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1525
(fs_start=1517)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1502 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1538
(fs_start=1517)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1525 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1559
(fs_start=1517)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1532 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1569
(fs_start=1517)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2303) JF320056
=====

PK1: -13.555000(kcal/mol): PK_start=1279 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1307
(fs_start=1299)

A
GGAAAGAAGGACATCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1284 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1320
(fs_start=1299)

C
GAAGGACATCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1307 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1341
(fs_start=1299)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1314 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1351
(fs_start=1299)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2304) JF320058
=====

PK1: -13.555000(kcal/mol): PK_start=1497 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1525
(fs_start=1517)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1502 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1538
(fs_start=1517)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1525 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1559
(fs_start=1517)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1532 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1569
(fs_start=1517)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2305) JF320059
=====

PK1: -13.555000(kcal/mol): PK_start=1456 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1484
(fs_start=1476)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1461 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1497
(fs_start=1476)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1518
(fs_start=1476)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -27.515000(kcal/mol): PK_start=1491 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1529
(fs_start=1476)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CTCCAG
GAACTTC

PK4B: -30.395000(kcal/mol): PK_start=1491 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1554
(fs_start=1476)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAG
GAACTTCCTCCAGAGCAGGCCAGGCCATCAG

=====
(2306) JF320060
=====

PK1: -13.555000(kcal/mol): PK_start=1497 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1525
(fs_start=1517)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1502 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1538
(fs_start=1517)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1525 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1559
(fs_start=1517)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1532 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1569
(fs_start=1517)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2307) JF320061
=====

PK1: -10.630000(kcal/mol): PK_start=1420 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1458
(fs_start=1451)

A
TTGGAAATGTGGAAAGGAAGGACACCAA
GTT AGAAAAT

TTTTTTAGG
CACTGAGAGACAGGCTAA
PK2: -20.460000(kcal/mol): PK_start=1436 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1472
(fs_start=1451)

C
GAAGGACACCAAATAAAAGATTGCACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1459 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1493
(fs_start=1451)

AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1466 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1503
(fs_start=1451)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2308) JF320062
=====

PK1: -13.555000(kcal/mol): PK_start=1494 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1522
(fs_start=1514)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1499 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1535
(fs_start=1514)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1522 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1556
(fs_start=1514)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT

AGGCCAGGGA

ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1529 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1566
(fs_start=1514)

CCAC

AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAAG GGAA

TCTTCA

GAATTT

=====
(2309) JF320064
=====

PK1: -13.555000(kcal/mol): PK_start=1494 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1522
(fs_start=1514)

A

GAAAGGAAGGACACCAAATGAAAGATTGT

GACA GAGAGTC

TTTTTAGGA

GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1499 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1535
(fs_start=1514)

C

GAAGGACACCAAATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GAAAAATC

PK3: -24.015000(kcal/mol): PK_start=1522 sp=0 s1=3 s2=8 l1=4 l2=9 L3=0 PK_end=1556
(fs_start=1514)

AAAA

TACTGAGAGACAGGCTAATTTTTTTAGGA

CCT TCCGGTCT

AGGCCAGGGA

CACAAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1529 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1566
(fs_start=1514)

CCAC

AGACAGGCTAATTTTTTTAGGAAAAATCTGGCCTTC

GGACCGGAAG GGAA

TCTTCA

GAATTT

=====
(2310) JF320065
=====

PK1: -13.555000(kcal/mol): PK_start=1279 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1307
(fs_start=1299)

A

GGAAAGAAGGACATCAAATGAAAGATTGT

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          GACA    GAGAGTC
                TTTTATAGG
    GCTAAT
PK2:  -20.46000(kcal/mol): PK_start=1284 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1320
(fs_start=1299)
                C
GAAGGACATCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT A  ATCGGA
                                TGGCCTTC
                GGAAAATC

PK3:  -27.27500(kcal/mol): PK_start=1307 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1341
(fs_start=1299)
                AAA
TACTGAGAGACAGGCTAATTTTTATAGGGA
                CCCT    TCCGGTCT
                                AGGCCAGGGA
                ACAAGGGA

PK4:  -26.71500(kcal/mol): PK_start=1314 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1351
(fs_start=1299)
                CCAC
AGACAGGCTAATTTTTATAGGAAAATCTGGCCTTC
                GGACCGGAAG    GGAA
                                TCTTCA
                GAATTT

=====
(2311) JF320066
=====
PK1:  -12.99500(kcal/mol): PK_start=1442 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1470
(fs_start=1462)
                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                GACG    GAAAGTC
                                TTTTATAGGA
                GCTAAT

PK2:  -18.76000(kcal/mol): PK_start=1447 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1483
(fs_start=1462)
                C
GAAGGACACCAAATGAAAGATTGTACTGAAAGG
                GATTTTTT A  ATCGGA
                                TGGCCTTC
                GAAAATC

PK3:  -24.01500(kcal/mol): PK_start=1470 sp=0 s1=3 s2=8 l1=4 l2=9 L3=0 PK_end=1504
(fs_start=1462)
                AAAA
TACTGAAAGGCAGGCTAATTTTTATAGGA

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          CCT      TCCGGTCT
                AGGCCAGGGA
          AACAAAGGGG

PK4:  -24.345000(kcal/mol): PK_start=1477 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1514
(fs_start=1462)
                TCCAACAA
AGGCAGGCTAATTTTTTTAGGAAAAATCTGGCCT
                GGACCGGA      GGGG
                TCTCCA
          GAATTT

PK4B:  -30.395000(kcal/mol): PK_start=1477 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1540
(fs_start=1462)
                TCCAACAA
AGGCAGGCTAATTTTTTTAGGAAAAATCTGGCCT
                GGACCGGA      GGGG
                CCCCAG
          GAATTTTCTCCAGAACAGACCAGCCAACAG

=====
(2312) JF320067
=====

PK1:  -12.995000(kcal/mol): PK_start=1442 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1470
(fs_start=1462)
                A
          GAAAGGAAGGACACCAAATGAAAGATTGT
                GACG      GAAAGTC
                TTTTTAGGA
          GCTAAT

PK2:  -18.760000(kcal/mol): PK_start=1447 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1483
(fs_start=1462)
                C
          GAAGGACACCAAATGAAAGATTGTACTGAAAGG
                GATTTTTT  A  ATCGGA
                TGGCCTTC
          GAAAAATC

PK3:  -24.015000(kcal/mol): PK_start=1470 sp=0 s1=3 s2=8 l1=4 l2=9 L3=0 PK_end=1504
(fs_start=1462)
                AAAA
          TACTGAAAGGCAGGCTAATTTTTTTAGGA
                CCT      TCCGGTCT
                AGGCCAGGGA
          AACAAAGGGG

PK4:  -24.345000(kcal/mol): PK_start=1477 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1514
(fs_start=1462)
                TCCAACAA
AGGCAGGCTAATTTTTTTAGGAAAAATCTGGCCT

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                GGACCGGA    GGGG
                                TCTCCA
          GAATTT
PK4B:  -30.395000(kcal/mol): PK_start=1477 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1540
(fs_start=1462)
                                TCCAACAA
AGGCAGGCTAATTTTTTAGGAAAAATCTGGCCT
                GGACCGGA    GGGG
                                CCCCAG
          GAATTTTCTCCAGAACAGACCAGAGCCAACAG

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=====
(2313) JF320068
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PK1:  -13.555000(kcal/mol): PK_start=1279 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1307
(fs_start=1299)

```

```

                A
GGAAAGAAGGACATCAAATGAAAGATTGT
                GACA    GAGAGTC
                                TTTTTAGGG
          GCTAAT

```

```

PK2:  -20.460000(kcal/mol): PK_start=1284 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1320
(fs_start=1299)

```

```

                C
GAAGGACATCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT  A  ATCGGA
                                TGGCCTTC
          GGAAAATC

```

```

PK3:  -27.275000(kcal/mol): PK_start=1307 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1341
(fs_start=1299)

```

```

                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                CCCT    TCCGGTCT
                                AGGCCAGGGA
          ACAAGGGA

```

```

PK4:  -26.715000(kcal/mol): PK_start=1314 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1351
(fs_start=1299)

```

```

                                CCAC
AGACAGGCTAATTTTTTAGGGAAAAATCTGGCCTTC
                GGACCGGAAG    GGAA
                                TCTTCA
          GAATTT

```

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=====
(2314) JF320069
=====

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PK1: -13.555000(kcal/mol): PK_start=1472 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1500 (fs_start=1492)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1477 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1513 (fs_start=1492)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1500 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1534 (fs_start=1492)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=1507 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1544 (fs_start=1492)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAACTT

PK4B: -30.395000(kcal/mol): PK_start=1507 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1570 (fs_start=1492)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAACTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2315) JF320070
=====

PK1: -13.555000(kcal/mol): PK_start=1489 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1517 (fs_start=1509)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1494 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1530
(fs_start=1509)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1517 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1551
(fs_start=1509)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=1524 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1561
(fs_start=1509)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAACTT

PK4B: -30.395000(kcal/mol): PK_start=1524 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1587
(fs_start=1509)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAACTTTCTTCAAAGCAGACCAGAGCCAACAG

=====
(2316) JF320071
=====

PK1: -13.555000(kcal/mol): PK_start=1279 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1307
(fs_start=1299)

A
GGAAAGAAGGACATCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1284 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1320
(fs_start=1299)

C
GAAGGACATCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1307 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1341
(fs_start=1299)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1314 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1351
(fs_start=1299)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2317) JF320081
=====

PK1: -13.595000(kcal/mol): PK_start=1498 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1526
(fs_start=1518)

A
GAAAGGAAGGACACCAAATGAAGAATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1503 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1539
(fs_start=1518)

C
GAAGGACACCAAATGAAGAATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1526 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1560
(fs_start=1518)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -29.020000(kcal/mol): PK_start=1533 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1570
(fs_start=1518)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(2318) JF320082
=====

PK1: -13.595000(kcal/mol): PK_start=1498 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1526
(fs_start=1518)

A
GAAAGGAAGGACACCAAATGAAGAATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1503 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1539
(fs_start=1518)

C
GAAGGACACCAAATGAAGAATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1526 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1560
(fs_start=1518)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -29.020000(kcal/mol): PK_start=1533 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1570
(fs_start=1518)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(2319) JF320097
=====

PK1: -15.100000(kcal/mol): PK_start=1285 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1313
(fs_start=1305)

CA
GAAAGGAAGGACACCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -20.460000(kcal/mol): PK_start=1290 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1326
(fs_start=1305)

C
GAAGGACACCAAATGAAAGACTGCACTGAGAGA
GATTTTTT A ATCGGA

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                                TGGCCTTC
                                GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1313 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1347
(fs_start=1305)
                                AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTCT
                                AGGCCAGGGA
                                ACAAGGGA

PK4:  -29.020000(kcal/mol): PK_start=1320 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1357
(fs_start=1305)
                                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAAG   GGAA
                                CCTTCA
                                GAATTT

=====
(2320) JF320098
=====
PK1:  -15.100000(kcal/mol): PK_start=1285 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1313
(fs_start=1305)
                                CA
GAAAGGAAGGACACCAAATGAAAGACTG
                                GAC   AGAGAGTC
                                TTTTTTAGGG
                                GCTAA

PK2:  -20.460000(kcal/mol): PK_start=1290 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1326
(fs_start=1305)
                                C
GAAGGACACCAAATGAAAGACTGCACTGAGAGA
                                GATTTTTT   A   ATCGGA
                                TGGCCTTC
                                GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1313 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1347
(fs_start=1305)
                                AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTCT
                                AGGCCAGGGA
                                ACAAGGGA

PK4:  -29.020000(kcal/mol): PK_start=1320 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1357
(fs_start=1305)
                                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAAG   GGAA

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                                CCTTCA
                                GAATTT
=====
(2321) JF320120
=====
PK1:  -10.795000(kcal/mol): PK_start=1477 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1505
(fs_start=1497)
                                C
GAGAGGAAGGACACCAAATGAAAAATTGT
                                GACA    GAGGGTC
                                TTTT TAGGA
                                GCTAAT

PK2:  -23.010000(kcal/mol): PK_start=1480 sp=0 s1=10 s2=6 l1=1 l2=6 L3=1 PK_end=1518
(fs_start=1497)
                                C
AGGAAGGACACCAAATGAAAAATTGTCCTGGGAGA
                                AGGATTTTTT  A  ATCGGA
                                TGGCCTTC
                                AAGGTC

PK3:  -17.340000(kcal/mol): PK_start=1508 sp=0 s1=3 s2=6 l1=1 l2=13 L3=0 PK_end=1539
(fs_start=1497)
                                G
TGGGAGACAGGCTAATTTTTTAGGAAAG
                                TTC    CGGTCT
                                GCCAGGGA
                                CCCACAAAGGAAG

PK4:  -24.115000(kcal/mol): PK_start=1512 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1549
(fs_start=1497)
                                TCCCACA
AGACAGGCTAATTTTTTAGGAAAGGTCTGGCCT
                                GGACCGGA    AGGAA
                                TTCTTCA
                                GAATT

=====
(2322) JF320121
=====
PK1:  -10.795000(kcal/mol): PK_start=1477 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1505
(fs_start=1497)
                                C
GAGAGGAAGGACACCAAATGAAAAATTGT
                                GACA    GAGGGTC
                                TTTT TAGGA
                                GCTAAT

PK2:  -23.010000(kcal/mol): PK_start=1480 sp=0 s1=10 s2=6 l1=1 l2=6 L3=1 PK_end=1518
(fs_start=1497)
                                C
AGGAAGGACACCAAATGAAAAATTGTCCTGGGAGA

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                AGGATTTTTT  A  ATCGGA
                                TGGCCTTC
        AAGGTC
PK3:  -17.340000(kcal/mol): PK_start=1508 sp=0 s1=3 s2=6 l1=1 l2=13 L3=0 PK_end=1539
(fs_start=1497)
                G
TGGGAGACAGGCTAATTTTTTTAGGAAAG
                TTC      CGGTCT
                                GCCAGGGA
        CCCACAAAGGAAG
PK4:  -24.115000(kcal/mol): PK_start=1512 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1549
(fs_start=1497)
                                TCCCACA
AGACAGGCTAATTTTTTTAGGAAAGGTCTGGCCT
                GGACCGGA      AGGAA
                                TTCTTCA
        GAATT
=====
(2323) JF320122
=====
PK1:  -10.795000(kcal/mol): PK_start=1477 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1505
(fs_start=1497)
                C
GAGAGGAAGGACACCAAATGAAAAATTGT
                GACA      GAGGGTC
                                TTTTTAGGA
        GCTAAT
PK2:  -23.010000(kcal/mol): PK_start=1480 sp=0 s1=10 s2=6 l1=1 l2=6 L3=1 PK_end=1518
(fs_start=1497)
                C
AGGAAGGACACCAAATGAAAAATTGTCCTGGGAGA
                AGGATTTTTT  A  ATCGGA
                                TGGCCTTC
        AAGGTC
PK3:  -17.340000(kcal/mol): PK_start=1508 sp=0 s1=3 s2=6 l1=1 l2=13 L3=0 PK_end=1539
(fs_start=1497)
                G
TGGGAGACAGGCTAATTTTTTTAGGAAAG
                TTC      CGGTCT
                                GCCAGGGA
        CCCACAAAGGAAG
PK4:  -24.115000(kcal/mol): PK_start=1512 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1549
(fs_start=1497)
                                TCCCACA
AGACAGGCTAATTTTTTTAGGAAAGGTCTGGCCT

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                GGACCGGA    AGGAA
                    TTCTTCA
            GAATT

=====
(2324) JF320123
=====
PK1:  -10.795000(kcal/mol): PK_start=1477 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1505
(fs_start=1497)
                C
GAGAGGAAGGACACCAAATGAAAAATTGT

                GACA    GAGGGTC
                    TTTT TAGGA
            GCTAAT

PK2:  -23.010000(kcal/mol): PK_start=1480 sp=0 s1=10 s2=6 l1=1 l2=6 L3=1 PK_end=1518
(fs_start=1497)
                C
AGGAAGGACACCAAATGAAAAATTGTCCTGGGAGA

                AGGATTTTTT  A  ATCGGA
                    TGGCCTTC
            AAGGTC

PK3:  -17.340000(kcal/mol): PK_start=1508 sp=0 s1=3 s2=6 l1=1 l2=13 L3=0 PK_end=1539
(fs_start=1497)
                G
TGGGAGACAGGCTAATTTTTTAGGAAAG

                TTC    CGGTCT
                    GCCAGGGA
            CCCACAAAGGAAG

PK4:  -24.115000(kcal/mol): PK_start=1512 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1549
(fs_start=1497)
                TCCCACA
AGACAGGCTAATTTTTTAGGAAAGGTCTGGCCT

                GGACCGGA    AGGAA
                    TTCTTCA
            GAATT

=====
(2325) JF320124
=====
PK1:  -10.795000(kcal/mol): PK_start=1477 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1505
(fs_start=1497)
                C
GAGAGGAAGGACACCAAATGAAAAATTGT

                GACA    GAGGGTC
                    TTTT TAGGA
            GCTAAT

```

PK2: -23.010000(kcal/mol): PK_start=1480 sp=0 s1=10 s2=6 l1=1 l2=6 L3=1 PK_end=1518
(fs_start=1497)

C
AGGAAGGACACCAAATGAAAAATTGTCCTGGGAGA
AGGATTTTTT A ATCGGA
TGGCCTTC
AAGGTC

PK3: -17.340000(kcal/mol): PK_start=1508 sp=0 s1=3 s2=6 l1=1 l2=13 L3=0 PK_end=1539
(fs_start=1497)

G
TGGGAGACAGGCTAATTTTTTAGGAAAG
TTC CGGTCT
GCCAGGGA
CCCACAAAGGAAG

PK4: -24.115000(kcal/mol): PK_start=1512 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1549
(fs_start=1497)

TCCCACA
AGACAGGCTAATTTTTTAGGAAAGGTCTGGCCT
GGACCGGA AGGAA
TTCTTCA
GAATT

=====
(2326) JF320125
=====

PK1: -10.795000(kcal/mol): PK_start=1477 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1505
(fs_start=1497)

C
GAGAGGAAGGACACCAAATGAAAAATTGT
GACA GAGGGTC
TTTTTAGGA
GCTAAT

PK2: -23.010000(kcal/mol): PK_start=1480 sp=0 s1=10 s2=6 l1=1 l2=6 L3=1 PK_end=1518
(fs_start=1497)

C
AGGAAGGACACCAAATGAAAAATTGTCCTGGGAGA
AGGATTTTTT A ATCGGA
TGGCCTTC
AAGGTC

PK3: -17.340000(kcal/mol): PK_start=1508 sp=0 s1=3 s2=6 l1=1 l2=13 L3=0 PK_end=1539
(fs_start=1497)

G
TGGGAGACAGGCTAATTTTTTAGGAAAG
TTC CGGTCT
GCCAGGGA
CCCACAAAGGAAG

PK4: -24.115000(kcal/mol): PK_start=1512 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1549
(fs_start=1497)

TCCCACA
AGACAGGCTAATTTTTTAGGAAAGGTCTGGCCT
GGACCGGA AGGAA
TTCTTCA
GAATT

=====
(2327) JF320126
=====

PK1: -10.795000(kcal/mol): PK_start=1477 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1505
(fs_start=1497)

C
GAGAGGAAGGACACCAAATGAAAAATTGT
GACA GAGGGTC
TTTTTAGGA
GCTAAT

PK2: -23.010000(kcal/mol): PK_start=1480 sp=0 s1=10 s2=6 l1=1 l2=6 L3=1 PK_end=1518
(fs_start=1497)

C
AGGAAGGACACCAAATGAAAAATTGTCCTGGGAGA
AGGATTTTTT A ATCGGA
TGGCCTTC
AAGGTC

PK3: -17.340000(kcal/mol): PK_start=1508 sp=0 s1=3 s2=6 l1=1 l2=13 L3=0 PK_end=1539
(fs_start=1497)

G
TGGGAGACAGGCTAATTTTTTAGGAAAG
TTC CGGTCT
GCCAGGGA
CCCACAAAGGAAG

PK4: -24.115000(kcal/mol): PK_start=1512 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1549
(fs_start=1497)

TCCCACA
AGACAGGCTAATTTTTTAGGAAAGGTCTGGCCT
GGACCGGA AGGAA
TTCTTCA
GAATT

=====
(2328) JF320127
=====

PK1: -10.795000(kcal/mol): PK_start=1477 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1505
(fs_start=1497)

C
GAGAGGAAGGACACCAAATGAAAAATTGT
GACA GAGGGTC

```

                TTTT TAGGA
      GCTAAT
PK2:  -23.010000(kcal/mol): PK_start=1480 sp=0 s1=10 s2=6 l1=1 l2=6 L3=1 PK_end=1518
(fs_start=1497)
                C
AGGAAGGACACCAAATGAAAAATTGTCCTGGGAGA
                AGGATTTTTT  A  ATCGGA
                TGGCCTTC
      AAGGTC
PK3:  -17.340000(kcal/mol): PK_start=1508 sp=0 s1=3 s2=6 l1=1 l2=13 L3=0 PK_end=1539
(fs_start=1497)
                G
TGGGAGACAGGCTAATTTTTTAGGAAAG
                TTC    CGGTCT
                GCCAGGGA
      CCCACAAAGGAAG
PK4:  -24.115000(kcal/mol): PK_start=1512 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1549
(fs_start=1497)
                TCCCACA
AGACAGGCTAATTTTTTAGGAAAGGCTCTGGCCT
                GGACCGGA    AGGAA
                TTCTTCA
      GAATT

=====
(2329) JF320128
=====
PK1:  -10.795000(kcal/mol): PK_start=1477 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1505
(fs_start=1497)
                C
GAGAGGAAGGACACCAAATGAAAAATTGT
                GACA    GAGGGTC
                TTTT TAGGA
      GCTAAT
PK2:  -23.010000(kcal/mol): PK_start=1480 sp=0 s1=10 s2=6 l1=1 l2=6 L3=1 PK_end=1518
(fs_start=1497)
                C
AGGAAGGACACCAAATGAAAAATTGTCCTGGGAGA
                AGGATTTTTT  A  ATCGGA
                TGGCCTTC
      AAGGTC
PK3:  -17.340000(kcal/mol): PK_start=1508 sp=0 s1=3 s2=6 l1=1 l2=13 L3=0 PK_end=1539
(fs_start=1497)
                G
TGGGAGACAGGCTAATTTTTTAGGAAAG
                TTC    CGGTCT

```

GCCAGGGA
CCCACAAAGGAAG
PK4: -24.115000(kcal/mol): PK_start=1512 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1549
(fs_start=1497)

TCCCACA
AGACAGGCTAATTTTTTTAGGAAAGGTCTGGCCT
GGACCGGA AGGAA
TTCTTCA
GAATT

=====
(2330) JF320129
=====

PK1: -10.795000(kcal/mol): PK_start=1477 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1505
(fs_start=1497)

C
GAGAGGAAGGACACCAAATGAAAAATTGT
GACA GAGGGTC
TTTTTAGGA
GCTAAT

PK2: -23.010000(kcal/mol): PK_start=1480 sp=0 s1=10 s2=6 l1=1 l2=6 L3=1 PK_end=1518
(fs_start=1497)

C
AGGAAGGACACCAAATGAAAAATTGTCCTGGGAGA
AGGATTTTTT A ATCGGA
TGGCCTTC
AAGGTC

PK3: -17.340000(kcal/mol): PK_start=1508 sp=0 s1=3 s2=6 l1=1 l2=13 L3=0 PK_end=1539
(fs_start=1497)

G
TGGGAGACAGGCTAATTTTTTTAGGAAAG
TTC CGGTCT
GCCAGGGA
CCCACAAAGGAAG

PK4: -24.115000(kcal/mol): PK_start=1512 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1549
(fs_start=1497)

TCCCACA
AGACAGGCTAATTTTTTTAGGAAAGGTCTGGCCT
GGACCGGA AGGAA
TTCTTCA
GAATT

=====
(2331) JF320145
=====

PK1: -15.585000(kcal/mol): PK_start=1451 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1479
(fs_start=1471)

A
GAAAGGAAGGACACCAAATGAAAGACTGT

GACA GAGAGTC
TTTTTAGGG
GCTAAT
PK2: -20.460000(kcal/mol): PK_start=1456 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1492
(fs_start=1471)
C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA

GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1479 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1513
(fs_start=1471)
AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT
AGGCCAGGGA
ACAAAGGA

PK4: -24.115000(kcal/mol): PK_start=1486 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1523
(fs_start=1471)
TCCCACA
AGACAGGCTAATTTTTTAGGAAAATCTGGCCT

GGACCGGA AGGAA
TTCTTCA
GAACT

=====
(2332) JF320147
=====
PK1: -15.585000(kcal/mol): PK_start=1451 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1479
(fs_start=1471)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1456 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1492
(fs_start=1471)
C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA

GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1479 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1513
(fs_start=1471)
AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA

```

          CCCT   TCCGGTCT
                AGGCCAGGGA
    ACAAAGGA
PK4:  -24.115000(kcal/mol): PK_start=1486 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1523
(fs_start=1471)
                TCCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                GGACCGGA   AGGAA
                TTCTTCA
    GAACT

=====
(2333) JF320150
=====
PK1:  -10.975000(kcal/mol): PK_start=1502 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=1529
(fs_start=1522)
                AA
GACAGGAAGGACACCAAATGAAGGATTGT
                GACA   GAGAGT
                TTTTTAGG
    GCTAAT

PK2:  -18.180000(kcal/mol): PK_start=1508 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1543
(fs_start=1522)
                C
AAGGACACCAAATGAAGGATTGTAATGAGAGA
                ATTTTTT   A   ATCGGA
                TGGCCTTC
    GGGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1530 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1564
(fs_start=1522)
                AAA
TAATGAGAGACAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTCT
                AGGCCAGGGA
    ACAAGGGG

PK4:  -28.540000(kcal/mol): PK_start=1537 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1574
(fs_start=1522)
                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                GGACCGGAGG   GGAA
                CCTTCA
    GAATTT

PK4B:  -30.875000(kcal/mol): PK_start=1537 sp=7 s1=8 s2=5 l1=7 l2=32 L3=0 PK_end=1601
(fs_start=1522)
                TCCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT

```


GGACCGGA GGGGA
CCCCTCC
GAATTTCC TTCAGAGCAGACCAGAGCCAACAG

=====
(2334) JF320152
=====

PK1: -15.585000(kcal/mol): PK_start=1451 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1479
(fs_start=1471)

A
GAAAGGAAGGACACCAAATGAAAGACTGT

GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1456 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1492
(fs_start=1471)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA

GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1479 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1513
(fs_start=1471)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT
AGGCCAGGGA
ACAAAGGA

PK4: -24.115000(kcal/mol): PK_start=1486 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1523
(fs_start=1471)

TCCCACA
AGACAGGCTAATTTTTTAGGAAAATCTGGCCT

GGACCGGA AGGAA
TTCTTCA
GAACT

=====
(2335) JF320153
=====

PK1: -15.585000(kcal/mol): PK_start=1451 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1479
(fs_start=1471)

A
GAAAGGAAGGACACCAAATGAAAGACTGT

GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.46000(kcal/mol): PK_start=1456 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1492
(fs_start=1471)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.27500(kcal/mol): PK_start=1479 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1513
(fs_start=1471)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAAGGA

PK4: -24.11500(kcal/mol): PK_start=1486 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1523
(fs_start=1471)

TCCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA AGGAA
TTCTTCA
GAACT

=====
(2336) JF320154
=====

PK1: -15.58500(kcal/mol): PK_start=1451 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1479
(fs_start=1471)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.46000(kcal/mol): PK_start=1456 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1492
(fs_start=1471)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.27500(kcal/mol): PK_start=1479 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1513
(fs_start=1471)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAAGGA

PK4: -24.115000(kcal/mol): PK_start=1486 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1523
(fs_start=1471)

TCCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA AGGAA
TTCTTCA
GAACT

=====
(2337) JF320155
=====

PK1: -10.975000(kcal/mol): PK_start=1476 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=1503
(fs_start=1496)

AA
GACAGGAAGGACACCAAATGAAGGATTGT
GACA GAGAGT
TTTTTAGG
GCTAAT

PK2: -18.180000(kcal/mol): PK_start=1482 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1517
(fs_start=1496)

C
AAGGACACCAAATGAAGGATTGTAATGAGAGA
ATTTTTT A ATCGGA
TGGCCTTC
GGGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1504 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1538
(fs_start=1496)

AAA
TAATGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -28.540000(kcal/mol): PK_start=1511 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1548
(fs_start=1496)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -30.875000(kcal/mol): PK_start=1511 sp=7 s1=8 s2=5 l1=7 l2=32 L3=0 PK_end=1575
(fs_start=1496)

TCCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGGA
CCCCTCC
GAATTTCCCTTCAGAGCAGACCAGAGCCAACAG

=====
(2338) JF320156
=====

PK1: -10.975000(kcal/mol): PK_start=1402 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=1429
(fs_start=1422)

AA
GACAGGAAGGACACCAAATGAAGGATTGT
GACA GAGAGT
TTTTTAGG
GCTAAT

PK2: -18.180000(kcal/mol): PK_start=1408 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1443
(fs_start=1422)

C
AAGGACACCAAATGAAGGATTGTAATGAGAGA
ATTTTTT A ATCGGA
TGGCCTTC
GGGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1430 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1464
(fs_start=1422)

AAA
TAATGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -28.540000(kcal/mol): PK_start=1437 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1474
(fs_start=1422)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -30.875000(kcal/mol): PK_start=1437 sp=7 s1=8 s2=5 l1=7 l2=32 L3=0 PK_end=1501
(fs_start=1422)

TCCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGGA
CCCCTCC
GAATTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2339) JF320158
=====

PK1: -10.975000(kcal/mol): PK_start=1502 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=1529
(fs_start=1522)

AA
GACAGGAAGGACACCAAATGAAGGATTGT
GACA GAGAGT

```

                TTTTAGG
      GCTAAT
PK2:  -18.180000(kcal/mol): PK_start=1508 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1543
(fs_start=1522)
                C
AAGGACACCAAATGAAGGATTGTAATGAGAGA
                A   ATCGGA
      ATTTTTT
                TGGCCTC
      GGGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1530 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1564
(fs_start=1522)
                AAA
TAATGAGAGACAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTCT
                AGGCCAGGGA
      ACAAGGGG
PK4:  -28.540000(kcal/mol): PK_start=1537 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1574
(fs_start=1522)
                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTC
                GGACCGGAGG   GGAA
                CCTTCA
      GAATTT
PK4B: -30.875000(kcal/mol): PK_start=1537 sp=7 s1=8 s2=5 l1=7 l2=32 L3=0 PK_end=1601
(fs_start=1522)
                TCCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                GGACCGGA   GGGGA
                CCCCTCC
      GAATTTCTTCAGAGCAGACCAGAGCCAACAG
=====
(2340) JF320160
=====
PK1:  -13.595000(kcal/mol): PK_start=1276 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1304
(fs_start=1296)
                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                GACA   GAAAGTC
                TTTTAGGG
      GCTAAT
PK2:  -20.500000(kcal/mol): PK_start=1281 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1317
(fs_start=1296)
                C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
                GATTTTTT   A   ATCGGA

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                                TGGCCTTC
                GGAAAATC
PK3:  -26.775000(kcal/mol): PK_start=1302 sp=0 s1=5 s2=8 l1=4 l2=7 L3=0 PK_end=1338
(fs_start=1296)
                                AAAA
TGTAAGTAAAGACAGGCTAATTTTTTAGGG
                                ATCCT   TCCGGTCT
                                AGGCCAGGAA
                CAAGGGG
PK4:  -26.235000(kcal/mol): PK_start=1311 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1348
(fs_start=1296)
                                CTAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAGG   GGAA
                                TCTTCA
                AAACCT
PK4B:  -30.395000(kcal/mol): PK_start=1311 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1374
(fs_start=1296)
                                TCCTACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                                GGACCGGA   GGGG
                                CCCCAC
                AAACCTTCTCAGAGCAGACCAGAGCCAACAG
=====
(2341) JF320161
=====
PK1:  -13.595000(kcal/mol): PK_start=1276 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1304
(fs_start=1296)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                                GACA   GAAAGTC
                                TTTTTAGGG
                GCTAAT
PK2:  -20.500000(kcal/mol): PK_start=1281 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1317
(fs_start=1296)
                                C
GAAGGACACCAAATGAAAGATTGTAAGTAAAGA
                                GATTTTTT   A   ATCGGA
                                TGGCCTTC
                GGAAAATC
PK3:  -26.775000(kcal/mol): PK_start=1302 sp=0 s1=5 s2=8 l1=4 l2=7 L3=0 PK_end=1338
(fs_start=1296)
                                AAAA
TGTAAGTAAAGACAGGCTAATTTTTTAGGG
                                ATCCT   TCCGGTCT

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                                AGGCCAGGAA
                                CAAGGGG

PK4:  -26.235000(kcal/mol): PK_start=1311 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1348
(fs_start=1296)
                                CTAC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC

                                GGACCGGAGG    GGAA
                                TCTTCA
                                AAACTT

PK4B:  -30.395000(kcal/mol): PK_start=1311 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1374
(fs_start=1296)
                                TCCTACAA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT

                                GGACCGGA    GGGG
                                CCCCAC
                                AAACCTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2342) JF320162
=====
PK1:  -13.595000(kcal/mol): PK_start=1276 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1304
(fs_start=1296)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT

                                GACA    GAAAGTC
                                TTTTTAGGG
                                GCTAAT

PK2:  -20.500000(kcal/mol): PK_start=1281 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1317
(fs_start=1296)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA

                                GATTTTTT    A    ATCGGA
                                TGGCCTTC
                                GGAAAATC

PK3:  -26.775000(kcal/mol): PK_start=1302 sp=0 s1=5 s2=8 l1=4 l2=7 L3=0 PK_end=1338
(fs_start=1296)
                                AAAA
TG TACTGAAAGACAGGCTAATTTTTTTAGGG

                                ATCCT    TCCGGTCT
                                AGGCCAGGAA
                                CAAGGGG

PK4:  -26.235000(kcal/mol): PK_start=1311 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1348
(fs_start=1296)
                                CTAC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC

                                GGACCGGAGG    GGAA

```

TCTTCA

AAACTT

PK4B: -30.395000(kcal/mol): PK_start=1311 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1374
(fs_start=1296)

TCCTACAA

AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT

GGACCGGA GGGG

CCCCAC

AAACTTTCTTCAGAGCAGACCAGAGCCAACAG

=====

(2343) JF320163

=====

PK1: -13.595000(kcal/mol): PK_start=1276 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1304
(fs_start=1296)

A

GAAAGGAAGGACACCAAATGAAAGATTGT

GACA GAAAGTC

TTTTTAGGG

GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1281 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1317
(fs_start=1296)

C

GAAGGACACCAAATGAAAGATTGTACTGAAAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAAATC

PK3: -26.775000(kcal/mol): PK_start=1302 sp=0 s1=5 s2=8 l1=4 l2=7 L3=0 PK_end=1338
(fs_start=1296)

AAAA

TGTACTGAAAGACAGGCTAATTTTTTAGGG

ATCCT TCCGGTCT

AGGCCAGGAA

CAAGGGG

PK4: -26.235000(kcal/mol): PK_start=1311 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1348
(fs_start=1296)

CTAC

AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAGG GGAA

TCTTCA

AAACTT

PK4B: -30.395000(kcal/mol): PK_start=1311 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1374
(fs_start=1296)

TCCTACAA

AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT

GGACCGGA GGGG

CCCCAC
AAACTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2344) JF320164
=====

PK1: -13.595000(kcal/mol): PK_start=1276 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1304
(fs_start=1296)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1281 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1317
(fs_start=1296)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -26.775000(kcal/mol): PK_start=1302 sp=0 s1=5 s2=8 l1=4 l2=7 L3=0 PK_end=1338
(fs_start=1296)

AAAA
TGTAAGGACAGGCTAATTTTTTAGGG
ATCCT TCCGGTCT
AGGCCAGGAA
CAAGGGG

PK4: -26.235000(kcal/mol): PK_start=1311 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1348
(fs_start=1296)

CTAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
AAACTT

PK4B: -30.395000(kcal/mol): PK_start=1311 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1374
(fs_start=1296)

TCCTACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
AAACTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2345) JF320165
=====

PK1: -13.595000(kcal/mol): PK_start=1276 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1304
(fs_start=1296)

A
GAAAGGAAGGACACCAAATGAAAGATTGT

```

          GACA      GAAAGTC
                TTTTATAGGG
    GCTAAT
PK2:  -20.50000(kcal/mol): PK_start=1281 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1317
(fs_start=1296)
                C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
                GATTTTTT  A  ATCGGA
                        TGGCCTTC
    GGAAAATC
PK3:  -26.775000(kcal/mol): PK_start=1302 sp=0 s1=5 s2=8 l1=4 l2=7 L3=0 PK_end=1338
(fs_start=1296)
                AAAA
TGTTACTGAAAGACAGGCTAATTTTTTATAGGG
                ATCCT      TCCGGTCT
                        AGGCCAGGAA
    CAAGGGG
PK4:  -26.235000(kcal/mol): PK_start=1311 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1348
(fs_start=1296)
                CTAC
AGACAGGCTAATTTTTTATAGGGAAAATCTGGCCTTC
                GGACCGGAGG      GGAA
                        TCTTCA
    AAACCT
PK4B:  -30.395000(kcal/mol): PK_start=1311 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1374
(fs_start=1296)
                TCCTACAA
AGACAGGCTAATTTTTTATAGGGAAAATCTGGCCT
                GGACCGGA      GGGG
                        CCCCAC
    AAACCTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2346) JF320166
=====
PK1:  -13.595000(kcal/mol): PK_start=1276 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1304
(fs_start=1296)
                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                GACA      GAAAGTC
                        TTTTATAGGG
    GCTAAT
PK2:  -20.500000(kcal/mol): PK_start=1281 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1317
(fs_start=1296)
                C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA

```

```

          GATTTTTT A ATCGGA
                                TGGCCTTC
      GGAAAATC
PK3:  -26.775000(kcal/mol): PK_start=1302 sp=0 s1=5 s2=8 l1=4 l2=7 L3=0 PK_end=1338
(fs_start=1296)
          AAAA
TGTACTGAAAGACAGGCTAATTTTTTAGGG
          ATCCT  TCCGGTCT
                                AGGCCAGGAA
          CAAGGGG
PK4:  -26.235000(kcal/mol): PK_start=1311 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1348
(fs_start=1296)
                                CTAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
          GGACCGGAGG  GGAA
                                TCTTCA
          AAACCT
PK4B:  -30.395000(kcal/mol): PK_start=1311 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1374
(fs_start=1296)
                                TCCTACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
          GGACCGGA  GGGG
                                CCCCAC
          AAACCTTCTTCAGAGCAGACCAGAGCCAACAG
=====
(2347) JF320167
=====
PK1:  -13.595000(kcal/mol): PK_start=1276 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1304
(fs_start=1296)
          A
GAAAGGAAGGACACCAAATGAAAGATTGT
          GACA  GAAAGTC
                                TTTTTTAGGG
          GCTAAT
PK2:  -20.500000(kcal/mol): PK_start=1281 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1317
(fs_start=1296)
          C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
          GATTTTTT A ATCGGA
                                TGGCCTTC
          GGAAGATC
PK3:  -25.060000(kcal/mol): PK_start=1304 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1338
(fs_start=1296)
          A
TACTGAAAGACAGGCTAATTTTTTAGGGAAG

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          TCCTTC   CGGTCT
                GCCAGGAA
          ACAAGGGGAG

PK4:  -26.235000(kcal/mol): PK_start=1311 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1348
(fs_start=1296)
                CTAC
AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCTTC
                GGACCGGAGG   GGAA
                TCTTCA
          AAACTT

PK4B:  -30.395000(kcal/mol): PK_start=1311 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1374
(fs_start=1296)
                TCCTACAA
AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCT
                GGACCGGA   GGGG
                CCCCAC
          AAACCTTCTCAGAGCAGACCAGAGCCAACAG

=====
(2348) JF320169
=====
PK1:  -15.625000(kcal/mol): PK_start=1276 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1304
(fs_start=1296)
                A
GAAAGGAAGGACACCAGATGAAAGACTGT
                GACA   GAAAGTC
                TTTTTAGGG
          GCTAAT

PK2:  -21.980000(kcal/mol): PK_start=1281 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1318
(fs_start=1296)
                C
GAAGGACACCAGATGAAAGACTGTACTGAAAGA
                GATTTTTT   AATCGGA
                TTGGCCTTC
          GGAAGAT

PK3:  -21.530000(kcal/mol): PK_start=1304 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1338
(fs_start=1296)
                A
TACTGAAAGACAGGCTAATTTTTTTAGGGAAG
                TCCTTC   CGGTTT
                GCCAGGGA
          ACAAGGGAAG

PK4:  -23.185000(kcal/mol): PK_start=1311 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1348
(fs_start=1296)
                CTAC
AGACAGGCTAATTTTTTTAGGGAAGATTTGGCCTTC

```

```

                GGACCGGAAG    GGAA
                                TCTTCA
        GAATTT

=====
(2349) JF320171
=====
PK1:  -15.625000(kcal/mol): PK_start=1276 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1304
(fs_start=1296)
                A
        GAAAGGAAGGACACCAGATGAAAGACTGT
                GACA    GAAAGTC
                                TTTTTAGGG
        GCTAAT

PK2:  -21.980000(kcal/mol): PK_start=1281 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1318
(fs_start=1296)
                C
        GAAGGACACCAGATGAAAGACTGTACTGAAAGA
                GATTTTTT    AATCGGA
                                TTGGCCTTC
        GGAAGAT

PK3:  -21.530000(kcal/mol): PK_start=1304 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1338
(fs_start=1296)
                A
        TACTGAAAGACAGGCTAATTTTTTAGGGAAG
                TCCTTC    CGGTTT
                                GCCAGGGA
        ACAAGGGAAG

PK4:  -23.185000(kcal/mol): PK_start=1311 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1348
(fs_start=1296)
                CTAC
        AGACAGGCTAATTTTTTAGGGAAGATTGGCCTTC
                GGACCGGAAG    GGAA
                                TCTTCA
        GAATTT

=====
(2350) JF320179
=====
PK1:  -13.555000(kcal/mol): PK_start=1516 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1544
(fs_start=1536)
                A
        GAAGGGAAGGACATCAAATGAAAGATTGT
                GACA    GAGAGTC
                                TTTTTAGGG
        GCTAAT

```

PK2: -20.460000(kcal/mol): PK_start=1521 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1557
(fs_start=1536)

C
GAAGGACATCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1544 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1578
(fs_start=1536)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=1551 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1588
(fs_start=1536)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1551 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1614
(fs_start=1536)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCGC
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2351) JF320181
=====

PK1: -13.555000(kcal/mol): PK_start=1465 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1493
(fs_start=1485)

A
GAAGGGAAGGACATCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1470 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1506
(fs_start=1485)

C
GAAGGACATCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1493 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1527
(fs_start=1485)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=1500 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1537
(fs_start=1485)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1500 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1563
(fs_start=1485)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCGC
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2352) JF320182
=====

PK1: -13.555000(kcal/mol): PK_start=1516 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1544
(fs_start=1536)

A
GAAGGGAAGGACATCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1521 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1557
(fs_start=1536)

C
GAAGGACATCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1544 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1578
(fs_start=1536)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=1551 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1588
(fs_start=1536)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1551 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1614
(fs_start=1536)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCGC
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2353) JF320183
=====

PK1: -13.555000(kcal/mol): PK_start=1475 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1503
(fs_start=1495)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGA
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1480 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1516
(fs_start=1495)

C
GAAGGACACCAAATGAAAGATTGTTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GAAAGATC

PK3: -17.340000(kcal/mol): PK_start=1506 sp=0 s1=3 s2=6 l1=1 l2=13 L3=0 PK_end=1537
(fs_start=1495)

A
TGAGAGACAGGCTAATTTTTTAGGAAAG
TTC CGGTCT
GCCAGGGA
CCTACAAGGGAAG

PK4: -24.995000(kcal/mol): PK_start=1510 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1547
(fs_start=1495)

TCCTACAA
AGACAGGCTAATTTTTTAGGAAAGATCTGGCCT
GGACCGGA AGGG
TCTCCA
GAATTT

=====
(2354) JF320185
=====

PK1: -15.585000(kcal/mol): PK_start=1523 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1551
(fs_start=1543)

A
GACAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGA
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1528 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1564
(fs_start=1543)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GAAAAATC

PK3: -24.015000(kcal/mol): PK_start=1551 sp=0 s1=3 s2=8 l1=4 l2=9 L3=0 PK_end=1585
(fs_start=1543)

AAAA
TACTGAGAGACAGGCTAATTTTTTAGGA
CCT TCCGGTCT
AGGCCAGGGA
CACAAAGGGG

PK4: -24.345000(kcal/mol): PK_start=1558 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1595
(fs_start=1543)

TCCCACAA
AGACAGGCTAATTTTTTAGGAAAAATCTGGCCT
GGACCGGA GGGG
TCTCCA
GAATTT

PK4B: -28.125000(kcal/mol): PK_start=1558 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1621
(fs_start=1543)

TCCCACAA
AGACAGGCTAATTTTTTAGGAAAAATCTGGCCT
GGACCGGA GGGG
TCCCACAA
GAATTTTCTCCAGAGCAGACCAGAGCCAACAG

=====
(2355) JF320186
=====

PK1: -13.555000(kcal/mol): PK_start=1276 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1304
(fs_start=1296)

A
GAAAAGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC

TTTTTAGGG
GCTAAT
PK2: -20.460000(kcal/mol): PK_start=1281 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1317
(fs_start=1296)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1304 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1338
(fs_start=1296)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAGGGGA

PK4: -25.315000(kcal/mol): PK_start=1311 sp=7 s1=10 s2=4 l1=4 l2=5 L3=0 PK_end=1347
(fs_start=1296)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGGG
TTCTCC
GAATT

PK4B: -31.325000(kcal/mol): PK_start=1311 sp=7 s1=9 s2=4 l1=6 l2=32 L3=0 PK_end=1374
(fs_start=1296)

CCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT
GGACCGGAA GGGG
CCCCAC
GAATTTTCTCCAGAGCAGGCCAGAGCCAACAG

=====
(2356) JF320187
=====

PK1: -13.555000(kcal/mol): PK_start=1476 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1504
(fs_start=1496)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1481 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1517
(fs_start=1496)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA

```

                                TGGCCTTC
                                GGAAGGTC
PK3:  -25.060000(kcal/mol): PK_start=1504 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1538
(fs_start=1496)
                                G
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                                TCCTTC   CGGTCT
                                GCCAGGGA
                                ACAAGGGAAG

PK4:  -24.995000(kcal/mol): PK_start=1511 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1548
(fs_start=1496)
                                TCCTACAA
AGACAGGCTAATTTTTTAGGGAAGGTCTGGCCT
                                GGACCGGA   AGGG
                                TCTCCA
                                GAATTT

=====
(2357) JF320188
=====
PK1:  -15.585000(kcal/mol): PK_start=1523 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1551
(fs_start=1543)
                                A
GACAGGAAGGACACCAAATGAAAGACTGT
                                GACA   GAGAGTC
                                TTTTTAGGG
                                GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1528 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1564
(fs_start=1543)
                                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
                                GATTTTTT   A   ATCGGA
                                TGGCCTTC
                                GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1551 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1585
(fs_start=1543)
                                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTCT
                                AGGCCAGGGA
                                ACAAGGGG

PK4:  -24.345000(kcal/mol): PK_start=1558 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1595
(fs_start=1543)
                                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                                GGACCGGA   GGGG

```

TCTCCA

GAATTT

PK4B: -28.125000(kcal/mol): PK_start=1558 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1621
(fs_start=1543)

TCCCACAA

AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT

GGACCGGA GGGG

TCCCAA

GAATTTTCTCCAGAGCAGACCAGAGCCAACAG

=====
(2358) JF320189
=====

PK1: -15.795000(kcal/mol): PK_start=1492 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1520
(fs_start=1512)

A

GACAGGAAGGACACCAAATGAAAGACTGT

GACA AAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1497 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1533
(fs_start=1512)

C

GAAGGACACCAAATGAAAGACTGTACTGAGAAA

GATTTTTT A ATCGGA

TGGCCTTC

GGAGAATC

PK3: -21.700000(kcal/mol): PK_start=1520 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1554
(fs_start=1512)

AA

TACTGAGAAACAGGCTAATTTTTTTAGGGAG

CCTTC CGGTCT

GCCGGGGA

CACAAAGGAAG

PK4: -26.045000(kcal/mol): PK_start=1527 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1564
(fs_start=1512)

CCAC

AAACAGGCTAATTTTTTTAGGGAGAATCTGGCCTTC

GGCCCGAAG GGAA

TCTTCA

GAACTT

=====
(2359) JF320190
=====

PK1: -15.585000(kcal/mol): PK_start=1523 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1551
(fs_start=1543)

A

GACAGGAAGGACACCAAATGAAAGACTGT

```

          GACA    GAGAGTC
                TTTTATAGGG
    GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1528 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1564
(fs_start=1543)
                C
    GAAGGACACCAAATGAAAGACTGTACTGAGAGA
                GATTTTTT A  ATCGGA
                        TGGCCTTC
    GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1551 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1585
(fs_start=1543)
                AAA
    TACTGAGAGACAGGCTAATTTTTATAGGGA
                CCCT    TCCGGTCT
                        AGGCCAGGGA
    ACAAGGGG
PK4:  -24.345000(kcal/mol): PK_start=1558 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1595
(fs_start=1543)
                TCCCACAA
    AGACAGGCTAATTTTTATAGGAAAATCTGGCCT
                GGACCGGA    GGGG
                        TCTCCA
    GAATTT
PK4B: -28.125000(kcal/mol): PK_start=1558 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1621
(fs_start=1543)
                TCCCACAA
    AGACAGGCTAATTTTTATAGGAAAATCTGGCCT
                GGACCGGA    GGGG
                        TCCCACAA
    GAATTTTCTCCAGAGCAGACCAGAGCCAACAG

=====
(2360) JF320191
=====
PK1:  -13.555000(kcal/mol): PK_start=1517 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1545
(fs_start=1537)
                A
    GAAAGGAAGGGCATCAAATGAAAGATTGT
                GACA    GAGAGTC
                        TTTTATAGGG
    GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1522 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1558
(fs_start=1537)
                C
    GAAGGGCATCAAATGAAAGATTGTACTGAGAGA

```

GATTTTTT A ATCGGA
 TGGCCTTC
 GGAAAATC
 PK3: -31.920000(kcal/mol): PK_start=1545 sp=0 s1=3 s2=10 l1=5 l2=3 L3=0 PK_end=1578
 (fs_start=1537)
 AAAAT
 TACTGAGAGACAGGCTAATTTTTTAGGG
 CCC CCTTCCGGTC
 GGGAGGCCAGGA
 AAG
 PK4: -26.235000(kcal/mol): PK_start=1552 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1589
 (fs_start=1537)
 CCCC
 AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
 GGACCGGAGG GGAA
 TCTTCA
 AAACCT
 =====
 (2361) JF320192
 =====
 PK1: -15.585000(kcal/mol): PK_start=1523 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1551
 (fs_start=1543)
 A
 GACAGGAAGGACACCAAATGAAAGACTGT
 GACA GAGAGTC
 TTTTTAGGG
 GCTAAT
 PK2: -20.460000(kcal/mol): PK_start=1528 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1564
 (fs_start=1543)
 C
 GAAGGACACCAAATGAAAGACTGTACTGAGAGA
 GATTTTTT A ATCGGA
 TGGCCTTC
 GGAAAATC
 PK3: -27.275000(kcal/mol): PK_start=1551 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1585
 (fs_start=1543)
 AAA
 TACTGAGAGACAGGCTAATTTTTTAGGGA
 CCCT TCCGGTCT
 AGGCCAGGGA
 ACAAGGGG
 PK4: -24.345000(kcal/mol): PK_start=1558 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1595
 (fs_start=1543)
 TCCCACAA
 AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT

```

GGACCGGA GGGG
TCTCCA
GAATTT
PK4B: -28.125000(kcal/mol): PK_start=1558 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1621
(fs_start=1543)
TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
TCCCACAA
GAATTTTCTCCAGAGCAGACCAGAGCCAACAG

```

```

=====
(2362) JF320193
=====

```

```

PK1: -13.555000(kcal/mol): PK_start=1431 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1459
(fs_start=1451)

```

```

A
GAAAAGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

```

```

PK2: -20.460000(kcal/mol): PK_start=1436 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1472
(fs_start=1451)

```

```

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

```

```

PK3: -27.275000(kcal/mol): PK_start=1459 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1493
(fs_start=1451)

```

```

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAAGGA

```

```

PK4: -23.185000(kcal/mol): PK_start=1466 sp=7 s1=8 s2=4 l1=8 l2=5 L3=0 PK_end=1502
(fs_start=1451)

```

```

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA AGGA
TTCTCC
GAATT

```

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=====
(2363) JF320194
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PK1: -15.585000(kcal/mol): PK_start=1523 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1551
(fs_start=1543)

A
GACAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1528 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1564
(fs_start=1543)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1551 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1585
(fs_start=1543)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -24.345000(kcal/mol): PK_start=1558 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1595
(fs_start=1543)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
TCTCCA
GAATTT

PK4B: -28.125000(kcal/mol): PK_start=1558 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1621
(fs_start=1543)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
TCCCAA
GAATTTTCTCCAGAGCAGACCAGAGCCAACAG

=====
(2364) JF320195
=====

PK1: -13.555000(kcal/mol): PK_start=1442 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1470
(fs_start=1462)

A
GAAAGGAAGGGCATCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1447 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1483
(fs_start=1462)

C
GAAGGGCATCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -31.920000(kcal/mol): PK_start=1470 sp=0 s1=3 s2=10 l1=5 l2=3 L3=0 PK_end=1503
(fs_start=1462)

AAAAAT
TACTGAGAGACAGGCTAATTTTTTAGGG
CCC CCTTCCGGTC
GGGAGGCCAGGA
AAG

PK4: -26.235000(kcal/mol): PK_start=1477 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1514
(fs_start=1462)

CCCC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
AAACTT

=====
(2365) JF320196
=====

PK1: -13.555000(kcal/mol): PK_start=1459 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1487
(fs_start=1479)

A
GAAGGGAAGGACATCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1464 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1500
(fs_start=1479)

C
GAAGGACATCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -26.605000(kcal/mol): PK_start=1487 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1521
(fs_start=1479)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCGGGGA
ACAAGGGA

PK4: -28.350000(kcal/mol): PK_start=1494 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1531
(fs_start=1479)

```

                                CCAC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
                                GGAA
                                CCTCA
                                GAACTT
```

=====
(2366) JF320197
=====

PK1: -13.065000(kcal/mol): PK_start=1472 sp=0 s1=3 s2=8 l1=5 l2=16 L3=0 PK_end=1514
(fs_start=1507)

```

                                CCAAA
GCTGTTGGAAATGTGGAAAGGAAGGACA
                                TAGAAAGT
                                ATTTTTTAGG
                                ACCGAGAGACAGGCTA
```

PK2: -17.180000(kcal/mol): PK_start=1494 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=1528
(fs_start=1507)

```

                                C
AGGACACCAAATGAAAGATTGTACCGAGAGA
                                ATCGGA
                                TGGCCTTC
                                AGGGAAAATC
```

PK3: -26.605000(kcal/mol): PK_start=1515 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1549
(fs_start=1507)

```

                                AAA
TACCGAGAGACAGGCTAATTTTTTTAGGGA
                                TCCGGTCT
                                AGGCCGGGGA
                                ACAAGGGA
```

PK4: -28.350000(kcal/mol): PK_start=1522 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1559
(fs_start=1507)

```

                                CCAC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
                                GGAA
                                CCTCA
                                GAATTT
```

=====
(2367) JF320198
=====

PK1: -13.555000(kcal/mol): PK_start=1480 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1508
(fs_start=1500)

```

                                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                                GAGAGTC
                                GACA
```

```

                TTTT TAGGG
      GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1485 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1521
(fs_start=1500)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT A ATCGGA
                TGGCCTTC
      GGAAAGTC
PK3:  -27.275000(kcal/mol): PK_start=1508 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1542
(fs_start=1500)
                AAG
TACTGAGAGACAGGCTAATTTTTTAGGGA
                CCCT TCCGGTCT
                AGGCCAGGAA
      ACAAAGGA
PK4:  -24.040000(kcal/mol): PK_start=1515 sp=7 s1=7 s2=4 l1=10 l2=4 L3=0 PK_end=1550
(fs_start=1500)
                TTTCCACAAA
AGACAGGCTAATTTTTTAGGGAAAGTCTGGCC
                GGACCGG AAGG
                TTCCCT
      AAAT

=====
(2368) JF320199
=====
PK1:  -13.555000(kcal/mol): PK_start=1502 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1530
(fs_start=1522)
                A
GAAAGGAAGGCATCAAATGAAAGATTGT
                GACA GAGAGTC
                TTTT TAGGG
      GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1507 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1543
(fs_start=1522)
                C
GAAGGGCATCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT A ATCGGA
                TGGCCTTC
      GGAAAATC
PK3:  -31.920000(kcal/mol): PK_start=1530 sp=0 s1=3 s2=10 l1=5 l2=3 L3=0 PK_end=1563
(fs_start=1522)
                AAAAT
TACTGAGAGACAGGCTAATTTTTTAGGG
                CCC CCTTCCGGTC

```

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                                GGGAGGCCAGGA
                                AAG
PK4:  -26.235000(kcal/mol): PK_start=1537 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1574
(fs_start=1522)
                                CCCC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAGG    GGAA
                                TCTTCA
                                AAACCT

=====
(2369) JF320200
=====
PK1:  -13.065000(kcal/mol): PK_start=1472 sp=0 s1=3 s2=8 l1=5 l2=16 L3=0 PK_end=1514
(fs_start=1507)
                                CCAAA
GCTGTTGGAAATGTGGAAAGGAAGGACA
                                TGT    TAGAAAGT
                                ATTTTTTAGG
                                ACCGAGAGACAGGCTA

PK2:  -17.180000(kcal/mol): PK_start=1494 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=1528
(fs_start=1507)
                                C
AGGACACCAAATGAAAGATTGTACCGAGAGA
                                TTTTTT  A  ATCGGA
                                TGGCCTTC
                                AGGGAAAATC

PK3:  -26.605000(kcal/mol): PK_start=1515 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1549
(fs_start=1507)
                                AAA
TACCGAGAGACAGGCTAATTTTTTTAGGGA
                                CCCT    TCCGGTCT
                                AGGCCGGGGA
                                ACAAGGGA

PK4:  -28.350000(kcal/mol): PK_start=1522 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1559
(fs_start=1507)
                                CCAC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
                                GGGCCGGAAG    GGAA
                                CCTTCA
                                GAATTT

=====
(2370) JF320201
=====
PK1:  -13.555000(kcal/mol): PK_start=1276 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1304
(fs_start=1296)
                                A
GAAAAGAAGGACACCAAATGAAAGATTGT

```

GACA GAGAGTC
TTTTTAGGG
GCTAAT
PK2: -20.460000(kcal/mol): PK_start=1281 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1317
(fs_start=1296)
C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1304 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1338
(fs_start=1296)
AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -24.995000(kcal/mol): PK_start=1311 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1348
(fs_start=1296)
TCCCACAA
AGACAGGCTAATTTTTTAGGAAAATCTGGCCT

GGACCGGA AGGG
TCTCCA
GAATTT

=====
(2371) JF320202
=====
PK1: -13.065000(kcal/mol): PK_start=1472 sp=0 s1=3 s2=8 l1=5 l2=16 L3=0 PK_end=1514
(fs_start=1507)
CCAAA
GCTGTTGGAAATGTGGAAAGGAAGGACA

TGT TAGAAAGT
ATTTTTTAGG
ACCGAGAGACAGGCTA

PK2: -17.180000(kcal/mol): PK_start=1494 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=1528
(fs_start=1507)
C
AGGACACCAAATGAAAGATTGTACCGAGAGA

TTTTTT A ATCGGA
TGGCCTTC
AGGGAAAATC

PK3: -26.605000(kcal/mol): PK_start=1515 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1549
(fs_start=1507)
AAA
TACCGAGAGACAGGCTAATTTTTTAGGGA

```

          CCCT   TCCGGTCT
                AGGCCGGGGA
ACAAGGGA
PK4:  -28.35000(kcal/mol): PK_start=1522 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1559
(fs_start=1507)
                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                GGGCCGGAAG   GGAA
                                CCTTCA
          GAATTT

=====
(2372) JF320203
=====
PK1:  -13.30500(kcal/mol): PK_start=1414 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1441
(fs_start=1433)
          A
AAAGGAAGGACACCAAATGAAAGAATGT
                ACA   GAGAGTC
                                TTTTTAGGG
          GGCTAAT

PK2:  -20.46000(kcal/mol): PK_start=1418 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1454
(fs_start=1433)
          C
GAAGGACACCAAATGAAAGAATGTACTGAGAGA
                GATTTTTT   A   ATCGGA
                                TGGCCTTC
          GGAAAATC

PK3:  -31.13000(kcal/mol): PK_start=1441 sp=0 s1=4 s2=10 l1=3 l2=4 L3=0 PK_end=1475
(fs_start=1433)
                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                CCCT   CTTCCGGTCT
                                GAAGGCCAGGGA
          AAGG

PK4:  -26.71500(kcal/mol): PK_start=1448 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1485
(fs_start=1433)
                TCCC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                GGACCGGAAG   GGAA
                                TCTTCA
          GAATTT

PK4B:  -21.62000(kcal/mol): PK_start=1448 sp=7 s1=7 s2=4 l1=1 l2=40 L3=9 PK_end=1510
(fs_start=1433)
          T
AGACAGGCTAATTTTTTAGGGAAAATCTGGCC

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GGACCGG AAGGGAACC CTCT
GAGGAG
GAATTTTCTTCAGAGCAGACCAGAGCCAACAGCCCCACCA

=====
(2373) JF320204
=====

PK1: -13.555000(kcal/mol): PK_start=1493 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1521
(fs_start=1513)

A
GAAAGGAAGGGCATCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1498 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1534
(fs_start=1513)

C
GAAGGGCATCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -31.920000(kcal/mol): PK_start=1521 sp=0 s1=3 s2=10 l1=5 l2=3 L3=0 PK_end=1554
(fs_start=1513)

AAAAAT
TACTGAGAGACAGGCTAATTTTTTAGGG
CCC CCTTCCGGTC
GGGAGGCCAGGA
AAG

PK4: -26.235000(kcal/mol): PK_start=1528 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1565
(fs_start=1513)

CCCC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
AAACTT

=====
(2374) JF320205
=====

PK1: -13.065000(kcal/mol): PK_start=1472 sp=0 s1=3 s2=8 l1=5 l2=16 L3=0 PK_end=1514
(fs_start=1507)

CCAAA
GCTGTTGGAAATGTGGAAAGGAAGGACA
TGT TAGAAAGT
ATTTTTTAGG
ACCGAGAGACAGGCTA

PK2: -17.180000(kcal/mol): PK_start=1494 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=1528
(fs_start=1507)

C
AGGACACCAAATGAAAGATTGTACCGAGAGA
TTTTTT A ATCGGA
TGGCCTTC
AGGGAAAATC

PK3: -26.605000(kcal/mol): PK_start=1515 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1549
(fs_start=1507)

AAA
TACCGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCGGGGA
ACAAGGGA

PK4: -28.350000(kcal/mol): PK_start=1522 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1559
(fs_start=1507)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGGCCGAAG GGAA
CCTTCA
GAATTT

=====
(2375) JF320206

=====
PK1: -13.765000(kcal/mol): PK_start=1492 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1520
(fs_start=1512)

A
GACAGGAAGGACACCAAATGAAAGATTGT
GACA AAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1497 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1533
(fs_start=1512)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAAA
GATTTTTT A ATCGGA
TGGCCTTC
GGAGAATC

PK3: -21.700000(kcal/mol): PK_start=1520 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1554
(fs_start=1512)

AA
TACTGAGAAACAGGCTAATTTTTTAGGGAG
CCTTC CGGTCT
GCCGGGGA
CACAAAGGAAG

PK4: -26.045000(kcal/mol): PK_start=1527 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1564
(fs_start=1512)

CCAC
AAACAGGCTAATTTTTTAGGGAGAATCTGGCCTTC
GGGCCGGAAG GGAA
TCTTCA
GAACTT

=====
(2376) JF320207
=====

PK1: -13.065000(kcal/mol): PK_start=1472 sp=0 s1=3 s2=8 l1=5 l2=16 L3=0 PK_end=1514
(fs_start=1507)

CCAAA
GCTGTTGGAAATGTGGAAAGGAAGGACA
TGT TAGAAAGT
ATTTTTTAGG
ACCGAGAGACAGGCTA

PK2: -17.180000(kcal/mol): PK_start=1494 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=1528
(fs_start=1507)

C
AGGACACCAAATGAAAGATTGTACCGAGAGA
TTTTTT A ATCGGA
TGGCCTTC
AGGGAAAATC

PK3: -26.605000(kcal/mol): PK_start=1515 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1549
(fs_start=1507)

AAA
TACCGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCGGGGA
ACAAGGGA

PK4: -28.350000(kcal/mol): PK_start=1522 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1559
(fs_start=1507)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGGCCGGAAG GGAA
CCTTCA
GAATTT

=====
(2377) JF320208
=====

PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A
GAAGGGAAGGACATCAAATGAAAGATTGT
GACA GAGAGTC

```

                TTTT TAGGG
      GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)
                C
GAAGGACATCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT A ATCGGA
                TGGCCTTC
      GGAAAATC
PK3:  -26.605000(kcal/mol): PK_start=1511 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1545
(fs_start=1503)
                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTCT
                AGGCCGGGGA
      ACAAGGGA
PK4:  -28.350000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)
                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                GGGCCGGAAG   GGAA
                CCTTCA
      GAACTT

=====
(2378) JF320209
=====
PK1:  -13.555000(kcal/mol): PK_start=1476 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1504
(fs_start=1496)
                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                GACA   GAGAGTC
                TTTT TAGGG
      GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1481 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1517
(fs_start=1496)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT A ATCGGA
                TGGCCTTC
      GGAAGGTC
PK3:  -25.060000(kcal/mol): PK_start=1504 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1538
(fs_start=1496)
                G
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                TCCTTC   CGGTCT

```

GCCAGGGA

ACAAGGGAAG

PK4: -24.995000(kcal/mol): PK_start=1511 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1548
(fs_start=1496)

TCCTACAA

AGACAGGCTAATTTTTTTAGGGAAGGTCTGGCCT

GGACCGGA AGGG

TCTCCA

GAATTT

=====
(2379) JF320211
=====

PK1: -13.765000(kcal/mol): PK_start=1492 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1520
(fs_start=1512)

A

GACAGGAAGGACACCAAATGAAAGATTGT

GACA AAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1497 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1533
(fs_start=1512)

C

GAAGGACACCAAATGAAAGATTGTACTGAGAAA

GATTTTTT A ATCGGA

TGGCCTTC

GGAGAATC

PK3: -21.700000(kcal/mol): PK_start=1520 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1554
(fs_start=1512)

AA

TACTGAGAAACAGGCTAATTTTTTTAGGGAG

CCTTC CGGTCT

GCCGGGGA

CACAAAGGGAAG

PK4: -26.045000(kcal/mol): PK_start=1527 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1564
(fs_start=1512)

CCAC

AAACAGGCTAATTTTTTTAGGGAGAATCTGGCCTTC

GGCCGGAAG GGAA

TCTTCA

GAACTT

=====
(2380) JF320212
=====

PK1: -13.555000(kcal/mol): PK_start=1267 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1295
(fs_start=1287)

A

GAAAGGAAGGACACCAAATGAAAGATTGT

```

          GACA    GAGAGTC
                TTTTATAGGG
    GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1272 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1308
(fs_start=1287)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT A  ATCGGA
                                TGGCCTTC
                GGAAGGTC

PK3:  -25.060000(kcal/mol): PK_start=1295 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1329
(fs_start=1287)
                G
TACTGAGAGACAGGCTAATTTTTATAGGGAAG
                TCCTTC    CGGTCT
                                GCCAGGGA
                ACAAGGGAAG

PK4:  -24.995000(kcal/mol): PK_start=1302 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1339
(fs_start=1287)
                TCCTACAA
AGACAGGCTAATTTTTATAGGGAAGGTCTGGCCT
                GGACCGGA    AGGG
                                TCTCCA
                GAATTT

=====
(2381) JF320213
=====
PK1:  -13.555000(kcal/mol): PK_start=1450 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1478
(fs_start=1470)
                A
GAAAGGAAGGGCATCAAATGAAAGATTGT
                GACA    GAGAGTC
                TTTTATAGGG
    GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1455 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1491
(fs_start=1470)
                C
GAAGGGCATCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT A  ATCGGA
                                TGGCCTTC
                GGAAAATC

PK3:  -31.920000(kcal/mol): PK_start=1478 sp=0 s1=3 s2=10 l1=5 l2=3 L3=0 PK_end=1511
(fs_start=1470)
                AAAAT
TACTGAGAGACAGGCTAATTTTTATAGGG

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          CCC      CCTTCCGGTC
                GGGAGGCCAGGA
    AAG
PK4:  -26.235000(kcal/mol): PK_start=1485 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1522
(fs_start=1470)
                CCCC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                GGACCGGAGG      GGAA
                TCTTCA
    AAACTT

=====
(2382) JF320214
=====
PK1:  -13.305000(kcal/mol): PK_start=1414 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1441
(fs_start=1433)
                A
AAAGGAAGGACACCAAATGAAAGAATGT
                ACA      GAGAGTC
                TTTTTAGGG
    GGCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1418 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1454
(fs_start=1433)
                C
GAAGGACACCAAATGAAAGAATGTACTGAGAGA
                GATTTTTT  A  ATCGGA
                TGGCCTTC
    GGAAAATC

PK3:  -31.130000(kcal/mol): PK_start=1441 sp=0 s1=4 s2=10 l1=3 l2=4 L3=0 PK_end=1475
(fs_start=1433)
                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                CCCT      CTTCCGGTCT
                GAAGGCCAGGGA
    AAGG

PK4:  -26.715000(kcal/mol): PK_start=1448 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1485
(fs_start=1433)
                TCCC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                GGACCGGAAG      GGAA
                TCTTCA
    GAATTT

PK4B:  -21.620000(kcal/mol): PK_start=1448 sp=7 s1=7 s2=4 l1=1 l2=40 L3=9 PK_end=1510
(fs_start=1433)
                T
AGACAGGCTAATTTTTTAGGGAAAATCTGGCC

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GGACCGG AAGGGAACC CTCT
GAGGAG
GAATTTTCTTCAGAGCAGACCAGAGCCAACAGCCCCACCA

=====
(2383) JF320215
=====

PK1: -13.555000(kcal/mol): PK_start=1431 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1459
(fs_start=1451)

A
GAAAAGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1436 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1472
(fs_start=1451)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1459 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1493
(fs_start=1451)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -24.995000(kcal/mol): PK_start=1466 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1503
(fs_start=1451)

TCCCACAA
AGACAGGCTAATTTTTTAGGAAAATCTGGCCT
GGACCGGA AGGG
TCTCCA
GAATTT

=====
(2384) JF320216
=====

PK1: -13.555000(kcal/mol): PK_start=1480 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1508
(fs_start=1500)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1485 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1521
(fs_start=1500)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAGTC

PK3: -27.275000(kcal/mol): PK_start=1508 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1542
(fs_start=1500)

AAG
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGAA
ACAAAGGA

PK4: -24.040000(kcal/mol): PK_start=1515 sp=7 s1=7 s2=4 l1=10 l2=4 L3=0 PK_end=1550
(fs_start=1500)

TTCCACAAA
AGACAGGCTAATTTTTTAGGGAAAGTCTGGCC
GGACCGG AAGG
TTCCCT
AAAT

=====
(2385) JF320217
=====

PK1: -13.765000(kcal/mol): PK_start=1492 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1520
(fs_start=1512)

A
GACAGGAAGGACACCAAATGAAAGATTGT
GACA AAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1497 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1533
(fs_start=1512)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAAA
GATTTTTT A ATCGGA
TGGCCTTC
GGAGAATC

PK3: -21.700000(kcal/mol): PK_start=1520 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1554
(fs_start=1512)

AA
TACTGAGAAACAGGCTAATTTTTTAGGGAG
CCTTC CGGTCT
GCCGGGGA
CACAAGGAAG

PK4: -26.045000(kcal/mol): PK_start=1527 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1564
(fs_start=1512)

CCAC
AAACAGGCTAATTTTTTAGGGAGAATCTGGCCTTC
GGGCCGGAAG GGAA
TCTTCA
GAACTT

=====
(2386) JF320218
=====

PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A
GAAGGGAAGGACATCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)

C
GAAGGACATCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -26.605000(kcal/mol): PK_start=1511 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1545
(fs_start=1503)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCGGGGA
ACAAGGGA

PK4: -28.350000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGGCCGGAAG GGAA
CCTTCA
GAACTT

=====
(2387) JF320219
=====

PK1: -13.305000(kcal/mol): PK_start=1414 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1441
(fs_start=1433)

A
AAAGGAAGGACACCAAATGAAAGAATGT
ACA GAGAGTC


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                TTTT TAGGG
      GGCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1418 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1454
(fs_start=1433)
                C
GAAGGACACCAAATGAAAGAATGTACTGAGAGA
                GATTTTTT A  ATCGGA
                TGGCCTTC
      GGAAAATC
PK3:  -31.130000(kcal/mol): PK_start=1441 sp=0 s1=4 s2=10 l1=3 l2=4 L3=0 PK_end=1475
(fs_start=1433)
                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                CCCT   CTTCCGGTCT
                GAAGCCAGGGA
      AAGG
PK4:  -26.715000(kcal/mol): PK_start=1448 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1485
(fs_start=1433)
                TCCC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                GGACCGGAAG   GGAA
                TCTTCA
      GAATTT
PK4B: -21.620000(kcal/mol): PK_start=1448 sp=7 s1=7 s2=4 l1=1 l2=40 L3=9 PK_end=1510
(fs_start=1433)
                T
AGACAGGCTAATTTTTTAGGGAAAATCTGGCC
                GGACCGG  AAGGGAACC  CTCT
                GAGGAG
      GAATTTTCTTCAGAGCAGACCAGAGCCAACAGCCCCACCA
=====
(2388) JF320220
=====
PK1:  -13.765000(kcal/mol): PK_start=1492 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1520
(fs_start=1512)
                A
GACAGGAAGGACACCAAATGAAAGATTGT
                GACA   AAGAGTC
                TTTT TAGGG
      GCTAAT
PK2:  -20.500000(kcal/mol): PK_start=1497 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1533
(fs_start=1512)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAAA
                GATTTTTT A  ATCGGA

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TGGCCTTC

GGAGAATC

PK3: -21.700000(kcal/mol): PK_start=1520 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1554
(fs_start=1512)

AA

TACTGAGAAACAGGCTAATTTTTTAGGGAG

CCTTC CGGTCT

GCCGGGGA

CACAAAGGGAAG

PK4: -26.045000(kcal/mol): PK_start=1527 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1564
(fs_start=1512)

CCAC

AAACAGGCTAATTTTTTAGGGAGAATCTGGCCTTC

GGGCCGGAAG GGAA

TCTTCA

GAACTT

=====
(2389) JF320221
=====

PK1: -13.305000(kcal/mol): PK_start=1414 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1441
(fs_start=1433)

A

AAAGGAAGGACACCAAATGAAAGAATGT

ACA GAGAGTC

TTTTTAGGG

GGCTAAT

PK2: -20.460000(kcal/mol): PK_start=1418 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1454
(fs_start=1433)

C

GAAGGACACCAAATGAAAGAATGTACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAAATC

PK3: -31.130000(kcal/mol): PK_start=1441 sp=0 s1=4 s2=10 l1=3 l2=4 L3=0 PK_end=1475
(fs_start=1433)

AAA

TACTGAGAGACAGGCTAATTTTTTAGGGA

CCCT CTTCCGGTCT

GAAGGCCAGGGA

AAGG

PK4: -26.715000(kcal/mol): PK_start=1448 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1485
(fs_start=1433)

TCCC

AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAAG GGAA

TCTTCA

GAATTT

PK4B: -21.62000(kcal/mol): PK_start=1448 sp=7 s1=7 s2=4 l1=1 l2=40 L3=9 PK_end=1510
(fs_start=1433)

T

AGACAGGCTAATTTTTTAGGGAAAATCTGGCC

GGACCGG AAGGGAACC CTCT

GAGGAG

GAATTTTTCTTCAGAGCAGACCAGAGCCAACAGCCCCACCA

=====
(2390) JF320222
=====

PK1: -13.30500(kcal/mol): PK_start=1414 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1441
(fs_start=1433)

A

AAAGGAAGGACACCAAATGAAAGAATGT

ACA GAGAGTC

TTTTTAGGG

GGCTAAT

PK2: -20.46000(kcal/mol): PK_start=1418 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1454
(fs_start=1433)

C

GAAGGACACCAAATGAAAGAATGTACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAAATC

PK3: -31.13000(kcal/mol): PK_start=1441 sp=0 s1=4 s2=10 l1=3 l2=4 L3=0 PK_end=1475
(fs_start=1433)

AAA

TACTGAGAGACAGGCTAATTTTTTAGGGA

CCCT CTTCGGTCT

GAAGGCCAGGGA

AAGG

PK4: -26.71500(kcal/mol): PK_start=1448 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1485
(fs_start=1433)

TCCC

AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAAG GGAA

TCTTCA

GAATTT

PK4B: -21.62000(kcal/mol): PK_start=1448 sp=7 s1=7 s2=4 l1=1 l2=40 L3=9 PK_end=1510
(fs_start=1433)

T

AGACAGGCTAATTTTTTAGGGAAAATCTGGCC

GGACCGG AAGGGAACC CTCT

GAGGAG
GAATTTTCTTCAGAGCAGACCAGAGCCAACAGCCCCACCA

=====
(2391) JF320223
=====

PK1: -13.555000(kcal/mol): PK_start=1455 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1483
(fs_start=1475)

A
GAAGGGAAGGACATCAAATGAAAGATTGT

GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1460 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1496
(fs_start=1475)

C
GAAGGACATCAAATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -26.605000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1517
(fs_start=1475)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT
AGGCCGGGGA
ACAAGGGA

PK4: -28.350000(kcal/mol): PK_start=1490 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1527
(fs_start=1475)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

GGGCCGGAAG GGAA
CCTTCA
GAACTT

=====
(2392) JF320224
=====

PK1: -13.305000(kcal/mol): PK_start=1413 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1440
(fs_start=1432)

A
AAAGGAAGGACACCAAATGAAAGAATGT

ACA GAGAGTC
TTTTTAGGG
GGCTAAT

PK2: -20.460000(kcal/mol): PK_start=1417 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1453
(fs_start=1432)

C
GAAGGACACCAAATGAAAGAATGTACTGAGAGA

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          GATTTTTT A ATCGGA
                    TGGCCTTC
    GGAAAATC
PK3:  -31.130000(kcal/mol): PK_start=1440 sp=0 s1=4 s2=10 l1=3 l2=4 L3=0 PK_end=1474
(fs_start=1432)
          AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
          CCCT   CTTCCGGTCT
                    GAAGCCAGGGA
          AAGG
PK4:  -26.715000(kcal/mol): PK_start=1447 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1484
(fs_start=1432)
                    TCCC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
          GGACCGGAAG   GGAA
                    TCTTCA
          GAATTT
PK4B: -21.620000(kcal/mol): PK_start=1447 sp=7 s1=7 s2=4 l1=1 l2=40 L3=9 PK_end=1509
(fs_start=1432)
          T
AGACAGGCTAATTTTTTAGGGAAAATCTGGCC
          GGACCGG   AAGGGAACC   CTCT
                    GAGGAG
          GAATTTTCTTCAGAGCAGACCAGAGCCAACAGCCCCACCA
=====
(2393) JF320225
=====
PK1:  -13.555000(kcal/mol): PK_start=1480 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1508
(fs_start=1500)
          A
GAAAGGAAGGACACCAAATGAAAGATTGT
          GACA   GAGAGTC
                    TTTTTTAGGG
          GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1485 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1521
(fs_start=1500)
          C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
          GATTTTTT A ATCGGA
                    TGGCCTTC
          GGAAAGTC
PK3:  -27.275000(kcal/mol): PK_start=1508 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1542
(fs_start=1500)
          AAG
TACTGAGAGACAGGCTAATTTTTTAGGGA

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          CCCT   TCCGGTCT
                AGGCCAGGAA
    ACAAAGGA
PK4:  -24.04000(kcal/mol): PK_start=1515 sp=7 s1=7 s2=4 l1=10 l2=4 L3=0 PK_end=1550
(fs_start=1500)
                TTTCCACAAA
AGACAGGCTAATTTTTTAGGGAAAGTCTGGCC
                GGACCGG   AAGG
                TTTCCCT
          AAAT

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=====
(2394) JF320226
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PK1:  -13.555000(kcal/mol): PK_start=1481 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1509
(fs_start=1501)
                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                GACA   GAGAGTC
                TTTTTAGGG
          GCTAAT

```

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PK2:  -20.460000(kcal/mol): PK_start=1486 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1522
(fs_start=1501)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT A  ATCGGA
                TGGCCTTC
          GGAAAGTC

```

```

PK3:  -27.275000(kcal/mol): PK_start=1509 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1543
(fs_start=1501)
                AAG
TACTGAGAGACAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTCT
                AGGCCAGGAA
          ACAAAGGA

```

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PK4:  -24.040000(kcal/mol): PK_start=1516 sp=7 s1=7 s2=4 l1=10 l2=4 L3=0 PK_end=1551
(fs_start=1501)
                TTTCCACAAA
AGACAGGCTAATTTTTTAGGGAAAGTCTGGCC
                GGACCGG   AAGG
                TTTCCCT
          AAAT

```

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=====
(2395) JF320227
=====

```

PK1: -13.555000(kcal/mol): PK_start=1480 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1508
(fs_start=1500)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1485 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1521
(fs_start=1500)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAGTC

PK3: -27.275000(kcal/mol): PK_start=1508 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1542
(fs_start=1500)

AAG
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGAA
ACAAAGGA

PK4: -24.040000(kcal/mol): PK_start=1515 sp=7 s1=7 s2=4 l1=10 l2=4 L3=0 PK_end=1550
(fs_start=1500)

TCCCCACAAA
AGACAGGCTAATTTTTTAGGGAAAGTCTGGCC
GGACCGG AAGG
TTCCCT
AAAT

=====
(2396) JF320241
=====

PK1: -13.555000(kcal/mol): PK_start=1273 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1301
(fs_start=1293)

A
GACAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1278 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1314
(fs_start=1293)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1301 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1335
(fs_start=1293)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGAA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1308 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1345
(fs_start=1293)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
AAATTT

=====
(2397) JF320242
=====

PK1: -13.555000(kcal/mol): PK_start=1273 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1301
(fs_start=1293)

A
GACAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1278 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1314
(fs_start=1293)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1301 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1335
(fs_start=1293)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGAA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1308 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1345
(fs_start=1293)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
AAATTT

=====
(2398) JF320243
=====

PK1: -13.555000(kcal/mol): PK_start=1273 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1301
(fs_start=1293)

A
GACAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1278 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1314
(fs_start=1293)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1301 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1335
(fs_start=1293)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGAA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1308 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1345
(fs_start=1293)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
AAATTT

=====
(2399) JF320244
=====

PK1: -13.555000(kcal/mol): PK_start=1477 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1505
(fs_start=1497)

A
GACAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1482 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1518
(fs_start=1497)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA

TGGCCTTC

GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1505 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1539
(fs_start=1497)

AAA

TACTGAGAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT

AGGCCAGGAA

ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1512 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1549
(fs_start=1497)

CCAC

AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAAG GGAA

TCTTCA

AAATTT

=====
(2400) JF320245
=====

PK1: -13.555000(kcal/mol): PK_start=1477 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1505
(fs_start=1497)

A

GACAGGAAGGACACCAAATGAAAGATTGT

GACA GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1482 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1518
(fs_start=1497)

C

GAAGGACACCAAATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1505 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1539
(fs_start=1497)

AAA

TACTGAGAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT

AGGCCAGGAA

ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1512 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1549
(fs_start=1497)

CCAC

AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAAG GGAA

```

                                TCTTCA
                                AAATTT
=====
(2401) JF320247
=====
PK1:  -12.955000(kcal/mol): PK_start=1276 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1304
(fs_start=1296)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                                GACG   GAGAGTC
                                TTTTtaggg
                                GCTAAT

PK2:  -18.720000(kcal/mol): PK_start=1281 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1317
(fs_start=1296)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
                                GATTTTTT A  ATCGGA
                                TGGCCTTC
                                GGAAAATC

PK3:  -23.815000(kcal/mol): PK_start=1305 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1338
(fs_start=1296)
                                AAA
ACTGAGAGGCAGGCTAATTTTTTAGGGA
                                CCT   TCCGGTCT
                                AGGCCAGGGA
                                AACAAGGGA

PK4:  -26.445000(kcal/mol): PK_start=1311 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1348
(fs_start=1296)
                                TCCAACA
AGGCAGGCTAATTTTTTAGGAAAATCTGGCCT
                                GGACCGGA   AGGGA
                                TTCCTCA
                                GAATT

=====
(2402) JF320250
=====
PK1:  -12.955000(kcal/mol): PK_start=1273 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1301
(fs_start=1293)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                                GACG   GAGAGTC
                                TTTTtaggg
                                GCTAAT

PK2:  -18.720000(kcal/mol): PK_start=1278 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1314
(fs_start=1293)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG

```

GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC
PK3: -23.815000(kcal/mol): PK_start=1302 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1335
(fs_start=1293)
AAA
ACTGAGAGGCAGGCTAATTTTTTAGGGA
CCT TCCGGTCT
AGGCCAGGGA
AACAAAGGGA

PK4: -29.255000(kcal/mol): PK_start=1308 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1345
(fs_start=1293)
TCCAACA
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA AGGGA
TCCCTCA
GAATT

=====
(2403) JF320251
=====

PK1: -12.955000(kcal/mol): PK_start=1276 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1304
(fs_start=1296)
A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -18.720000(kcal/mol): PK_start=1281 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1317
(fs_start=1296)
C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -23.815000(kcal/mol): PK_start=1305 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1338
(fs_start=1296)
AAA
ACTGAGAGGCAGGCTAATTTTTTAGGGA
CCT TCCGGTCT
AGGCCAGGGA
AACAAAGGGA

PK4: -26.445000(kcal/mol): PK_start=1311 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1348
(fs_start=1296)
TCCAACA
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCT

```

                GGACCGGA    AGGGA
                    TTCCTCA
            GAATT

=====
(2404) JF320253
=====
PK1:  -12.955000(kcal/mol): PK_start=1273 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1301
(fs_start=1293)
                    A
GAAAGGAAGGACACCAAATGAAAGATTGT

                GACG    GAGAGTC
                    TTTTtaggg
            GCTAAT

PK2:  -18.720000(kcal/mol): PK_start=1278 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1314
(fs_start=1293)
                    C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG

                GATTTTTT  A  ATCGGA
                    TGGCCTTC
            GGAAAATC

PK3:  -23.815000(kcal/mol): PK_start=1302 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1335
(fs_start=1293)
                    AAA
ACTGAGAGGCAGGCTAATTTTTTAGGGA

                CCT    TCCGGTCT
                    AGGCCAGGGA
            AACAAGGGA

PK4:  -29.255000(kcal/mol): PK_start=1308 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1345
(fs_start=1293)
                    TCCAACA
AGGCAGGCTAATTTTTTAGGAAAATCTGGCCT

                GGACCGGA    AGGGA
                    TCCCTCA
            GAATT

=====
(2405) JF320255
=====
PK1:  -12.955000(kcal/mol): PK_start=1276 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1304
(fs_start=1296)
                    A
GAAAGGAAGGACACCAAATGAAAGATTGT

                GACG    GAGAGTC
                    TTTTtaggg
            GCTAAT

```

PK2: -18.72000(kcal/mol): PK_start=1281 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1317
(fs_start=1296)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -23.815000(kcal/mol): PK_start=1305 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1338
(fs_start=1296)

AAA
ACTGAGAGGCAGGCTAATTTTTTAGGGA
CCT TCCGGTCT
AGGCCAGGGA
AACAAGGGA

PK4: -26.445000(kcal/mol): PK_start=1311 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1348
(fs_start=1296)

TCCAACA
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(2406) JF320256
=====

PK1: -12.955000(kcal/mol): PK_start=1273 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1301
(fs_start=1293)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -18.720000(kcal/mol): PK_start=1278 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1314
(fs_start=1293)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -23.815000(kcal/mol): PK_start=1302 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1335
(fs_start=1293)

AAA
ACTGAGAGGCAGGCTAATTTTTTAGGGA
CCT TCCGGTCT
AGGCCAGGGA
AACAAGGGA

PK4: -29.255000(kcal/mol): PK_start=1308 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1345
(fs_start=1293)

TCCAACA
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA AGGGA
TCCCTCA
GAATT

=====
(2407) JF320257
=====

PK1: -12.955000(kcal/mol): PK_start=1273 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1301
(fs_start=1293)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -18.720000(kcal/mol): PK_start=1278 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1314
(fs_start=1293)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -23.815000(kcal/mol): PK_start=1302 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1335
(fs_start=1293)

AAA
ACTGAGAGGCAGGCTAATTTTTTAGGGA
CCT TCCGGTCT
AGGCCAGGGA
AACAAGGGA

PK4: -29.255000(kcal/mol): PK_start=1308 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1345
(fs_start=1293)

TCCAACA
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA AGGGA
TCCCTCA
GAATT

=====
(2408) JF320263
=====

PK1: -13.555000(kcal/mol): PK_start=1285 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1313
(fs_start=1305)

A
GAAAGGAAGGACACCAAATAAAAAGATTGT
GACA GAGAGTC

TTTTTAGGG
GCTAAT
PK2: -20.460000(kcal/mol): PK_start=1290 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1326
(fs_start=1305)

C
GAAGGACACCAAATAAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAGAATC

PK3: -22.370000(kcal/mol): PK_start=1313 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1347
(fs_start=1305)

AA
TACTGAGAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTCT
GCCAGGGA
AACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1320 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1357
(fs_start=1305)

CAAC
AGACAGGCTAATTTTTTAGGGAGAATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1320 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1383
(fs_start=1305)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAGAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2409) JF320267
=====

PK1: -13.555000(kcal/mol): PK_start=1285 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1313
(fs_start=1305)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1290 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1326
(fs_start=1305)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA


```

                                TGGCCTTC
                GGAGAATC
PK3:  -22.370000(kcal/mol): PK_start=1313 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1347
(fs_start=1305)
                                AA
TACTGAGAGACAGGCTAATTTTTTAGGGAG
                                CCTTC   CGGTCT
                                GCCAGGGA
                AACAAAGGGGAG

PK4:  -26.235000(kcal/mol): PK_start=1320 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1357
(fs_start=1305)
                                CAAC
AGACAGGCTAATTTTTTAGGGAGAATCTGGCCTTC
                                GGACCGGAGG   GGAA
                                TCTTCA
                GAATTT

PK4B:  -30.395000(kcal/mol): PK_start=1320 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1383
(fs_start=1305)
                                TCCAACAA
AGACAGGCTAATTTTTTAGGGAGAATCTGGCCT
                                GGACCGGA   GGGG
                                CCCCAC
                GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2410) JF320268
=====
PK1:  -13.555000(kcal/mol): PK_start=1285 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1313
(fs_start=1305)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                                GACA   GAGAGTC
                                TTTTTAGGG
                GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1290 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1326
(fs_start=1305)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                                GATTTTTT   A   ATCGGA
                                TGGCCTTC
                GGAGAATC

PK3:  -22.370000(kcal/mol): PK_start=1313 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1347
(fs_start=1305)
                                AA
TACTGAGAGACAGGCTAATTTTTTAGGGAG
                                CCTTC   CGGTCT

```

GCCAGGGA

AACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1320 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1357
(fs_start=1305)

CAAC

AGACAGGCTAATTTTTTAGGGAGAATCTGGCCTTC

GGACCGGAGG GGAA

TCTTCA

GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1320 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1383
(fs_start=1305)

TCCAACAA

AGACAGGCTAATTTTTTAGGGAGAATCTGGCCT

GGACCGGA GGGG

CCCCAC

GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2411) JF320269
=====

PK1: -13.555000(kcal/mol): PK_start=1285 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1313
(fs_start=1305)

A

GAAAGGAAGGACACCAAATGAAAGATTGT

GACA GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1290 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1326
(fs_start=1305)

C

GAAGGACACCAAATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAGAATC

PK3: -22.370000(kcal/mol): PK_start=1313 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1347
(fs_start=1305)

AA

TACTGAGAGACAGGCTAATTTTTTAGGGAG

CCTTC CGGTCT

GCCAGGGA

AACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1320 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1357
(fs_start=1305)

CAAC

AGACAGGCTAATTTTTTAGGGAGAATCTGGCCTTC

GGACCGGAGG GGAA

TCTTCA

GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1320 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1383
(fs_start=1305)

TCCAACAA

AGACAGGCTAATTTTTTAGGGAGAATCTGGCCT

GGACCGGA GGGG

CCCCAC

GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====

(2412) JF320271

=====

PK1: -13.555000(kcal/mol): PK_start=1285 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1313
(fs_start=1305)

A

GAAAGGAAGGACACCAAATGAAAGATTGT

GACA GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1290 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1326
(fs_start=1305)

C

GAAGGACACCAAATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAGAATC

PK3: -22.370000(kcal/mol): PK_start=1313 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1347
(fs_start=1305)

AA

TACTGAGAGACAGGCTAATTTTTTAGGGAG

CCTTC CGGTCT

GCCAGGGA

AACAAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1320 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1357
(fs_start=1305)

CAAC

AGACAGGCTAATTTTTTAGGGAGAATCTGGCCTTC

GGACCGGAGG GGAA

TCTTCA

GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1320 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1383
(fs_start=1305)

TCCAACAA

AGACAGGCTAATTTTTTAGGGAGAATCTGGCCT

GGACCGGA GGGG

CCCCAC
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2413) JF320297
=====

PK1: -15.100000(kcal/mol): PK_start=1261 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1289
(fs_start=1281)

CA
GGAAGGAAGGACACCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCAAA

PK2: -14.310000(kcal/mol): PK_start=1266 sp=0 s1=8 s2=4 l1=4 l2=6 L3=0 PK_end=1299
(fs_start=1281)

CAGG
GAAGGACACCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AAAC
TTTGGC
GGAGAA

PK3: -18.840000(kcal/mol): PK_start=1289 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1323
(fs_start=1281)

AA
CACTGAGAGACAGGCAAATTTTTTAGGGAG
CCTTC CGGTTT
GCCAGGAA
AGCAAAGGGAG

PK4: -21.815000(kcal/mol): PK_start=1296 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1333
(fs_start=1281)

TCCAGCAA
AGACAGGCAAATTTTTTAGGGAGAATTTGGCCT
GGACCGGA GGGA
TCCTCA
AAACTT

=====
(2414) JF320356
=====

PK1: -10.640000(kcal/mol): PK_start=1262 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1300
(fs_start=1293)

A
TTGGAAGTGTGGACAGGAAGGTCACCAA
GTT AGAAAGT
TTTTTTAGG
CACTGAGAGACAGGCTAA

PK2: -20.460000(kcal/mol): PK_start=1278 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1314
(fs_start=1293)

C
GAAGGTCACCAAATGAAAGATTGCACTGAGAGA

GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1301 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1335
(fs_start=1293)

A
CACTGAGAGACAGGCTAATTTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
CCAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1308 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1345
(fs_start=1293)

CTCC
AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

PK4B: -26.530000(kcal/mol): PK_start=1308 sp=7 s1=8 s2=4 l1=1 l2=40 L3=7 PK_end=1372
(fs_start=1293)

T
AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGGAAC CTCC
GAGGAG
GAATTTTCTTCAGAGCAGACCAGAACCAACAGCCCCACCA

=====
(2415) JF320361
=====

PK1: -10.425000(kcal/mol): PK_start=1276 sp=0 s1=4 s2=6 l1=2 l2=5 L3=0 PK_end=1302
(fs_start=1296)

AC
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGA
TTTTTTAG
GCTAA

PK2: -17.180000(kcal/mol): PK_start=1283 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=1317
(fs_start=1296)

C
AGGACACCAAATGAAAGATTGTACAGAGAGA
TTTTTT A ATCGGA
TGGCCTTC
AGGGAAGATC

PK3: -25.440000(kcal/mol): PK_start=1304 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1338
(fs_start=1296)

A
TACAGAGAGACAGGCTAATTTTTTTAGGGAAG

CCCTTC CGGTCT
GCCGGGGA
ACAAGGGAAG
PK4: -26.045000(kcal/mol): PK_start=1311 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1348
(fs_start=1296)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGCCGGAAG GGAA
TCTTCA
GAATTT

=====
(2416) JF320363
=====

PK1: -13.555000(kcal/mol): PK_start=1276 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1304
(fs_start=1296)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1281 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1317
(fs_start=1296)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1304 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1338
(fs_start=1296)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1311 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1348
(fs_start=1296)

CCAC
AGACAGGCTAATTTTTTAGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2417) JF320364
=====

PK1: -13.555000(kcal/mol): PK_start=1276 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1304 (fs_start=1296)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1281 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1317 (fs_start=1296)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1304 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1338 (fs_start=1296)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1311 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1348 (fs_start=1296)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2418) JF320365
=====

PK1: -13.555000(kcal/mol): PK_start=1276 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1304 (fs_start=1296)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1281 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1317 (fs_start=1296)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1304 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1338
(fs_start=1296)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1311 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1348
(fs_start=1296)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2419) JF320366
=====

PK1: -13.555000(kcal/mol): PK_start=1276 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1304
(fs_start=1296)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1281 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1317
(fs_start=1296)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1304 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1338
(fs_start=1296)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1311 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1348
(fs_start=1296)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2420) JF320374
=====

PK1: -13.555000(kcal/mol): PK_start=1276 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1304
(fs_start=1296)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1281 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1317
(fs_start=1296)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1304 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1338
(fs_start=1296)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1311 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1348
(fs_start=1296)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2421) JF320411
=====

PK1: -10.975000(kcal/mol): PK_start=1448 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=1475
(fs_start=1468)

AA
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGT
TTTTTAGG
GCTAAT

PK2: -18.180000(kcal/mol): PK_start=1454 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1489
(fs_start=1468)

C
AAGGACACCAAATGAAAGATTGTAATGAGAGA
ATTTTTT A ATCGGA

TGGCCTTC
GGGAAGATC
PK3: -25.060000(kcal/mol): PK_start=1476 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1510
(fs_start=1468)

A
TAATGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
ACAAAGGAAG

PK4: -24.115000(kcal/mol): PK_start=1483 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1520
(fs_start=1468)

TCCTACA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGAA
TTCTTCA
GAACT

=====
(2422) JF320412
=====

PK1: -10.975000(kcal/mol): PK_start=1473 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=1500
(fs_start=1493)

AA
GAAAGGAAGGACACCAAATGAAAAATTGT
GACA GAGAGT
TTTTTAGG
GCTAAT

PK2: -18.180000(kcal/mol): PK_start=1479 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1514
(fs_start=1493)

C
AAGGACACCAAATGAAAAATTGTAATGAGAGA
ATTTTTT A ATCGGA
TGGCCTTC
GGGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1501 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1535
(fs_start=1493)

A
TAATGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAAGGAAG

PK4: -24.115000(kcal/mol): PK_start=1508 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1545
(fs_start=1493)

TCCCACA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGAA

```

                                TTCTTCA
                                GAACT

=====
(2423) JF320413
=====
PK1:  -10.975000(kcal/mol): PK_start=1518 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=1545
(fs_start=1538)
                                AA
GAAAGGAAGGACACCAAATGAAAGATTGT
                                GACA    GAGAGT
                                TTTT TAGG
                                GCTAAT

PK2:  -18.180000(kcal/mol): PK_start=1524 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1559
(fs_start=1538)
                                C
AAGGACACCAAATGAAAGATTGTAATGAGAGA
                                ATTTTT A  ATCGGA
                                TGGCCTTC
                                GGAAGATC

PK3:  -25.060000(kcal/mol): PK_start=1546 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1580
(fs_start=1538)
                                A
TAATGAGAGACAGGCTAATTTTTTAGGGAAG
                                TCCTTC    CGGTCT
                                GCCAGGGA
                                ACAAAGGAAG

PK4:  -24.115000(kcal/mol): PK_start=1553 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1590
(fs_start=1538)
                                TCCTACA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
                                GGACCGGA    AGGAA
                                TTCTTCA
                                GAACT

=====
(2424) JF320414
=====
PK1:  -10.975000(kcal/mol): PK_start=1520 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=1547
(fs_start=1540)
                                AA
GAAAGGAAGGACACCAAATGAAAGATTGT
                                GACA    GAGAGT
                                TTTT TAGG
                                GCTAAT

PK2:  -18.180000(kcal/mol): PK_start=1526 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1561
(fs_start=1540)
                                C
AAGGACACCAAATGAAAGATTGTAATGAGAGA

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          ATTTTTT A ATCGGA
                    TGGCCTTC
GGGAAGATC

PK3:  -25.060000(kcal/mol): PK_start=1548 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1582
(fs_start=1540)
          A
TAATGAGAGACAGGCTAATTTTTTTAGGGAAG
          TCCTTC   CGGTCT
                    GCCAGGGA
          ACAAAGGAAG

PK4:  -24.115000(kcal/mol): PK_start=1555 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1592
(fs_start=1540)
                    TCCTACA
AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCT
          GGACCGGA   AGGAA
                    TTCTTCA
          GAACT

=====
(2425) JF320415
=====
PK1:  -10.975000(kcal/mol): PK_start=1486 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=1513
(fs_start=1506)
          AA
GAAAGGAAGGACACCAAATGAAAGATTGT
          GACA   GAGAGT
                    TTTTTAGG
          GCTAAT

PK2:  -18.180000(kcal/mol): PK_start=1492 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1527
(fs_start=1506)
          C
AAGGACACCAAATGAAAGATTGTAATGAGAGA
          ATTTTTT A ATCGGA
                    TGGCCTTC
          GGGAAGATC

PK3:  -25.060000(kcal/mol): PK_start=1514 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1548
(fs_start=1506)
          A
TAATGAGAGACAGGCTAATTTTTTTAGGGAAG
          TCCTTC   CGGTCT
                    GCCAGGGA
          ACAAAGGAAG

PK4:  -24.115000(kcal/mol): PK_start=1521 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1558
(fs_start=1506)
                    TCCTACA
AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCT

```

```

                GGACCGGA    AGGAA
                                TTCTTCA
        GAACT

=====
(2426) JF320416
=====
PK1:  -10.975000(kcal/mol): PK_start=1473 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=1500
(fs_start=1493)
                AA
GAAAGGAAGGACACCAAATGAAAGATTGT

                GACA    GAGAGT
                                TTTTTAGG
        GCTAAT

PK2:  -18.180000(kcal/mol): PK_start=1479 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1514
(fs_start=1493)
                C
AAGGACACCAAATGAAAGATTGTAATGAGAGA

                ATTTTTT  A  ATCGGA
                                TGGCCTTC
        GGAAGATC

PK3:  -26.110000(kcal/mol): PK_start=1501 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1535
(fs_start=1493)
                A
TAATGAGAGACAGGCTAATTTTTTAGGGAAG

                CCCTTC    CGGTCT
                                GCCAGGGA
        ACAAAGGAAG

PK4:  -24.115000(kcal/mol): PK_start=1508 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1545
(fs_start=1493)
                TCCCACA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT

                GGACCGGA    AGGAA
                                TTCTTCA
        GAACT

=====
(2427) JF320417
=====
PK1:  -10.975000(kcal/mol): PK_start=1435 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=1462
(fs_start=1455)
                AA
GAAAGGAAGGACACCAAATGAAAGATTGT

                GACA    GAGAGT
                                TTTTTAGG
        GCTAAT

```

PK2: -18.180000(kcal/mol): PK_start=1441 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1476
(fs_start=1455)

C
AAGGACACCAAATGAAAGATTGTAATGAGAGA
 ATTTTTT A ATCGGA
 TGGCCTTC
 GGGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1463 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1497
(fs_start=1455)

A
TAATGAGAGACAGGCTAATTTTTTTAGGGAAG
 TCCTTC CGGTCT
 GCCAGGGA
 ACAAAGGAAG

PK4: -24.115000(kcal/mol): PK_start=1470 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1507
(fs_start=1455)

 TCCTACA
AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCT
 GGACCGGA AGGAA
 TTCTTCA
 GAACT

=====
(2428) JF320419
=====

PK1: -10.975000(kcal/mol): PK_start=1487 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=1514
(fs_start=1507)

AA
GAAAGGAAGGACACCAAATGAAAGATTGT
 GACA GAGAGT
 TTTTTAGG
 GCTAAT

PK2: -18.180000(kcal/mol): PK_start=1493 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1528
(fs_start=1507)

C
AAGGACACCAAATGAAAGATTGTAATGAGAGA
 ATTTTTT A ATCGGA
 TGGCCTTC
 GGGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1515 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1549
(fs_start=1507)

A
TAATGAGAGACAGGCTAATTTTTTTAGGGAAG
 TCCTTC CGGTCT
 GCCAGGGA
 ACAAAGGAAG

PK4: -24.115000(kcal/mol): PK_start=1522 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1559
(fs_start=1507)

```
TCCTACA
AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGAA
TTCTTCA
GAACT
```

=====
(2429) JF320420
=====

PK1: -10.975000(kcal/mol): PK_start=1519 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=1546
(fs_start=1539)

```
AA
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGT
TTTTTAGG
GCTAAT
```

PK2: -18.180000(kcal/mol): PK_start=1525 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1560
(fs_start=1539)

```
C
AAGGACACCAAATGAAAGATTGTAATGAGAGA
ATTTTTT A ATCGGA
TGGCCTTC
GGGAAGATC
```

PK3: -25.060000(kcal/mol): PK_start=1547 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1581
(fs_start=1539)

```
A
TAATGAGAGACAGGCTAATTTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
ACAAAGGAAG
```

PK4: -24.115000(kcal/mol): PK_start=1554 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1591
(fs_start=1539)

```
TCCTACA
AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGAA
TTCTTCA
GAACT
```

=====
(2430) JF320422
=====

PK1: -13.595000(kcal/mol): PK_start=1489 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1517
(fs_start=1509)

```
A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
```

TTTTTAGGG
GCTAAT
PK2: -20.50000(kcal/mol): PK_start=1494 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1530
(fs_start=1509)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1517 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1551
(fs_start=1509)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGAA
ACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=1524 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1561
(fs_start=1509)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
AAATTT

PK4B: -30.395000(kcal/mol): PK_start=1524 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1587
(fs_start=1509)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTTCTTCAGAACAGACCAGGCCATCAG

=====
(2431) JF320423
=====

PK1: -13.595000(kcal/mol): PK_start=1489 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1517
(fs_start=1509)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1494 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1530
(fs_start=1509)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA

TGGCCTTC

GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1517 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1551
(fs_start=1509)

AAA

TACTGAAAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT

AGGCCAGGAA

ACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=1524 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1561
(fs_start=1509)

CCAC

AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAGG GGAA

TCTTCA

AAATTT

PK4B: -30.395000(kcal/mol): PK_start=1524 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1587
(fs_start=1509)

TCCCACAA

AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT

GGACCGGA GGGG

CCCCAC

AAATTTTCTTCAGAACAGACCAGGCCATCAG

=====
(2432) JF320424
=====

PK1: -13.595000(kcal/mol): PK_start=1491 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1519
(fs_start=1511)

A

GAAAGGAAGGACACCAAATGAAAGATTGT

GACA GAAAGTC

TTTTTAGGG

GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1496 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1532
(fs_start=1511)

C

GAAGGACACCAAATGAAAGATTGTACTGAAAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1519 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1553
(fs_start=1511)

AAA

TACTGAAAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT

```

                                AGGCCAGGAA
ACAAGGGG
PK4:  -26.235000(kcal/mol): PK_start=1526 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1563
(fs_start=1511)
                                CCAC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAGG    GGAA
                                TCTTCA
AAATTT
PK4B:  -30.395000(kcal/mol): PK_start=1526 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1589
(fs_start=1511)
                                TCCCACAA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT
                                GGACCGGA    GGGG
                                CCCCAC
AAATTTTCTTCAGAACAGACCAGAGCCATCAG

=====
(2433) JF320425
=====
PK1:  -13.595000(kcal/mol): PK_start=1489 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1517
(fs_start=1509)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                                GACA    GAAAGTC
                                TTTTTAGGG
GCTAAT
PK2:  -20.500000(kcal/mol): PK_start=1494 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1530
(fs_start=1509)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
                                GATTTTTT    A    ATCGGA
                                TGGCCTTC
GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1517 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1551
(fs_start=1509)
                                AAA
TACTGAAAGACAGGCTAATTTTTTTAGGGA
                                CCCT    TCCGGTCT
                                AGGCCAGGAA
ACAAGGGG
PK4:  -26.235000(kcal/mol): PK_start=1524 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1561
(fs_start=1509)
                                CCAC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAGG    GGAA

```

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                                TCTTCA
AAATTT
PK4B: -30.395000(kcal/mol): PK_start=1524 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1587
(fs_start=1509)
                                TCCCACAA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT
                                GGACCGGA    GGGG
                                CCCCAC
AAATTTTCTTCAGAACAGACCAGAGCCATCAG

=====
(2434) JF320426
=====
PK1: -13.595000(kcal/mol): PK_start=1489 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1517
(fs_start=1509)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                                GACA    GAAAGTC
                                TTTTtaggg
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1494 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1530
(fs_start=1509)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
                                GATTTTTT  A  ATCGGA
                                TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1517 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1551
(fs_start=1509)
                                AAA
TACTGAAAGACAGGCTAATTTTTTTAGGGA
                                CCCT    TCCGGTCT
                                AGGCCAGGAA
ACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=1524 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1561
(fs_start=1509)
                                CCAC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAGG    GGAA
                                TCTTCA
AAATTT

PK4B: -30.395000(kcal/mol): PK_start=1524 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1587
(fs_start=1509)
                                TCCCACAA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT
                                GGACCGGA    GGGG

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CCCCAC
AAATTTTCTTCAGAACAGACCAGAGCCATCAG

=====
(2435) JF320427
=====

PK1: -13.555000(kcal/mol): PK_start=1488 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1516
(fs_start=1508)

A
GAAAGGAAGGACATCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1493 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1529
(fs_start=1508)

C
GAAGGACATCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1516 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1550
(fs_start=1508)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1523 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1560
(fs_start=1508)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

PK4B: -28.775000(kcal/mol): PK_start=1523 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1586
(fs_start=1508)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA AGGG
TCCCACAA
GAATTTTCTTCAGAACAGACCAGAGCCAACAG

=====
(2436) JF320428
=====

PK1: -13.555000(kcal/mol): PK_start=1488 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1516
(fs_start=1508)

A
GAAAGGAAGGACATCAAATGAAAGATTGT

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                GACA    GAGAGTC
                TTTT TAGGG
    GCTAAT
PK2:  -20.46000(kcal/mol): PK_start=1493 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1529
(fs_start=1508)
                C
    GAAGGACATCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT  A  ATCGGA
                TGGCCTTC
    GGAAAATC
PK3:  -27.27500(kcal/mol): PK_start=1516 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1550
(fs_start=1508)
                AAA
    TACTGAGAGACAGGCTAATTTTTTAGGGA
                CCCT    TCCGGTCT
                AGGCCAGGGA
    ACAAGGGA
PK4:  -26.71500(kcal/mol): PK_start=1523 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1560
(fs_start=1508)
                CCAC
    AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                GGACCGAAG    GGAA
                TCTTCA
    GAATTT
PK4B:  -28.77500(kcal/mol): PK_start=1523 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1586
(fs_start=1508)
                TCCCACAA
    AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                GGACCGGA    AGGG
                TCCCACAA
    GAATTTTCTTCAGAACAGACCAGCCAACAG

=====
(2437) JF320429
=====
PK1:  -13.55500(kcal/mol): PK_start=1488 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1516
(fs_start=1508)
                A
    GAAAGGAAGGACATCAAATGAAAGATTGT
                GACA    GAGAGTC
                TTTT TAGGG
    GCTAAT
PK2:  -20.46000(kcal/mol): PK_start=1493 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1529
(fs_start=1508)
                C
    GAAGGACATCAAATGAAAGATTGTACTGAGAGA

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          GATTTTTT A ATCGGA
                    TGGCCTTC
    GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1516 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1550
(fs_start=1508)
          AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
          CCCT   TCCGGTCT
                    AGGCCAGGGA
    ACAAGGGA
PK4:  -26.715000(kcal/mol): PK_start=1523 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1560
(fs_start=1508)
                    CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
          GGACCGGAAG   GGAA
                    TCTTCA
    GAATTT
PK4B: -28.775000(kcal/mol): PK_start=1523 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1586
(fs_start=1508)
                    TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
          GGACCGGA   AGGG
                    TCCCACAA
    GAATTTTCTTCAGAACAGACCAGAGCCAACAG
=====
(2438) JF320430
=====
PK1:  -13.555000(kcal/mol): PK_start=1488 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1516
(fs_start=1508)
          A
GAAAGGAAGGACATCAAATGAAAGATTGT
          GACA   GAGAGTC
                    TTTTTTAGGG
    GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1493 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1529
(fs_start=1508)
          C
GAAGGACATCAAATGAAAGATTGTACTGAGAGA
          GATTTTTT A ATCGGA
                    TGGCCTTC
    GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1516 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1550
(fs_start=1508)
          AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA

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          CCCT   TCCGGTCT
                AGGCCAGGGA
ACAAGGGA

PK4:  -26.715000(kcal/mol): PK_start=1523 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1560
(fs_start=1508)
                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                GGACCGGAAG   GGAA
                                TCTTCA
                GAATTT

PK4B:  -28.775000(kcal/mol): PK_start=1523 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1586
(fs_start=1508)
                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                GGACCGGA   AGGG
                                TCCCAA
                GAATTTTCTTCAGAACAGACCAGAGCCAACAG

=====
(2439) JF320431
=====
PK1:  -13.555000(kcal/mol): PK_start=1488 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1516
(fs_start=1508)
                A
GAAAGGAAGGACATCAAATGAAAGATTGT
                GACA   GAGAGTC
                                TTTTTAGGG
                GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1493 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1529
(fs_start=1508)
                C
GAAGGACATCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT   A   ATCGGA
                                TGGCCTTC
                GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1516 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1550
(fs_start=1508)
                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTCT
                                AGGCCAGGGA
                ACAAGGGA

PK4:  -26.715000(kcal/mol): PK_start=1523 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1560
(fs_start=1508)
                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

```

GGACCGGAAG GGAA
TCTTCA
GAATTT

PK4B: -28.775000(kcal/mol): PK_start=1523 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1586
(fs_start=1508)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT

GGACCGGA AGGG
TCCCAA
GAATTTTCTTCAGAACAGACCAGAGCCAACAG

=====
(2440) JF320460
=====

PK1: -13.065000(kcal/mol): PK_start=1261 sp=0 s1=3 s2=8 l1=5 l2=19 L3=0 PK_end=1306
(fs_start=1299)

CCAAA
GCTGTTGGAAATGTGGGAGAGAAGGACA

TGT TAGAAAGT
ATTTTTTAGG
AATAATGAGAGACAGGCTA

PK2: -18.180000(kcal/mol): PK_start=1285 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1320
(fs_start=1299)

C
GACACCAAATGAAAGATTGTAATAATGAGAGA

ATTTTTT A ATCGGA
TGGCCTTC
GGGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1307 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1341
(fs_start=1299)

A
TAATGAGAGACAGGCTAATTTTTTAGGGAAG

TCCTTC CGGTCT
GCCAGGGA
CCAAGGGAAG

PK4: -29.020000(kcal/mol): PK_start=1314 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1351
(fs_start=1299)

CTCC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC

GGACCGGAAG GGAA
CCTTCA
GAATTT

PK4B: -26.530000(kcal/mol): PK_start=1314 sp=7 s1=8 s2=4 l1=1 l2=40 L3=7 PK_end=1378
(fs_start=1299)

T
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT

GGACCGGA AGGGAAC CTCC
GAGGAG
GAATTTCTTCAGAGCAGACCAGAGCCAACAGCCCCACCA

=====
(2441) JF320461
=====

PK1: -13.065000(kcal/mol): PK_start=1261 sp=0 s1=3 s2=8 l1=5 l2=19 L3=0 PK_end=1306
(fs_start=1299)

CCAAA
GCTGTTGGAAATGTGGGAGAGAAGGACA

TGT TAGAAAGT

ATTTTTTAGG
AATAATGAGAGACAGGCTA

PK2: -18.180000(kcal/mol): PK_start=1285 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1320
(fs_start=1299)

C
GACACCAAATGAAAGATTGTAATAATGAGAGA

ATTTTTT A ATCGGA

TGGCCTTC
GGGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1307 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1341
(fs_start=1299)

A
TAATGAGAGACAGGCTAATTTTTTAGGGAAG

TCCTTC CGGTCT

GCCAGGGA
CCAAGGGAAG

PK4: -29.020000(kcal/mol): PK_start=1314 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1351
(fs_start=1299)

CTCC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC

GGACCGGAAG GGAA

CCTTCA
GAATTT

PK4B: -26.530000(kcal/mol): PK_start=1314 sp=7 s1=8 s2=4 l1=1 l2=40 L3=7 PK_end=1378
(fs_start=1299)

T
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT

GGACCGGA AGGGAAC CTCC

GAGGAG
GAATTTCTTCAGAGCAGACCAGAGCCAACAGCCCCACCA

=====
(2442) JF320462
=====

PK1: -13.065000(kcal/mol): PK_start=1261 sp=0 s1=3 s2=8 l1=5 l2=19 L3=0 PK_end=1306 (fs_start=1299)

CCAAA
GCTGTTGGAAATGTGGGAGAGAAGGACA
TGT TAGAAAGT
ATTTTTTAGG
AATAATGAGAGACAGGCTA

PK2: -18.180000(kcal/mol): PK_start=1285 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1320 (fs_start=1299)

C
GACACCAAATGAAAGATTGTAATAATGAGAGA
ATTTTTT A ATCGGA
TGGCCTTC
GGGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1307 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1341 (fs_start=1299)

A
TAATGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
CCAAGGGAAG

PK4: -29.020000(kcal/mol): PK_start=1314 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1351 (fs_start=1299)

CTCC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

PK4B: -26.530000(kcal/mol): PK_start=1314 sp=7 s1=8 s2=4 l1=1 l2=40 L3=7 PK_end=1378 (fs_start=1299)

T
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGGAAC CTCC
GAGGAG
GAATTTCTTCAGAGCAGACCAGAGCCAACAGCCCCACCA

=====
(2443) JF320463
=====

PK1: -13.065000(kcal/mol): PK_start=1261 sp=0 s1=3 s2=8 l1=5 l2=19 L3=0 PK_end=1306 (fs_start=1299)

CCAAA
GCTGTTGGAAATGTGGGAGAGAAGGACA
TGT TAGAAAGT
ATTTTTTAGG
AATAATGAGAGACAGGCTA

PK2: -18.180000(kcal/mol): PK_start=1285 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1320
(fs_start=1299)

C
GACACCAAATGAAAGATTGTAATAATGAGAGA
ATTTTTT A ATCGGA
TGGCCTTC
GGGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1307 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1341
(fs_start=1299)

A
TAATGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
CCAAGGGAAG

PK4: -29.020000(kcal/mol): PK_start=1314 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1351
(fs_start=1299)

CTCC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

PK4B: -26.530000(kcal/mol): PK_start=1314 sp=7 s1=8 s2=4 l1=1 l2=40 L3=7 PK_end=1378
(fs_start=1299)

T
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGGAAC CTCC
GAGGAG
GAATTTCTTCAGAGCAGACCAGAGCCAACAGCCCCACCA

=====
(2444) JF320464
=====

PK1: -13.065000(kcal/mol): PK_start=1261 sp=0 s1=3 s2=8 l1=5 l2=19 L3=0 PK_end=1306
(fs_start=1299)

CCAAA
GCTGTTGAAATGTGGGAGAGAAGGACA
TGT TAGAAAGT
ATTTTTTAGG
AATAATGAGAGACAGGCTA

PK2: -18.180000(kcal/mol): PK_start=1285 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1320
(fs_start=1299)

C
GACACCAAATGAAAGATTGTAATAATGAGAGA
ATTTTTT A ATCGGA
TGGCCTTC
GGGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1307 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1341 (fs_start=1299)

A
TAATGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
CCAAGGGAAG

PK4: -29.020000(kcal/mol): PK_start=1314 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1351 (fs_start=1299)

CTCC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

PK4B: -26.530000(kcal/mol): PK_start=1314 sp=7 s1=8 s2=4 l1=1 l2=40 l3=7 PK_end=1378 (fs_start=1299)

T
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGGAAC CTCC
GAGGAG
GAATTTCTTCAGAGCAGACCAGAGCCAACAGCCCCACCA

=====
(2445) JF320465
=====

PK1: -13.065000(kcal/mol): PK_start=1261 sp=0 s1=3 s2=8 l1=5 l2=19 l3=0 PK_end=1306 (fs_start=1299)

CCAAA
GCTGTTGAAATGTGGGAGAGAAGGACA
TGT TAGAAAGT
ATTTTTTAGG
AATAATGAGAGACAGGCTA

PK2: -18.180000(kcal/mol): PK_start=1285 sp=0 s1=7 s2=6 l1=1 l2=9 l3=1 PK_end=1320 (fs_start=1299)

C
GACACCAAATGAAAGATTGTAATAATGAGAGA
ATTTTTT A ATCGGA
TGGCCTTC
GGGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1307 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1341 (fs_start=1299)

A
TAATGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
CCAAGGGAAG

PK4: -29.02000(kcal/mol): PK_start=1314 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1351
(fs_start=1299)

CTCC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

PK4B: -26.53000(kcal/mol): PK_start=1314 sp=7 s1=8 s2=4 l1=1 l2=40 L3=7 PK_end=1378
(fs_start=1299)

T
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGGAAC CTCC
GAGGAG
GAATTTCTTCAGAACAGACCAGAGCCAACAGCCCCACCA

=====
(2446) JF320466
=====

PK1: -13.065000(kcal/mol): PK_start=1261 sp=0 s1=3 s2=8 l1=5 l2=19 L3=0 PK_end=1306
(fs_start=1299)

CCAAA
GCTGTTGGAAATGTGGGAGAGAAGGACA
TGT TAGAAAGT
ATTTTTTAGG
AATAATGAGAGACAGGCTA

PK2: -18.180000(kcal/mol): PK_start=1285 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1320
(fs_start=1299)

C
GACACCAAATGAAAGATTGTAATAATGAGAGA
ATTTTTT A ATCGGA
TGGCCTTC
GGGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1307 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1341
(fs_start=1299)

A
TAATGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
CCAAGGGAAG

PK4: -29.020000(kcal/mol): PK_start=1314 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1351
(fs_start=1299)

CTCC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

PK4B: -26.530000(kcal/mol): PK_start=1314 sp=7 s1=8 s2=4 l1=1 l2=40 L3=7 PK_end=1378
(fs_start=1299)

T
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGGAAC CTCC
GAGGAG
GAATTTCTTCAGAGCAGACCAGAGCCAACAGCCCCACCA

=====
(2447) JF320467
=====

PK1: -13.065000(kcal/mol): PK_start=1261 sp=0 s1=3 s2=8 l1=5 l2=19 L3=0 PK_end=1306
(fs_start=1299)

CCAAA
GCTGTTGGAAATGTGGGAGAGAAGGACA
TGT TAGAAAGT
ATTTTTTAGG
AATAATGAGAGACAGGCTA

PK2: -18.180000(kcal/mol): PK_start=1285 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1320
(fs_start=1299)

C
GACACCAAATGAAAGATTGTAATAATGAGAGA
ATTTTTT A ATCGGA
TGGCCTTC
GGGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1307 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1341
(fs_start=1299)

A
TAATGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
CCAAGGGAAG

PK4: -29.020000(kcal/mol): PK_start=1314 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1351
(fs_start=1299)

CTCC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

PK4B: -26.530000(kcal/mol): PK_start=1314 sp=7 s1=8 s2=4 l1=1 l2=40 L3=7 PK_end=1378
(fs_start=1299)

T
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGGAAC CTCC
GAGGAG
GAATTTCTTCAGAGCAGACCAGAGCCAACAGCCCCACCA

=====

(2448) JF320468

=====

PK1: -13.065000(kcal/mol): PK_start=1261 sp=0 s1=3 s2=8 l1=5 l2=19 l3=0 PK_end=1306
(fs_start=1299)

CCAAA

GCTGTTGGAAATGTGGGAGAGAAGGACA

TGT TAGAAAGT

ATTTTTTAGG

AATAATGAGAGACAGGCTA

PK2: -18.180000(kcal/mol): PK_start=1285 sp=0 s1=7 s2=6 l1=1 l2=9 l3=1 PK_end=1320
(fs_start=1299)

C

GACACCAAATGAAAGATTGTAATAATGAGAGA

ATTTTTT A ATCGGA

TGGCCTTC

GGGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1307 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1341
(fs_start=1299)

A

TAATGAGAGACAGGCTAATTTTTTAGGGAAG

TCCTTC CGGTCT

GCCAGGGA

CCAAGGGAAG

PK4: -29.020000(kcal/mol): PK_start=1314 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1351
(fs_start=1299)

CTCC

AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC

GGACCGGAAG GGAA

CCTTCA

GAATTT

PK4B: -26.530000(kcal/mol): PK_start=1314 sp=7 s1=8 s2=4 l1=1 l2=40 l3=7 PK_end=1378
(fs_start=1299)

T

AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT

GGACCGGA AGGGAAC CTCC

GAGGAG

GAATTTCTTCAGAGCAGACCAGAGCCAACAGCCCCACCA

=====

(2449) JF320469

=====

PK1: -13.065000(kcal/mol): PK_start=1261 sp=0 s1=3 s2=8 l1=5 l2=19 l3=0 PK_end=1306
(fs_start=1299)

CCAAA

GCTGTTGGAAATGTGGGAGAGAAGGACA

TGT TAGAAAGT

ATTTTTTAGG
AATAATGAGAGACAGGCTA

PK2: -18.180000(kcal/mol): PK_start=1285 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1320
(fs_start=1299)

C
GACACCAAATGAAAGATTGTAATAATGAGAGA
ATTTTTT A ATCGGA
TGGCCTTC
GGGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1307 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1341
(fs_start=1299)

A
TAATGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
CCAAGGGAAG

PK4: -29.020000(kcal/mol): PK_start=1314 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1351
(fs_start=1299)

CTCC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

PK4B: -26.530000(kcal/mol): PK_start=1314 sp=7 s1=8 s2=4 l1=1 l2=40 L3=7 PK_end=1378
(fs_start=1299)

T
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGGAAC CTCC
GAGGAG
GAATTTCTTCAGAGCAGACCAGAGCCAACAGCCCCACCA

=====
(2450) JF320470
=====

PK1: -13.065000(kcal/mol): PK_start=1261 sp=0 s1=3 s2=8 l1=5 l2=19 L3=0 PK_end=1306
(fs_start=1299)

CCAAA
GCTGTTGAAATGTGGGAGAGAAGGACA
TGT TAGAAAGT
ATTTTTTAGG
AATAATGAGAGACAGGCTA

PK2: -18.180000(kcal/mol): PK_start=1285 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1320
(fs_start=1299)

C
GACACCAAATGAAAGATTGTAATAATGAGAGA
ATTTTTT A ATCGGA

TGGCCTTC
GGGAAGATC
PK3: -25.060000(kcal/mol): PK_start=1307 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1341
(fs_start=1299)

A
TAATGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
CCAAGGGAAG

PK4: -29.020000(kcal/mol): PK_start=1314 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1351
(fs_start=1299)

CTCC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

PK4B: -26.530000(kcal/mol): PK_start=1314 sp=7 s1=8 s2=4 l1=1 l2=40 l3=7 PK_end=1378
(fs_start=1299)

T
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGGAAC CTCC
GAGGAG
GAATTTCTTCAGAGCAGACCAGAGCCAACAGCCCCACCA

=====
(2451) JF320477
=====

PK1: -10.425000(kcal/mol): PK_start=1276 sp=0 s1=4 s2=6 l1=2 l2=5 l3=0 PK_end=1302
(fs_start=1296)

AC
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGA
TTTTTTAG
GCTAA

PK2: -17.180000(kcal/mol): PK_start=1283 sp=0 s1=6 s2=6 l1=1 l2=10 l3=1 PK_end=1317
(fs_start=1296)

C
AGGACACCAAATGAAAGATTGTACAGAGAGA
TTTTTT A ATCGGA
TGGCCTTC
AGGGAAGATC

PK3: -25.440000(kcal/mol): PK_start=1304 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1338
(fs_start=1296)

A
TACAGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT

GCCGGGGA

ACAAGGGAAG

PK4: -26.045000(kcal/mol): PK_start=1311 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1348
(fs_start=1296)

CCAC

AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCTTC

GGGCCGGAAG GGAA

TCTTCA

GAATTT

=====
(2452) JF320478
=====

PK1: -10.425000(kcal/mol): PK_start=1276 sp=0 s1=4 s2=6 l1=2 l2=5 L3=0 PK_end=1302
(fs_start=1296)

AC

GAAAGGAAGGACACCAAATGAAAGATTGT

GACA GAGAGA

TTTTTTAG

GCTAA

PK2: -17.180000(kcal/mol): PK_start=1283 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=1317
(fs_start=1296)

C

AGGACACCAAATGAAAGATTGTACAGAGAGA

TTTTTT A ATCGGA

TGGCCTTC

AGGGAAGATC

PK3: -25.440000(kcal/mol): PK_start=1304 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1338
(fs_start=1296)

A

TACAGAGAGACAGGCTAATTTTTTTAGGGAAG

CCCTTC CGGTCT

GCCGGGGA

ACAAGGGAAG

PK4: -26.045000(kcal/mol): PK_start=1311 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1348
(fs_start=1296)

CCAC

AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCTTC

GGGCCGGAAG GGAA

TCTTCA

GAATTT

=====
(2453) JF320482
=====

PK1: -13.595000(kcal/mol): PK_start=1273 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1301
(fs_start=1293)

A

GAAGGGAAGGGCACCAAATGAAAGATTGT

```

                GACA    GAAAGTC
                    TTTT TAGGG
GCTAAT
PK2:  -20.50000(kcal/mol): PK_start=1278 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1314
(fs_start=1293)
                                C
GAAGGGCACCAAATGAAAGATTGTACTGAAAGA
                    GATTTTTT  A  ATCGGA
                                TGGCCTTC
                    GGAAAATC

PK3:  -24.395000(kcal/mol): PK_start=1301 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1335
(fs_start=1293)
                                AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
                    CTCT    TCCGGTCT
                                AGGCCAGGGA
                    AGAGGGGG

PK4:  -30.125000(kcal/mol): PK_start=1308 sp=7 s1=11 s2=4 l1=2 l2=7 L3=0 PK_end=1346
(fs_start=1293)
                                CA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTCT
                    GGACCGGAGGG    GGAG
                                CTCAG
                    GAATTTT

=====
(2454) JF320483
=====
PK1:  -10.425000(kcal/mol): PK_start=1276 sp=0 s1=4 s2=6 l1=2 l2=5 L3=0 PK_end=1302
(fs_start=1296)
                                AC
GAAAGGAAGGACACCAAATGAAAGATTGT
                    GACA    GAGAGA
                                TTTTTTAG
                    GCTAA

PK2:  -17.180000(kcal/mol): PK_start=1283 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=1317
(fs_start=1296)
                                C
AGGACACCAAATGAAAGATTGTACAGAGAGA
                    TTTTTT  A  ATCGGA
                                TGGCCTTC
                    AGGGAAGATC

PK3:  -25.440000(kcal/mol): PK_start=1304 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1338
(fs_start=1296)
                                A
TACAGAGAGACAGGCTAATTTTTTAGGGAAG

```

CCCTTC CCGTCT
GCCGGGGA
ACAAGGGAAG
PK4: -26.045000(kcal/mol): PK_start=1311 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1348
(fs_start=1296)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGCCGGAAG GGAA
TCTTCA
GAATTT

=====
(2455) JF320484
=====

PK1: -13.595000(kcal/mol): PK_start=1273 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1301
(fs_start=1293)

A
GAAGGGAAGGGCACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1278 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1314
(fs_start=1293)

C
GAAGGGCACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -24.395000(kcal/mol): PK_start=1301 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1335
(fs_start=1293)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CTCT TCCGGTCT
AGGCCAGGGA
AGAGGGGG

PK4: -30.125000(kcal/mol): PK_start=1308 sp=7 s1=11 s2=4 l1=2 l2=7 L3=0 PK_end=1346
(fs_start=1293)

CA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTCT
GGACCGGAGGG GGAG
CTTCAG
GAATTTT

=====
(2456) JF320485
=====

PK1: -13.595000(kcal/mol): PK_start=1273 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1301 (fs_start=1293)

A
GAAGGGAAGGGCACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1278 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1314 (fs_start=1293)

C
GAAGGGCACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GAAAAATC

PK3: -24.395000(kcal/mol): PK_start=1301 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1335 (fs_start=1293)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CTCT TCCGGTCT
AGGCCAGGGA
AGAGGGGG

PK4: -30.125000(kcal/mol): PK_start=1308 sp=7 s1=11 s2=4 l1=2 l2=7 L3=0 PK_end=1346 (fs_start=1293)

CA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTCT
GGACCGGAGGG GGAG
CTTCAG
GAATTTTT

=====
(2457) JF320486
=====

PK1: -13.595000(kcal/mol): PK_start=1273 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1301 (fs_start=1293)

A
GAAGGGAAGGGCACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGA
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1278 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1314 (fs_start=1293)

C
GAAGGGCACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GAAAAATC

PK3: -22.965000(kcal/mol): PK_start=1301 sp=0 s1=3 s2=8 l1=4 l2=9 L3=0 PK_end=1335
(fs_start=1293)

AAAA
TACTGAAAGACAGGCTAATTTTTTAGGA
TCT TCCGGTCT
AGGCCAGGGA
CAGAGGGGG

PK4: -30.125000(kcal/mol): PK_start=1308 sp=7 s1=11 s2=4 l1=2 l2=7 L3=0 PK_end=1346
(fs_start=1293)

CA
AGACAGGCTAATTTTTTAGGAAAAATCTGGCCTTCT
GGACCGGAGGG GGAG
CTTCAG
GAATTTT

=====
(2458) JF320487
=====

PK1: -13.595000(kcal/mol): PK_start=1273 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1301
(fs_start=1293)

A
GAAGGGAAGGGCACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1278 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1314
(fs_start=1293)

C
GAAGGGCACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -24.395000(kcal/mol): PK_start=1301 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1335
(fs_start=1293)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CTCT TCCGGTCT
AGGCCAGGGA
AGAGGGGG

PK4: -30.125000(kcal/mol): PK_start=1308 sp=7 s1=11 s2=4 l1=2 l2=7 L3=0 PK_end=1346
(fs_start=1293)

CA
AGACAGGCTAATTTTTTAGGAAAAATCTGGCCTTCT
GGACCGGAGGG GGAG
CTTCAG
GAATTTT

=====
(2459) JF320488
=====

PK1: -13.595000(kcal/mol): PK_start=1273 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1301
(fs_start=1293)

A
GAAGGGAAGGGCACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1278 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1314
(fs_start=1293)

C
GAAGGGCACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -24.395000(kcal/mol): PK_start=1301 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1335
(fs_start=1293)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CTCT TCCGGTCT
AGGCCAGGGA
AGAGGGGG

PK4: -30.125000(kcal/mol): PK_start=1308 sp=7 s1=11 s2=4 l1=2 l2=7 L3=0 PK_end=1346
(fs_start=1293)

CA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTCT
GGACCGGAGGG GGAG
CTTCAG
GAATTTT

=====
(2460) JF320489
=====

PK1: -13.595000(kcal/mol): PK_start=1273 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1301
(fs_start=1293)

A
GAAGGGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1278 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1314
(fs_start=1293)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA

```

                                TGGCCTTC
          GGAAAATC
PK3:  -24.395000(kcal/mol): PK_start=1301 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1335
(fs_start=1293)
                                AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
                                CTCT   TCCGGTCT
                                AGGCCAGGGA
          AGAGGGGG
PK4:  -30.125000(kcal/mol): PK_start=1308 sp=7 s1=11 s2=4 l1=2 l2=7 L3=0 PK_end=1346
(fs_start=1293)
                                CA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTCT
                                GGACCGGAGGG   GGAG
                                CTCAG
          GAATTTT
=====
(2461) JF320490
=====
PK1:  -13.595000(kcal/mol): PK_start=1273 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1301
(fs_start=1293)
                                A
GAAGGGAAGGGCACCAAATGAAAAATTGT
                                GACA   GAAAGTC
                                TTTTTAGGG
          GCTAAT
PK2:  -20.500000(kcal/mol): PK_start=1278 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1314
(fs_start=1293)
                                C
GAAGGGCACCAAATGAAAAATTGTACTGAAAGA
                                GATTTTTT   A   ATCGGA
                                TGGCCTTC
          GGAAAATC
PK3:  -24.395000(kcal/mol): PK_start=1301 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1335
(fs_start=1293)
                                AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
                                CTCT   TCCGGTCT
                                AGGCCAGGGA
          AGAGGGGG
PK4:  -30.125000(kcal/mol): PK_start=1308 sp=7 s1=11 s2=4 l1=2 l2=7 L3=0 PK_end=1346
(fs_start=1293)
                                CA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTCT
                                GGACCGGAGGG   GGAG

```


CTTCAG

GAATTTT

=====
(2462) JF320491
=====

PK1: -13.595000(kcal/mol): PK_start=1273 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1301
(fs_start=1293)

A

GAAGGGAAGGGCACCAAATGAAAGATTGT

GACA GAAAGTC

TTTTTAGGG

GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1278 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1314
(fs_start=1293)

C

GAAGGGCACCAAATGAAAGATTGTACTGAAAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAAATC

PK3: -24.395000(kcal/mol): PK_start=1301 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1335
(fs_start=1293)

AAA

TACTGAAAGACAGGCTAATTTTTTAGGGA

CTCT TCCGGTCT

AGGCCAGGGA

AGAGGGGG

PK4: -30.125000(kcal/mol): PK_start=1308 sp=7 s1=11 s2=4 l1=2 l2=7 L3=0 PK_end=1346
(fs_start=1293)

CA

AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTCT

GGACCGGAGGG GGAG

CTTCAG

GAATTTT

=====
(2463) JF320492
=====

PK1: -13.595000(kcal/mol): PK_start=1273 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1301
(fs_start=1293)

A

GAAGGGAAGGGCACCAAATGAAAGATTGT

GACA GAAAGTC

TTTTTAGGG

GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1278 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1314
(fs_start=1293)

C

GAAGGGCACCAAATGAAAGATTGTACTGAAAGA

GATTTTTT A ATCGGA
 TGGCCTTC
 GGAAAATC
 PK3: -24.395000(kcal/mol): PK_start=1301 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1335
 (fs_start=1293)
 AAA
 TACTGAAAGACAGGCTAATTTTTTAGGGA
 CTCT TCCGGTCT
 AGGCCAGGGA
 AGAGGGGG
 PK4: -30.125000(kcal/mol): PK_start=1308 sp=7 s1=11 s2=4 l1=2 l2=7 L3=0 PK_end=1346
 (fs_start=1293)
 CA
 AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTCT
 GGACCGGAGGG GGAG
 CTCAG
 GAATTTT
 =====
 (2464) JF320515
 =====
 PK1: -13.555000(kcal/mol): PK_start=1276 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1304
 (fs_start=1296)
 A
 GAAAGGAAGGACACCAAATGAAAGATTGT
 GACA GAGAGTC
 TTTTTAGGG
 GCTAAT
 PK2: -20.460000(kcal/mol): PK_start=1281 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1317
 (fs_start=1296)
 C
 GAAGGACACCAAATGAAAGATTGTACTGAGAGA
 GATTTTTT A ATCGGA
 TGGCCTTC
 GGAAAATC
 PK3: -27.275000(kcal/mol): PK_start=1304 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1338
 (fs_start=1296)
 AAA
 TACTGAGAGACAGGCTAATTTTTTAGGGA
 CCCT TCCGGTCT
 AGGCCAGGGA
 ACAAGGGA
 PK4: -26.715000(kcal/mol): PK_start=1311 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1348
 (fs_start=1296)
 CCAC
 AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

```

                GGACCGGAAG    GGAA
                                TCTTCA
          GAATTT

=====
(2465) JF320516
=====
PK1:  -13.555000(kcal/mol): PK_start=1276 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1304
(fs_start=1296)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT

                GACA    GAGAGTC
                                TTTTTAGGG
          GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1281 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1317
(fs_start=1296)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA

                GATTTTTT  A  ATCGGA
                                TGGCCTTC
          GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1304 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1338
(fs_start=1296)
                                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA

                CCCT    TCCGGTCT
                                AGGCCAGGGA
          ACAAGGGA

PK4:  -26.715000(kcal/mol): PK_start=1311 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1348
(fs_start=1296)
                                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

                GGACCGGAAG    GGAA
                                TCTTCA
          GAATTT

=====
(2466) JF320518
=====
PK1:  -13.555000(kcal/mol): PK_start=1276 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1304
(fs_start=1296)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT

                GACA    GAGAGTC
                                TTTTTAGGG
          GCTAAT

```

PK2: -20.46000(kcal/mol): PK_start=1281 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1317
(fs_start=1296)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.27500(kcal/mol): PK_start=1304 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1338
(fs_start=1296)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.71500(kcal/mol): PK_start=1311 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1348
(fs_start=1296)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2467) JF320519
=====

PK1: -13.55500(kcal/mol): PK_start=1276 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1304
(fs_start=1296)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.46000(kcal/mol): PK_start=1281 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1317
(fs_start=1296)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.27500(kcal/mol): PK_start=1304 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1338
(fs_start=1296)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1311 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1348
(fs_start=1296)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2468) JF320526
=====

PK1: -13.555000(kcal/mol): PK_start=1276 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1304
(fs_start=1296)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -17.820000(kcal/mol): PK_start=1281 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1317
(fs_start=1296)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGTCTTC
GGAAGATC

PK3: -24.335000(kcal/mol): PK_start=1304 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1338
(fs_start=1296)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC TGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -24.075000(kcal/mol): PK_start=1311 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1348
(fs_start=1296)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGTCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2469) JF320529
=====

PK1: -13.555000(kcal/mol): PK_start=1276 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1304
(fs_start=1296)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC

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                TTTT TAGGG
      GCTAAT
PK2:  -17.820000(kcal/mol): PK_start=1281 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1317
(fs_start=1296)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT A  ATCGGA
                TGGTCTTC
      GGAAGATC
PK3:  -24.335000(kcal/mol): PK_start=1304 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1338
(fs_start=1296)
                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                CCCTTC  TGGTCT
                GCCAGGGA
      ACAAGGGAAG
PK4:  -24.075000(kcal/mol): PK_start=1311 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1348
(fs_start=1296)
                CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGTCTTC
                GGACCGGAAG  GGAA
                TCTTCA
      GAATTT

=====
(2470) JF320530
=====
PK1:  -10.425000(kcal/mol): PK_start=1276 sp=0 s1=4 s2=6 l1=2 l2=5 L3=0 PK_end=1302
(fs_start=1296)
                AC
GAAAGGAAGGACACCAAATGAAAGATTGT
                GACA  GAGAGA
                TTTTTTAG
      GCTAA
PK2:  -17.180000(kcal/mol): PK_start=1283 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=1317
(fs_start=1296)
                C
AGGACACCAAATGAAAGATTGTACAGAGAGA
                TTTTTT A  ATCGGA
                TGGCCTTC
      AGGGAAGATC
PK3:  -26.110000(kcal/mol): PK_start=1304 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1338
(fs_start=1296)
                A
TACAGAGAGACAGGCTAATTTTTTAGGGAAG
                CCCTTC  CGGTCT

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                                GCCAGGGA
          ACAAGGGGAG
PK4:  -26.235000(kcal/mol): PK_start=1311 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1348
(fs_start=1296)
                                CCAC
AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCTTC
                                GGACCGGAGG    GGAA
                                TCTTCA
          GAATTT
PK4B:  -30.395000(kcal/mol): PK_start=1311 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1374
(fs_start=1296)
                                TCCCACAA
AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCT
                                GGACCGGA    GGGG
                                CCCCAC
          GAATTTTCTTCAGAGCAGACCAGAGCCAACAG
=====
(2471) JF320531
=====
PK1:  -10.425000(kcal/mol): PK_start=1276 sp=0 s1=4 s2=6 l1=2 l2=5 L3=0 PK_end=1302
(fs_start=1296)
                                AC
GAAAGGAAGGACACCAAATGAAAGATTGT
                                GACA    GAGAGA
                                TTTTTTAG
          GCTAA
PK2:  -17.180000(kcal/mol): PK_start=1283 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=1317
(fs_start=1296)
                                C
AGGACACCAAATGAAAGATTGTACAGAGAGA
                                TTTTTT    A    ATCGGA
                                TGGCCTTC
          AGGGAAGATC
PK3:  -26.110000(kcal/mol): PK_start=1304 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1338
(fs_start=1296)
                                A
TACAGAGAGACAGGCTAATTTTTTTAGGGAAG
                                CCCTTC    CGGTCT
                                GCCAGGGA
          ACAAGGGGAG
PK4:  -26.235000(kcal/mol): PK_start=1311 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1348
(fs_start=1296)
                                CCAC
AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCTTC
                                GGACCGGAGG    GGAA

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TCTTCA

GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1311 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1374
(fs_start=1296)

TCCCACAA

AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCT

GGACCGGA GGGG

CCCCAC

GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====

(2472) JF320532

=====

PK1: -10.425000(kcal/mol): PK_start=1276 sp=0 s1=4 s2=6 l1=2 l2=5 L3=0 PK_end=1302
(fs_start=1296)

AC

GAAAGGAAGGACACCAAATGAAAGATTGT

GACA GAGAGA

TTTTTTAG

GCTAA

PK2: -17.180000(kcal/mol): PK_start=1283 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=1317
(fs_start=1296)

C

AGGACACCAAATGAAAGATTGTACAGAGAGA

TTTTTT A ATCGGA

TGGCCTTC

AGGGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1304 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1338
(fs_start=1296)

A

TACAGAGAGACAGGCTAATTTTTTTAGGGAAG

CCCTTC CGGTCT

GCCAGGGA

ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1311 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1348
(fs_start=1296)

CCAC

AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCTTC

GGACCGGAGG GGAA

TCTTCA

GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1311 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1374
(fs_start=1296)

TCCCACAA

AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCT

GGACCGGA GGGG

CCCCAC
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2473) JF320533
=====

PK1: -10.425000(kcal/mol): PK_start=1276 sp=0 s1=4 s2=6 l1=2 l2=5 L3=0 PK_end=1302
(fs_start=1296)

AC
GAAAGGAAGGACACCAAATGAAAGATTGT

GACA GAGAGA
TTTTTTAG
GCTAA

PK2: -17.180000(kcal/mol): PK_start=1283 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=1317
(fs_start=1296)

C
AGGACACCAAATGAAAGATTGTACAGAGAGA

TTTTTT A ATCGGA
TGGCCTTC
AGGGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1304 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1338
(fs_start=1296)

A
TACAGAGAGACAGGCTAATTTTTTAGGGAAG

CCCTTC CGGTCT
GCCAGGGA
ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1311 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1348
(fs_start=1296)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC

GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1311 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1374
(fs_start=1296)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT

GGACCGGA GGGG
CCCCAC
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2474) JF320534
=====

PK1: -10.425000(kcal/mol): PK_start=1276 sp=0 s1=4 s2=6 l1=2 l2=5 L3=0 PK_end=1302
(fs_start=1296)

AC
GAAAGGAAGGACACCAAATGAAAGATTGT

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          GACA   GAGAGA
                TTTTTTAG
    GCTAA
PK2:  -17.180000(kcal/mol): PK_start=1283 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=1317
(fs_start=1296)
                C
AGGACACCAAATGAAAGATTGTACAGAGAGA
                TTTTTT  A  ATCGGA
                        TGGCCTTC
    AGGGAAGATC
PK3:  -26.110000(kcal/mol): PK_start=1304 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1338
(fs_start=1296)
                A
TACAGAGAGACAGGCTAATTTTTTAGGGAAG
                CCCTTC   CGGTCT
                        GCCAGGGA
    ACAAGGGGAG
PK4:  -26.235000(kcal/mol): PK_start=1311 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1348
(fs_start=1296)
                CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
                GGACCGGAGG   GGAA
                        TCTTCA
    GAATTT
PK4B:  -30.395000(kcal/mol): PK_start=1311 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1374
(fs_start=1296)
                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
                GGACCGGA   GGGG
                        CCCAC
    GAATTTTCTTCAGAGCAGACCAGAGCCAACAG
=====
(2475) JF320535
=====
PK1:  -10.425000(kcal/mol): PK_start=1276 sp=0 s1=4 s2=6 l1=2 l2=5 L3=0 PK_end=1302
(fs_start=1296)
                AC
GAAAGGAAGGACACCAAATGAAAGATTGT
                GACA   GAGAGA
                        TTTTTTAG
    GCTAA
PK2:  -17.180000(kcal/mol): PK_start=1283 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=1317
(fs_start=1296)
                C
AGGACACCAAATGAAAGATTGTACAGAGAGA

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          TTTTTT A ATCGGA
                    TGGCCTTC
AGGGAAGATC
PK3:  -26.110000(kcal/mol): PK_start=1304 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1338
(fs_start=1296)
          A
TACAGAGAGACAGGCTAATTTTTTAGGGAAG
          CCCTTC   CGGTCT
                    GCCAGGGA
          ACAAGGGGAG
PK4:  -26.235000(kcal/mol): PK_start=1311 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1348
(fs_start=1296)
                    CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
          GGACCGGAGG   GGAA
                    TCTTCA
          GAATTT
PK4B:  -30.395000(kcal/mol): PK_start=1311 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1374
(fs_start=1296)
                    TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
          GGACCGGA   GGGG
                    CCCCAC
          GAATTTTCTTCAGAGCAGACCAGAGCCAACAG
=====
(2476) JF320536
=====
PK1:  -10.425000(kcal/mol): PK_start=1276 sp=0 s1=4 s2=6 l1=2 l2=5 L3=0 PK_end=1302
(fs_start=1296)
          AC
GAAAGGAAGGACACCAAATGAAAGATTGT
          GACA   GAGAGA
                    TTTTTTAG
          GCTAA
PK2:  -17.180000(kcal/mol): PK_start=1283 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=1317
(fs_start=1296)
          C
AGGACACCAAATGAAAGATTGTACAGAGAGA
          TTTTTT A ATCGGA
                    TGGCCTTC
          AGGGAAGATC
PK3:  -26.110000(kcal/mol): PK_start=1304 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1338
(fs_start=1296)
          A
TACAGAGAGACAGGCTAATTTTTTAGGGAAG

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          CCCTTC   CGGTCT
                    GCCAGGGA
          ACAAGGGGAG

PK4:  -26.235000(kcal/mol): PK_start=1311 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1348
(fs_start=1296)
                    CCAC
AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCTTC
                    GGACCGGAGG   GGAA
                    TCTTCA
          GAATTT

PK4B:  -30.395000(kcal/mol): PK_start=1311 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1374
(fs_start=1296)
                    TCCCACAA
AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCT
                    GGACCGGA   GGGG
                    CCCCAC
          GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2477) JF320559
=====
PK1:  -13.595000(kcal/mol): PK_start=1498 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1526
(fs_start=1518)
                    A
GAAAGGAAGGACATCAAATGAAAGATTGT
                    GACA   GAAAGTC
                    TTTTTAGGG
          GCTAAT

PK2:  -20.500000(kcal/mol): PK_start=1503 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1539
(fs_start=1518)
                    C
GAAGGACATCAAATGAAAGATTGTACTGAAAGA
                    GATTTTTT   A   ATCGGA
                    TGGCCTTC
          GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1526 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1560
(fs_start=1518)
                    AAA
TACTGAAAGACAGGCTAATTTTTTTAGGGA
                    CCCT   TCCGGTCT
                    AGGCCAGGGA
          ACAAGGGA

PK4:  -26.445000(kcal/mol): PK_start=1533 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1570
(fs_start=1518)
                    TCCCACA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT

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                GGACCGGA    AGGGA
                    TTCCTCA
        GAATT

=====
(2478) JF320561
=====
PK1:  -13.595000(kcal/mol): PK_start=1455 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1483
(fs_start=1475)
                A
        GAAAGGAAGGACATCAAATGAAAGATTGT

                GACA    GAAAGTC
                    TTTTtaggg
        GCTAAT

PK2:  -20.500000(kcal/mol): PK_start=1460 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1496
(fs_start=1475)
                C
        GAAGGACATCAAATGAAAGATTGTACTGAAAGA

                GATTTTTT  A  ATCGGA
                    TGGCCTTC
        GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1517
(fs_start=1475)
                AAA
        TACTGAAAGACAGGCTAATTTTTTAGGGA

                CCCT    TCCGGTCT
                    AGGCCAGGGA
        ACAAGGGA

PK4:  -26.445000(kcal/mol): PK_start=1490 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1527
(fs_start=1475)
                TCCCACA
        AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT

                GGACCGGA    AGGGA
                    TTCCTCA
        GAATT

=====
(2479) JF320562
=====
PK1:  -13.595000(kcal/mol): PK_start=1486 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1514
(fs_start=1506)
                A
        GAAAGGAAGGACATCAAATGAAAGATTGT

                GACA    GAAAGTC
                    TTTTtaggg
        GCTAAT

```

PK2: -20.50000(kcal/mol): PK_start=1491 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1527
(fs_start=1506)

C
GAAGGACATCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1514 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1548
(fs_start=1506)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.445000(kcal/mol): PK_start=1521 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1558
(fs_start=1506)

TCCCACA
AGACAGGCTAATTTTTTAGGAAAATCTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(2480) JF320563

=====
PK1: -13.595000(kcal/mol): PK_start=1504 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1532
(fs_start=1524)

A
GAAAGGAAGGACATCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1509 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1545
(fs_start=1524)

C
GAAGGACATCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1532 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1566
(fs_start=1524)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.445000(kcal/mol): PK_start=1539 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1576
(fs_start=1524)

TCCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(2481) JF320564
=====

PK1: -13.595000(kcal/mol): PK_start=1517 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1545
(fs_start=1537)

A
GAAGAGAGGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1522 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1558
(fs_start=1537)

C
GAGGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1545 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1579
(fs_start=1537)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=1552 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1589
(fs_start=1537)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1552 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1615
(fs_start=1537)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCTTCAGAGCAGGCCAGCCAACAG

=====
(2482) JF320565
=====

PK1: -13.595000(kcal/mol): PK_start=1517 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1545
(fs_start=1537)

A
GAAGAGAGGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1522 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1558
(fs_start=1537)

C
GAGGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1545 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1579
(fs_start=1537)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=1552 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1589
(fs_start=1537)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1552 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1615
(fs_start=1537)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCTTCAGAGCAGCCAGAGCCAACAG

=====
(2483) JF320566
=====

PK1: -13.595000(kcal/mol): PK_start=1517 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1545
(fs_start=1537)

A
GAAGAGAGGGACACCAAATGAAAGATTGT
GACA GAAAGTC

TTTTTAGGG
GCTAAT
PK2: -20.50000(kcal/mol): PK_start=1522 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1558
(fs_start=1537)

C
GAGGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1545 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1579
(fs_start=1537)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=1552 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1589
(fs_start=1537)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1552 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1615
(fs_start=1537)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCTTCAGAGCAGGCCAGAGCCAACAG

=====
(2484) JF320567
=====

PK1: -13.595000(kcal/mol): PK_start=1517 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1545
(fs_start=1537)

A
GAAGAGAGGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1522 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1558
(fs_start=1537)

C
GAGGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA

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                                TGGCCTTC
          GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1545 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1579
(fs_start=1537)
                                AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTCT
                                AGGCCAGGGA
          ACAAGGGG
PK4:  -26.235000(kcal/mol): PK_start=1552 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1589
(fs_start=1537)
                                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAGG   GGAA
                                TCTTCA
          GAATTT
PK4B:  -30.395000(kcal/mol): PK_start=1552 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1615
(fs_start=1537)
                                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                                GGACCGGA   GGGG
                                CCCCAC
          GAATTTTCTTCAGAGCAGGCCAGAGCCAACAG

=====
(2485) JF320568
=====
PK1:  -13.595000(kcal/mol): PK_start=1517 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1545
(fs_start=1537)
                                A
GAAGAGAGGGACACCAAATGAAAGATTGT
                                GACA   GAAAGTC
                                TTTTTAGGG
          GCTAAT
PK2:  -20.500000(kcal/mol): PK_start=1522 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1558
(fs_start=1537)
                                C
GAGGGACACCAAATGAAAGATTGTACTGAAAGA
                                GATTTTTT   A   ATCGGA
                                TGGCCTTC
          GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1545 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1579
(fs_start=1537)
                                AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTCT

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                                AGGCCAGGGA
ACAAGGGG
PK4:  -26.235000(kcal/mol): PK_start=1552 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1589
(fs_start=1537)
                                CCAC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAGG    GGAA
                                TCTTCA
GAATTT
PK4B:  -30.395000(kcal/mol): PK_start=1552 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1615
(fs_start=1537)
                                TCCCACAA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT
                                GGACCGGA    GGGG
                                CCCCAC
GAATTTTCTTCAGAGCAGGCCAGAGCCAACAG

=====
(2486) JF320577
=====
PK1:  -13.555000(kcal/mol): PK_start=1276 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1304
(fs_start=1296)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                                GACA    GAGAGTC
                                TTTTtaggg
GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1281 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1317
(fs_start=1296)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                                GATTTTTT A  ATCGGA
                                TGGCCTTC
GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1304 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1338
(fs_start=1296)
                                AAA
TACTGAGAGACAGGCTAATTTTTTTAGGGA
                                CCCT    TCCGGTCT
                                AGGCCAGGGA
ACAAGGGG
PK4:  -26.235000(kcal/mol): PK_start=1311 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1348
(fs_start=1296)
                                CCAC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAGG    GGAA

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TCTTCA

GAATTT

PK4B: -27.515000(kcal/mol): PK_start=1311 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1374
(fs_start=1296)

TCCCACAA

AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT

GGACCGGA GGGG

CTCCAC

GAATTTTCTTCAGAACAGACCAGAGCCATCAG

=====
(2487) JF320613
=====

PK1: -13.555000(kcal/mol): PK_start=1294 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1322
(fs_start=1314)

A

GAAAGGAAGGACACCAAATGAAAGATTGT

GACA GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1299 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1335
(fs_start=1314)

C

GAAGGACACCAAATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1322 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1356
(fs_start=1314)

A

TACTGAGAGACAGGCTAATTTTTTTAGGGAAG

CCCTTC CGGTCT

GCCAGGGA

ACAAGGGAAG

PK4: -29.020000(kcal/mol): PK_start=1329 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1366
(fs_start=1314)

CCAC

AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCTTC

GGACCGGAAG GGAA

CCTTCA

GAATTT

=====
(2488) JF320615
=====

PK1: -15.585000(kcal/mol): PK_start=1276 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1304
(fs_start=1296)

A

GAAAGGAAGGACACCAAATGAAAGACTGT

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          GACA    GAGAGTC
                TTTT TAGGG
    GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1281 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1317
(fs_start=1296)
                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
                GATTTTTT A  ATCGGA
                                TGGCCTTC
                GGAAGATC

PK3:  -26.110000(kcal/mol): PK_start=1304 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1338
(fs_start=1296)
                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                CCCTTC    CGGTCT
                                GCCAGGGA
                ACAAGGGAAG

PK4:  -29.020000(kcal/mol): PK_start=1311 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1348
(fs_start=1296)
                CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
                GGACCGGAAG    GGAA
                                CCTTCA
                GAATTT

=====
(2489) JF320616
=====
PK1:  -13.555000(kcal/mol): PK_start=1294 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1322
(fs_start=1314)
                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                GACA    GAGAGTC
                TTTT TAGGG
    GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1299 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1335
(fs_start=1314)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT A  ATCGGA
                                TGGCCTTC
                GGAAGATC

PK3:  -26.110000(kcal/mol): PK_start=1322 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1356
(fs_start=1314)
                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG

```

CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG
PK4: -29.020000(kcal/mol): PK_start=1329 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1366
(fs_start=1314)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(2490) JF320617
=====

PK1: -15.585000(kcal/mol): PK_start=1276 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1304
(fs_start=1296)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1281 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1317
(fs_start=1296)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1304 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1338
(fs_start=1296)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -29.020000(kcal/mol): PK_start=1311 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1348
(fs_start=1296)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(2491) JF320619
=====

PK1: -13.555000(kcal/mol): PK_start=1294 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1322
(fs_start=1314)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1299 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1335
(fs_start=1314)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1322 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1356
(fs_start=1314)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -29.020000(kcal/mol): PK_start=1329 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1366
(fs_start=1314)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(2492) JF320620
=====

PK1: -15.585000(kcal/mol): PK_start=1276 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1304
(fs_start=1296)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1281 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1317
(fs_start=1296)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1304 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1338
(fs_start=1296)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -29.020000(kcal/mol): PK_start=1311 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1348
(fs_start=1296)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(2493) JF320621
=====

PK1: -15.585000(kcal/mol): PK_start=1276 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1304
(fs_start=1296)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1281 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1317
(fs_start=1296)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1304 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1338
(fs_start=1296)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -29.020000(kcal/mol): PK_start=1311 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1348
(fs_start=1296)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(2494) JF320622
=====

PK1: -13.555000(kcal/mol): PK_start=1294 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1322
(fs_start=1314)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1299 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1335
(fs_start=1314)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1322 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1356
(fs_start=1314)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -29.020000(kcal/mol): PK_start=1329 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1366
(fs_start=1314)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(2495) JF320624
=====

PK1: -15.585000(kcal/mol): PK_start=1276 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1304
(fs_start=1296)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1281 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1317
(fs_start=1296)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT A ATCGGA

TGGCCTTC
GGAAGATC
PK3: -26.110000(kcal/mol): PK_start=1304 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1338
(fs_start=1296)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -29.020000(kcal/mol): PK_start=1311 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1348
(fs_start=1296)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(2496) JF320626
=====

PK1: -15.585000(kcal/mol): PK_start=1276 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1304
(fs_start=1296)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1281 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1317
(fs_start=1296)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1304 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1338
(fs_start=1296)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -29.020000(kcal/mol): PK_start=1311 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1348
(fs_start=1296)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA

```

                                CCTTCA
                                GAATTT
=====
(2497) JF320627
=====
PK1:  -15.585000(kcal/mol): PK_start=1276 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1304
(fs_start=1296)
                                A
GAAAGGAAGGACACCAAATGAAAGACTGT
                                GACA   GAGAGTC
                                TTTT TAGGG
                                GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1281 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1317
(fs_start=1296)
                                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
                                GATTTTTT A  ATCGGA
                                TGGCCTTC
                                GGAAGATC

PK3:  -26.110000(kcal/mol): PK_start=1304 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1338
(fs_start=1296)
                                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                                CCCTTC   CGGTCT
                                GCCAGGGA
                                ACAAGGGAAG

PK4:  -29.020000(kcal/mol): PK_start=1311 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1348
(fs_start=1296)
                                CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
                                GGACCGGAAG   GGAA
                                CCTTCA
                                GAATTT

=====
(2498) JF320628
=====
PK1:  -13.555000(kcal/mol): PK_start=1294 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1322
(fs_start=1314)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                                GACA   GAGAGTC
                                TTTT TAGGG
                                GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1299 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1335
(fs_start=1314)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA

```

GATTTTTT A ATCGGA
 TGGCCTTC
 GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1322 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1356
 (fs_start=1314)

A
 TACTGAGAGACAGGCTAATTTTTTAGGGAAG
 CCCTTC CGGTCT
 GCCAGGGA
 ACAAGGGAAG

PK4: -29.020000(kcal/mol): PK_start=1329 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1366
 (fs_start=1314)

CCAC
 AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
 GGACCGGAAG GGAA
 CCTTCA
 GAATTT

=====
 (2499) JF320629
 =====

PK1: -13.555000(kcal/mol): PK_start=1294 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1322
 (fs_start=1314)

A
 GAAAGGAAGGACACCAAATGAAAGATTGT
 GACA GAGAGTC
 TTTTTAGGG
 GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1299 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1335
 (fs_start=1314)

C
 GAAGGACACCAAATGAAAGATTGTACTGAGAGA
 GATTTTTT A ATCGGA
 TGGCCTTC
 GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1322 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1356
 (fs_start=1314)

A
 TACTGAGAGACAGGCTAATTTTTTAGGGAAG
 CCCTTC CGGTCT
 GCCAGGGA
 ACAAGGGAAG

PK4: -29.020000(kcal/mol): PK_start=1329 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1366
 (fs_start=1314)

CCAC
 AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC

```

                GGACCGGAAG    GGAA
                                CCTTCA
          GAATTT

=====
(2500) JF340054
=====
PK1:  -15.140000(kcal/mol): PK_start=1411 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1439
(fs_start=1431)
                CA
GGAAGGAAGGACATCAAATGAAAGACTG

                GAC    AGAAAGTC
                                TTTTTTAGGG
          GCTAA

PK2:  -20.500000(kcal/mol): PK_start=1416 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1452
(fs_start=1431)
                C
GAAGGACATCAAATGAAAGACTGCACTGAAAGA

                GATTTTTT  A  ATCGGA
                                TGGCCTTC
          GGAGACTG

PK3:  -19.505000(kcal/mol): PK_start=1440 sp=0 s1=3 s2=6 l1=5 l2=9 L3=0 PK_end=1471
(fs_start=1431)
                GACTG
ACTGAAAGACAGGCTAATTTTTTAGGGA

                CCT    TCCGGT
                                AGGCCGGG
          AACAAGGGA

PK4:  -22.135000(kcal/mol): PK_start=1448 sp=9 s1=6 s2=5 l1=7 l2=7 L3=0 PK_end=1483
(fs_start=1431)
                TCCAACA
ACAGGCTAATTTTTTAGGGAGACTGTGGCCT

                GCCGGA    AGGGA
                                TTCCTCA
          GGAAATT

=====
(2501) JF683736
=====
PK1:  -13.555000(kcal/mol): PK_start=1278 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1306
(fs_start=1298)
                A
GAAAGGAAGGACACCAAATGAAAGATTGT

                GACA    GAGAGTC
                                TTTTTTAGGG
          GCTAAT

```

PK2: -20.460000(kcal/mol): PK_start=1283 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1319
(fs_start=1298)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1306 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1340
(fs_start=1298)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -24.345000(kcal/mol): PK_start=1313 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1350
(fs_start=1298)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
TCTCCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1313 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1376
(fs_start=1298)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCTCCAGAGCAGACCAGAGCCAACAG

=====
(2502) JF683737
=====

PK1: -15.140000(kcal/mol): PK_start=1275 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1303
(fs_start=1295)

CA
GAAATAAAGGACACCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -20.500000(kcal/mol): PK_start=1280 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1316
(fs_start=1295)

C
AAAGGACACCAAATGAAAGACTGCACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1303 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1337
(fs_start=1295)

AAA
CACTGAAAGACAGGCTAATTTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGAA
ACAAGGGG

PK4: -25.745000(kcal/mol): PK_start=1310 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1347
(fs_start=1295)

CCCACA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTT
GGACCGGAG GGGA
TCCTCA
AAATTT

PK4B: -30.395000(kcal/mol): PK_start=1310 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1373
(fs_start=1295)

TCCCACAA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTT
GGACCGGA GGGG
CCCCAC
AAATTTTCCTCAGAACAGACTGGAGCCAACAG

=====
(2503) JF683738
=====

PK1: -13.305000(kcal/mol): PK_start=1276 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1303
(fs_start=1295)

A
AAAGGAAGGACACCAAATGAAAGAATGT
ACA GAGAGTC
TTTTTAGGG
GGCTAAT

PK2: -20.460000(kcal/mol): PK_start=1280 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1316
(fs_start=1295)

C
GAAGGACACCAAATGAAAGAATGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1303 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1337
(fs_start=1295)

AAA
TACTGAGAGACAGGCTAATTTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -29.020000(kcal/mol): PK_start=1310 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1347
(fs_start=1295)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAACTT

=====
(2504) JF683739
=====

PK1: -10.440000(kcal/mol): PK_start=1258 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1296
(fs_start=1289)

A
CTGGAAATGTGGGAAGGAAGGACATCAA
GTT AGAAAGT
TTTTTTAGG
CACTGAGAGACAGGCTAA

PK2: -21.940000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1311
(fs_start=1289)

C
GAAGGACATCAAATGAAAGATTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1298 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1331
(fs_start=1289)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AGCAAGGGG

PK4: -27.000000(kcal/mol): PK_start=1304 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=1342
(fs_start=1289)

TTCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCC
GGACCGG AGGGG
TCCCCAG
GAACTT

PK4B: -24.080000(kcal/mol): PK_start=1305 sp=8 s1=6 s2=4 l1=9 l2=33 L3=1 PK_end=1366
(fs_start=1289)

TTCCAGCAA
GACAGGCTAATTTTTTAGGGAAAATTTGGCC
GACCGG A GGGG
CCCCAC
GGAACCTTCCCCAGAGCAGACCGGAGCCATCAG

=====
(2505) JF683740
=====

PK1: -14.985000(kcal/mol): PK_start=1254 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1282
(fs_start=1274)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1259 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1296
(fs_start=1274)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAGT

PK3: -26.210000(kcal/mol): PK_start=1282 sp=0 s1=3 s2=10 l1=5 l2=6 L3=0 PK_end=1318
(fs_start=1274)

AAAGT
TACTGAGAGGCAGGCTAATTTTTTAGGG
CTC CCTTCCGGTT
GGGAGCCAGGA
AAGGGG

PK4: -33.980000(kcal/mol): PK_start=1291 sp=9 s1=10 s2=4 l1=3 l2=8 L3=0 PK_end=1329
(fs_start=1274)

TCA
GCAGGCTAATTTTTTAGGGAAAGTTTGGCCTTCCC
ACCGGAGGGG GGGA
CCCTCA
GGAAATTT

PK4B: -33.500000(kcal/mol): PK_start=1291 sp=9 s1=9 s2=4 l1=5 l2=34 L3=0 PK_end=1355
(fs_start=1274)

CTCAA
GCAGGCTAATTTTTTAGGGAAAGTTTGGCCTTCC
ACCGGAGGG GGGG
CCCCAC
GGAAATTTCCCTCAGAGCAGACTAGAACCAACAG

=====
(2506) JF683741
=====

PK1: -10.390000(kcal/mol): PK_start=1264 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1302
(fs_start=1295)

A
CTGGAAATGTGGGAAGGAAGGACACCAG
GTT AGAAAGT

TTTTTTAGG
CACTGAGAGACAGGCTAA

PK2: -20.460000(kcal/mol): PK_start=1280 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1316
(fs_start=1295)

C
GAAGGACACCAGATGAAAGATTGCACTGAGAGA

GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1303 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1337
(fs_start=1295)

AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -24.995000(kcal/mol): PK_start=1310 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1347
(fs_start=1295)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT

GGACCGGA AGGG
TCTCCA
GAATTT

=====
(2507) JF683742
=====

PK1: -10.975000(kcal/mol): PK_start=1284 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=1311
(fs_start=1304)

AA
GAAAGGAAGGACACCAAATGAAAGATTGT

GACA GAGAGT
TTTTTAGG
GCTAAT

PK2: -18.180000(kcal/mol): PK_start=1290 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1325
(fs_start=1304)

C
AAGGACACCAAATGAAAGATTGTAATGAGAGA

ATTTTTT A ATCGGA
TGGCCTTC
GGGAAAATC

PK3: -26.605000(kcal/mol): PK_start=1312 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1346
(fs_start=1304)

AAA
TAATGAGAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT

```

                                AGGCCGGGGA
ACAAGGGA

PK4:  -25.775000(kcal/mol): PK_start=1319 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1356
(fs_start=1304)
                                TCCCACA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT

                                GGGCCGGA   AGGGA
                                TTCCTCA
GAATT

=====
(2508) JF683743
=====
PK1:  -13.555000(kcal/mol): PK_start=1275 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1303
(fs_start=1295)
                                A
GAAGGGAAGGACACCAAATGAAAGATTGT

                                GACA   GAGAGTC
                                TTTTtaggg
GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1280 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1316
(fs_start=1295)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA

                                GATTTTTT   A   ATCGGA
                                TGGCCTTC
GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1303 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1337
(fs_start=1295)
                                AAA
TACTGAGAGACAGGCTAATTTTTTTAGGGA

                                CCCT   TCCGGTCT
                                AGGCCAGGGA
ACAAGGGG

PK4:  -26.235000(kcal/mol): PK_start=1310 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1347
(fs_start=1295)
                                CCAC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC

                                GGACCGGAGG   GGAA
                                TCTTCA
GAATTT

PK4B:  -30.395000(kcal/mol): PK_start=1310 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1373
(fs_start=1295)
                                TCCCACAA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT

                                GGACCGGA   GGGG

```

CCCCAC
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2509) JF683745
=====

PK1: -15.100000(kcal/mol): PK_start=1275 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1303
(fs_start=1295)

CA
GGAAGGAAGGACACCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1280 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1317
(fs_start=1295)

C
GAAGGACACCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAGAGT

PK3: -18.840000(kcal/mol): PK_start=1303 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1337
(fs_start=1295)

AG
CACTGAGAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTTT
GCCAGGAA
AGCAAGGGGAG

PK4: -22.215000(kcal/mol): PK_start=1310 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1347
(fs_start=1295)

CCAGCA
AGACAGGCTAATTTTTTAGGGAGAGTTTGGCCTT
GGACCGGAG GGGA
TCCTCA
AAATTT

PK4B: -26.865000(kcal/mol): PK_start=1310 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1373
(fs_start=1295)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAGAGTTTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTTCTTCAGAGCAGACCGGAGCCAACAG

=====
(2510) JF683746
=====

PK1: -13.555000(kcal/mol): PK_start=1275 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1303
(fs_start=1295)

A
GAAGGAAGGACACCAAATGAAAGATTGT

```

          GACA    GAGAGTC
                TTTTATAGGG
    GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1280 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1316
(fs_start=1295)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT  A  ATCGGA
                                TGGCCTTC
                GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1303 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1337
(fs_start=1295)
                AAA
TACTGAGAGACAGGCTAATTTTTATAGGGA
                CCCT    TCCGGTCT
                                AGGCCAGGGA
                ACAAGGGG
PK4:  -26.235000(kcal/mol): PK_start=1310 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1347
(fs_start=1295)
                CCAC
AGACAGGCTAATTTTTATAGGAAAATCTGGCCTTC
                GGACCGGAGG    GGAA
                                TCTTCA
                GAATTT
PK4B:  -30.395000(kcal/mol): PK_start=1310 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1373
(fs_start=1295)
                TCCCACAA
AGACAGGCTAATTTTTATAGGAAAATCTGGCCT
                GGACCGGA    GGGG
                                CCCAC
                GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2511) JF683747
=====
PK1:  -14.235000(kcal/mol): PK_start=1275 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1303
(fs_start=1295)
                A
GACAGGAAGGACACCAGATGAAAGATTGT
                AACA    GAGAGTC
                                TTTTATAGGG
                GCTAAT
PK2:  -15.820000(kcal/mol): PK_start=1280 sp=0 s1=8 s2=4 l1=3 l2=8 L3=1 PK_end=1314
(fs_start=1295)
                CAA
GAAGGACACCAGATGAAAGATTGTACTGAGAGA

```

GATTTTTT A ATCG
TGGCCT
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1303 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1337
(fs_start=1295)

AAA
TACTGAGAGACAAGCTAATTTTTTTAGGGA

CCCT TCCGGTCT
AGGCCAGGAA
ACAGGGGG

PK4: -28.565000(kcal/mol): PK_start=1310 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1347
(fs_start=1295)

CCAC
AGACAAGCTAATTTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAGG GGGA
TCCTCA
AAACTT

PK4B: -31.255000(kcal/mol): PK_start=1310 sp=7 s1=9 s2=4 l1=6 l2=32 L3=0 PK_end=1373
(fs_start=1295)

CCCACA
AGACAAGCTAATTTTTTTAGGGAAAATCTGGCCTT

GGACCGGAG GGGG
CCCCAC
AAACTTTCCTCAGAGCAGACTAGAGCCAACAG

=====
(2512) JF683748
=====

PK1: -15.100000(kcal/mol): PK_start=1269 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1297
(fs_start=1289)

CA
GGAAGGAAGGACACCAAATGAAAGACTG

GAC AGAGAGTC
TTTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1311
(fs_start=1289)

C
GAAGGACACCAAATGAAAGACTGCACTGAGAGA

GATTTTTT AATCGGA
TTGGCCTTC
GGAGAGT

PK3: -18.840000(kcal/mol): PK_start=1297 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1331
(fs_start=1289)

AG
CACTGAGAGACAGGCTAATTTTTTTAGGGAG

```

          CCTTC   CGGTTT
                GCCAGGAA
          AGCAAGGGGAG

PK4:  -22.215000(kcal/mol): PK_start=1304 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1341
(fs_start=1289)
                CCAGCA
AGACAGGCTAATTTTTTTAGGGAGAGTTTGGCCTT
                GGACCGGAG   GGGA
                        TCCTCA
          AAATTT

PK4B:  -26.865000(kcal/mol): PK_start=1304 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1367
(fs_start=1289)
                TCCAGCAA
AGACAGGCTAATTTTTTTAGGGAGAGTTTGGCCT
                GGACCGGA   GGGG
                        CCCAC
          AAATTTTCCTCAGAGCAGACCGGAGCCAACAG

=====
(2513) JF683749
=====

PK1:  -13.555000(kcal/mol): PK_start=1278 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1306
(fs_start=1298)
                A
GAAGGGAAGGACACCAAATGAAAGATTGT
                GACA   GAGAGTC
                        TTTTTAGGG
          GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1283 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1319
(fs_start=1298)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT   A   ATCGGA
                        TGGCCTTC
          GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1306 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1340
(fs_start=1298)
                AAA
TACTGAGAGACAGGCTAATTTTTTTAGGGA
                CCCT   TCCGGTCT
                        AGGCCAGGGA
          ACAAGGGA

PK4:  -26.715000(kcal/mol): PK_start=1313 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1350
(fs_start=1298)
                CCAC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC

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                GGACCGGAAG    GGAA
                                TCTTCA
          GAATTT
=====
(2514) JF683750
=====
PK1:  -10.64000(kcal/mol): PK_start=1270 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1308
(fs_start=1301)
                A
TTGGAAATGTGGAAAGGAAGGACACCAA
                GTT    AGAAAGT
                                TTTTTTAGG
          CACTGAAAGACAAGCTAA
PK2:  -15.86000(kcal/mol): PK_start=1286 sp=0 s1=8 s2=4 l1=3 l2=8 L3=1 PK_end=1320
(fs_start=1301)
                CAA
GAAGGACACCAAATGAAAGATTGCACTGAAAGA
                GATTTTTT    A    ATCG
                                TGGCCT
          GGAAAATC
PK3:  -27.27500(kcal/mol): PK_start=1309 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1343
(fs_start=1301)
                AAA
CACTGAAAGACAAGCTAATTTTTTAGGGA
                CCCT    TCCGGTCT
                                AGGCCAGGGA
          ACAAGGGA
PK4:  -24.99500(kcal/mol): PK_start=1316 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1353
(fs_start=1301)
                TCCCACAA
AGACAAGCTAATTTTTTAGGAAAATCTGGCCT
                GGACCGGA    AGGG
                                TCTCCA
          GAACTT
=====
(2515) JF683752
=====
PK1:  -15.62500(kcal/mol): PK_start=1278 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1306
(fs_start=1298)
                A
GGAAGGAAGGACACCAAATGAAAGACTGT
                GACA    GAAAGTC
                                TTTTTTAGGG
          GCTAAT

```


PK2: -21.98000(kcal/mol): PK_start=1283 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1320
(fs_start=1298)

C
GAAGGACACCAAATGAAAGACTGTACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1307 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1340
(fs_start=1298)

AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AGCAAGGGG

PK4: -22.215000(kcal/mol): PK_start=1313 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1350
(fs_start=1298)

CCAGCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGAG GGGG
TCCTCA
AAATTT

PK4B: -26.865000(kcal/mol): PK_start=1313 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1376
(fs_start=1298)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTTCCTCAGAGCAGACCGGAACCAACAG

=====
(2516) JF683753
=====

PK1: -15.585000(kcal/mol): PK_start=1275 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1303
(fs_start=1295)

A
GAAGGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1280 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1316
(fs_start=1295)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1303 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1337
(fs_start=1295)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGGAG

PK4: -27.515000(kcal/mol): PK_start=1310 sp=7 s1=8 s2=4 l1=8 l2=7 l3=0 PK_end=1348
(fs_start=1295)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CTCCAG
GAATTTTC

PK4B: -30.395000(kcal/mol): PK_start=1310 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=1373
(fs_start=1295)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CCCCGC
GAATTTCTCCAGAACAGAACAGAGCCAACAG

=====
(2517) JF683754
=====

PK1: -13.595000(kcal/mol): PK_start=1281 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1309
(fs_start=1301)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1286 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1322
(fs_start=1301)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -26.605000(kcal/mol): PK_start=1309 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=1343
(fs_start=1301)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCGGGAA
ACAAGGGG

PK4: -25.075000(kcal/mol): PK_start=1316 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1353
(fs_start=1301)

```
CCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT
GGGCCGGAG GGGG
TCCTCA
AAATTT
```

PK4B: -29.725000(kcal/mol): PK_start=1316 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1379
(fs_start=1301)

```
TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGGCCGGA GGGG
CCCCAC
AAATTTTCCTCAGAAGAGACTAGAGCCAACAG
```

=====
(2518) JF683755
=====

PK1: -13.555000(kcal/mol): PK_start=1266 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1294
(fs_start=1286)

```
A
GAAGGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT
```

PK2: -21.940000(kcal/mol): PK_start=1271 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1308
(fs_start=1286)

```
C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT
```

PK3: -23.745000(kcal/mol): PK_start=1294 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1328
(fs_start=1286)

```
AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
AGAAGGGG
```

PK4: -26.865000(kcal/mol): PK_start=1301 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1339
(fs_start=1286)

```
TCCCAGAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAG
GAATTTT
```

PK4B: -26.865000(kcal/mol): PK_start=1301 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1364
(fs_start=1286)

TCCCAGAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCCCCCAGAGCAGACTAGAGCCAACAG

=====
(2519) JF683756
=====

PK1: -13.555000(kcal/mol): PK_start=1278 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1306
(fs_start=1298)

A
GGAGGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1283 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1319
(fs_start=1298)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1306 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1340
(fs_start=1298)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -29.020000(kcal/mol): PK_start=1313 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1350
(fs_start=1298)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(2520) JF683758
=====

PK1: -15.100000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
(fs_start=1283)

CA
GGAGGGAAGGACACCAAATGAAAGACTG
GAC AGAGAGTC

```

                TTTTTTAGGG
      GCTAA
PK2:  -21.940000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)
                C
GAAGGACACCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT   AATCGGA
                TTGCCTTC
      GGAAAAT
PK3:  -23.745000(kcal/mol): PK_start=1291 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1325
(fs_start=1283)
                AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTTT
                AGGCCAGGGA
      ACAAAGGA
PK4:  -22.465000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1335
(fs_start=1283)
                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA   AGGA
                TCCTCA
      GAATTT

=====
(2521) JF683759
=====
PK1:  -15.140000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1291
(fs_start=1283)
                CA
GGAAGGAAGGACACCAAATGAAAGACTG
                GAC   AGAAAGTC
                TTTTTTAGGG
      GCTAA
PK2:  -20.500000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1304
(fs_start=1283)
                C
GAAGGACACCAAATGAAAGACTGCACTGAAAGA
                GATTTTTT   A   AATCGGA
                TTGCCTTC
      GGAAAATC
PK3:  -23.815000(kcal/mol): PK_start=1292 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1325
(fs_start=1283)
                AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
                CCT   TCCGGTCT

```

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                                AGGCCAGGAA
                        AGCAAGGGG

PK4:  -28.605000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1335
(fs_start=1283)
                                TCCAGCA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT
                                GGACCGGA    GGGGA
                                TCCCTCA
                        AAATT

PK4B:  -30.395000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1361
(fs_start=1283)
                                TCCAGCAA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT
                                GGACCGGA    GGGG
                                CCCCAC
                        AAATTTCCCTCAGAGCAGACCAGAGCCAACAG

=====
(2522) JF683760
=====
PK1:  -15.140000(kcal/mol): PK_start=1272 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1300
(fs_start=1292)
                                CA
GGAAGGAGGGACATCAAATGAAAGACTG
                                GAC    AGAAAGTC
                                TTTTTTAGGG
                        GCTAA

PK2:  -20.500000(kcal/mol): PK_start=1277 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1313
(fs_start=1292)
                                C
GAGGGACATCAAATGAAAGACTGCACTGAAAGA
                                GATTTTTT    A    ATCGGA
                                TGGCCTTC
                        GGAAAATC

PK3:  -23.815000(kcal/mol): PK_start=1301 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1334
(fs_start=1292)
                                AAA
ACTGAAAGACAGGCTAATTTTTTTAGGGA
                                CCT    TCCGGTCT
                                AGGCCAGGAA
                        AGCAAGGGG

PK4:  -25.745000(kcal/mol): PK_start=1307 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1344
(fs_start=1292)
                                CCAGCA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTT
                                GGACCGGAG    GGGA

```

TCCTCA

AAATTT

PK4B: -30.395000(kcal/mol): PK_start=1307 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1370
(fs_start=1292)

TCCAGCAA

AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT

GGACCGGA GGGG

CCCCAC

AAATTTTCCTCAGAGCAGACCAGAGCCAACAG

=====

(2523) JF683761

=====

PK1: -15.140000(kcal/mol): PK_start=1272 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1300
(fs_start=1292)

CA

GGAAGGAGGGACATCAAATGAAAGACTG

GAC AGAAAGTC

TTTTTTAGGG

GCTAA

PK2: -20.500000(kcal/mol): PK_start=1277 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1313
(fs_start=1292)

C

GAGGGACATCAAATGAAAGACTGCACTGAAAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAAATC

PK3: -23.815000(kcal/mol): PK_start=1301 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1334
(fs_start=1292)

AAA

ACTGAAAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTCT

AGGCCAGGAA

AGCAAGGGG

PK4: -25.745000(kcal/mol): PK_start=1307 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1344
(fs_start=1292)

CCAGCA

AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT

GGACCGGAG GGGA

TCCTCA

AAATTT

PK4B: -30.395000(kcal/mol): PK_start=1307 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1370
(fs_start=1292)

TCCAGCAA

AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT

GGACCGGA GGGG

CCCCAC
AAATTTTCCTCAGAGCAGACCAGAGCCAACAG

=====
(2524) JF683763
=====

PK1: -15.100000(kcal/mol): PK_start=1272 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1300
(fs_start=1292)

CA
GAAAGGAAGGCCATCAAATGAAGGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1277 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1314
(fs_start=1292)

C
GAAGGCCATCAAATGAAGGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1301 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1334
(fs_start=1292)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AGCAAAGGG

PK4: -21.815000(kcal/mol): PK_start=1307 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1344
(fs_start=1292)

TCCAGCAA
AGACAGGCTAATTTTTTAGGAAAATTTGGCCT
GGACCGGA GGA
TCCTCA
AAATTT

=====
(2525) JF683764
=====

PK1: -10.440000(kcal/mol): PK_start=1261 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1299
(fs_start=1292)

A
TTGGAAATGTGGAAAGGAAGGACATCAA
GTT AGAAAGT
TTTTTTAGG
CACTGAGAGACAGGCTAA

PK2: -20.460000(kcal/mol): PK_start=1277 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1313
(fs_start=1292)

C
GAAGGACATCAAATGAAAGATTGCACTGAGAGA


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          GATTTTTT A ATCGGA
                    TGGCCTTC
    GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1300 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1334
(fs_start=1292)
          AAA
    CACTGAGAGACAGGCTAATTTTTTAGGGA
          CCCT   TCCGGTCT
                    AGGCCAGGAA
    ACAAGGGG
PK4:  -28.540000(kcal/mol): PK_start=1307 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1344
(fs_start=1292)
                    CCAC
    AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
          GGACCGGAGG   GGAA
                    CCTTCA
    AAATTT
PK4B: -30.395000(kcal/mol): PK_start=1307 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1370
(fs_start=1292)
                    TCCCACAA
    AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
          GGACCGGA   GGGG
                    CCCCAC
    AAATTTCTTCAGAGCAGACCAGAGCCATCAG
=====
(2526) JF683765
=====
PK1:  -13.555000(kcal/mol): PK_start=1287 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1315
(fs_start=1307)
          A
    GAAAGGAAGGACATCAAATGAAAGATTGT
          GACA   GAGAGTC
                    TTTTTAGGG
    GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1292 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1328
(fs_start=1307)
          C
    GAAGGACATCAAATGAAAGATTGTACTGAGAGA
          GATTTTTT A ATCGGA
                    TGGCCTTC
    GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1315 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1349
(fs_start=1307)
          AAA
    TACTGAGAGACAGGCTAATTTTTTAGGGA

```

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          CCCT   TCCGGTCT
                AGGCCAGGGA
ACAAGGGG
PK4:  -28.54000(kcal/mol): PK_start=1322 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1359
(fs_start=1307)
                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                GGACCGGAGG   GGAA
                                CCTTCA
                GAATTT

PK4B:  -30.395000(kcal/mol): PK_start=1322 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1385
(fs_start=1307)
                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                GGACCGGA   GGGG
                                CCCCAC
                GAATTTTCCTTCAGAGCAGACCAGAGCCAACAG

=====
(2527) JF683766
=====
PK1:  -15.100000(kcal/mol): PK_start=1257 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1285
(fs_start=1277)
                CA
GGAAGGAGGGACACCAAATGAAAGACTG
                GAC   AGAGAGTC
                                TTTTTTAGGG
                GCAAA

PK2:  -14.310000(kcal/mol): PK_start=1262 sp=0 s1=8 s2=4 l1=4 l2=6 L3=0 PK_end=1295
(fs_start=1277)
                CAGG
GAGGGACACCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT   AAAC
                                TTTGGC
                GGAGAA

PK3:  -18.840000(kcal/mol): PK_start=1285 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1319
(fs_start=1277)
                AA
CACTGAGAGACAGGCAAATTTTTTAGGGAG
                CCTTC   CGGTTT
                                GCCAGGCA
                AACAAGGGGAG

PK4:  -22.215000(kcal/mol): PK_start=1292 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1329
(fs_start=1277)
                CCAACA
AGACAGGCAAATTTTTTAGGGAGAATTTGGCCTT

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                GGACCGGAG    GGGA
                                TCCTCA
          CAATTT
PK4B:  -26.865000(kcal/mol): PK_start=1292 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1355
(fs_start=1277)
                                TCCAACAA
AGACAGGCAAATTTTTTAGGGAGAATTTGGCCT
                GGACCGGA    GGGG
                                CCCCAC
          CAATTTTCCTCAGAGCAGAACGGAACCAACAG

=====
(2528) JF683767
=====
PK1:  -10.925000(kcal/mol): PK_start=1249 sp=0 s1=3 s2=7 l1=4 l2=18 L3=0 PK_end=1290
(fs_start=1283)
                CAGA
CTGTTGGAAATGTGGAAAGGAGGGACAT
                GTA    AGAAAGT
                                TTTTTTAGG
          CACTGAAAGACAGGCTAA

PK2:  -21.980000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)
                C
GAGGGACATCAGATGAAAGAATGCACTGAAAGA
                GATTTTTT    AATCGGA
                                TTGGCCTTC
          GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1292 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1325
(fs_start=1283)
                AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
                CCT    TCCGGTTT
                                AGGCCAGGAA
          AGCAAGGGG

PK4:  -27.000000(kcal/mol): PK_start=1298 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=1336
(fs_start=1283)
                                TTCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCC
                GGACCGG    AGGGG
                                TCCCCAG
          AAATTT

PK4B:  -24.080000(kcal/mol): PK_start=1299 sp=8 s1=6 s2=4 l1=9 l2=33 L3=1 PK_end=1360
(fs_start=1283)
                                TTCCAGCAA
GACAGGCTAATTTTTTAGGGAAAATTTGGCC

```

GACCGG A GGG
CCCCAC
GAAATTTTCCCAGAACAGACTGGAGCCAACAG

=====
(2529) JF683768
=====

PK1: -15.025000(kcal/mol): PK_start=1260 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1288
(fs_start=1280)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -18.760000(kcal/mol): PK_start=1265 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1301
(fs_start=1280)

C
GAAGGACACCAAATGAAAGACTGTACTGAAAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1288 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1322
(fs_start=1280)

AAA
TACTGAAAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -25.745000(kcal/mol): PK_start=1295 sp=7 s1=9 s2=4 l1=6 l2=5 L3=0 PK_end=1331
(fs_start=1280)

CCCACA
AGGCAGGCTAATTTTTTAGGAAAATCTGGCCTT
GGACCGGAG GGGA
TCCTCC
GAATT

PK4B: -30.875000(kcal/mol): PK_start=1295 sp=7 s1=8 s2=5 l1=7 l2=32 L3=0 PK_end=1359
(fs_start=1280)

TCCCACA
AGGCAGGCTAATTTTTTAGGAAAATCTGGCCT
GGACCGGA GGGGA
CCCCTCA
GAATTTCTCCAGAGCAGACCACAGCCAACAG

=====
(2530) JF683769
=====

PK1: -12.640000(kcal/mol): PK_start=1264 sp=0 s1=3 s2=7 l1=4 l2=18 L3=0 PK_end=1305
(fs_start=1298)

CAAA
TTGTTGGAAATGTGGAAAGGAAGGACAC
GTG AGAAAGT
TTTTTTAGG
CACTGAGAGACAGGCTAA

PK2: -19.080000(kcal/mol): PK_start=1283 sp=0 s1=8 s2=5 l1=2 l2=8 L3=1 PK_end=1318
(fs_start=1298)

CA
GAAGGACACCAAATGAAAGACTGCACTGAGAGA
GATTTTTT A ATCGG
TGCCCT
GGAAAATC

PK3: -24.730000(kcal/mol): PK_start=1306 sp=0 s1=4 s2=7 l1=3 l2=9 L3=1 PK_end=1339
(fs_start=1298)

AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT C CCGGTCT
GGCCAGGGA
ACAAGGGAA

PK4: -23.190000(kcal/mol): PK_start=1313 sp=7 s1=7 s2=6 l1=8 l2=4 L3=0 PK_end=1350
(fs_start=1298)

CTCCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCC
GGACCGG AAGGGA
TTTCTTCA
GAAT

=====
(2531) JF683771
=====

PK1: -15.140000(kcal/mol): PK_start=1257 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1285
(fs_start=1277)

CA
GAAAAGAAGGACATCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -21.980000(kcal/mol): PK_start=1262 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1299
(fs_start=1277)

C
GAAGGACATCAAATGAAAGACTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1286 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1319
(fs_start=1277)

AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AACAAGGGG

PK4: -22.705000(kcal/mol): PK_start=1292 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1329
(fs_start=1277)

CAAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTC
GGACCGGAGG GGAA
TCTTCA
AAACTT

PK4B: -26.865000(kcal/mol): PK_start=1292 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1355
(fs_start=1277)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCGC
AAACTTTCTTCAGAGCAGACCAGAGCCATCAG

=====
(2532) JF683772
=====

PK1: -15.140000(kcal/mol): PK_start=1278 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1306
(fs_start=1298)

CA
GGAGGGAAGGACACCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -20.500000(kcal/mol): PK_start=1283 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1319
(fs_start=1298)

C
GAAGGACACCAAATGAAAGACTGCACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -23.815000(kcal/mol): PK_start=1307 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1340
(fs_start=1298)

AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTCT
AGGCCAGGGA
AACAAGGGG

PK4: -25.745000(kcal/mol): PK_start=1313 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1350
(fs_start=1298)

CCAACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT
GGACCGGAG GGGA
TCCTCA
GAACTT

PK4B: -30.395000(kcal/mol): PK_start=1313 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1376
(fs_start=1298)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT
GGACCGGA GGGG
CCCCAC
GAACTTTCCTCAGAGCAGACCAGAACCAACAG

=====
(2533) JF683773
=====

PK1: -13.555000(kcal/mol): PK_start=1275 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1303
(fs_start=1295)

A
GAAAAGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1280 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1316
(fs_start=1295)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -26.605000(kcal/mol): PK_start=1303 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1337
(fs_start=1295)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCGGGGA
ACAAGGGA

PK4: -26.045000(kcal/mol): PK_start=1310 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1347
(fs_start=1295)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGGCCGGAAG GGAA
TCTTCA
GAATTT

=====
(2534) JF683774
=====

PK1: -13.555000(kcal/mol): PK_start=1278 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1306
(fs_start=1298)

A
GAAGGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1283 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1319
(fs_start=1298)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1306 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1340
(fs_start=1298)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.445000(kcal/mol): PK_start=1313 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1350
(fs_start=1298)

TCCCACA
AGACAGGCTAATTTTTTAGGAAAATCTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(2535) JF683775
=====

PK1: -13.555000(kcal/mol): PK_start=1293 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1321
(fs_start=1313)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1298 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1334
(fs_start=1313)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA

TGGCCTTC

GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1321 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1355
(fs_start=1313)

AAA

TACTGAGAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT

AGGCCAGGGA

ACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=1328 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1365
(fs_start=1313)

CCAC

AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAGG GGAA

TCTTCA

GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1328 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1391
(fs_start=1313)

TCCCACAA

AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT

GGACCGGA GGGG

CCCCAC

GAATTTTCTTCAGAGCAGACCAGGCCATCAG

=====
(2536) JF683776
=====

PK1: -14.985000(kcal/mol): PK_start=1266 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1294
(fs_start=1286)

A

GAAAGGAAGGACACCAAATGAAAGACTGT

GACG GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -18.720000(kcal/mol): PK_start=1271 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1307
(fs_start=1286)

C

GAAGGACACCAAATGAAAGACTGTACTGAGAGG

GATTTTTT A ATCGGA

TGGCCTTC

GGAAAATC

PK3: -23.815000(kcal/mol): PK_start=1295 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1328
(fs_start=1286)

AAA

ACTGAGAGGCAGGCTAATTTTTTAGGGA

CCT TCCGGTCT

```

                                AGGCCAGGGA
                                AACAAGGGG

PK4:  -28.540000(kcal/mol): PK_start=1301 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1338
(fs_start=1286)
                                CAAC
AGGCAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAGG    GGAA
                                CCTTCA
                                GAATTT

PK4B:  -30.395000(kcal/mol): PK_start=1301 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1364
(fs_start=1286)
                                TCCAACAA
AGGCAGGCTAATTTTTTTAGGGAAAATCTGGCCT
                                GGACCGGA    GGGG
                                CCCCAC
                                GAATTTCTTCAGAGCAGACCAGAACCAACAG

=====
(2537) JF683777
=====

PK1:  -14.985000(kcal/mol): PK_start=1269 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1297
(fs_start=1289)
                                A
GAAAGGAAGGACACCAAATGAAAGACTGT
                                GACG    GAGAGTC
                                TTTTTAGGG
                                GCTAAT

PK2:  -18.720000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1310
(fs_start=1289)
                                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
                                GATTTTTT    A    ATCGGA
                                TGGCCTTC
                                GGAAAATC

PK3:  -23.815000(kcal/mol): PK_start=1298 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1331
(fs_start=1289)
                                AAA
ACTGAGAGGCAGGCTAATTTTTTTAGGGA
                                CCT    TCCGGTCT
                                AGGCCAGGGA
                                AACAAGGGG

PK4:  -28.540000(kcal/mol): PK_start=1304 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1341
(fs_start=1289)
                                CAAC
AGGCAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAGG    GGAA

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CCTTCA

GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1304 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1367
(fs_start=1289)

TCCAACAA

AGGCAGGCTAATTTTTTTAGGGAAAATCTGGCCT

GGACCGGA GGGG

CCCCAC

GAATTTCC TTCAGAGCAGACCAGAACCAACAG

=====
(2538) JF683778
=====

PK1: -13.595000(kcal/mol): PK_start=1287 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1315
(fs_start=1307)

A

GAAAGGAAGGACACCAAATGAAAGATTGT

GACA GAAAGTC

TTTTTAGGG

GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1292 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1328
(fs_start=1307)

C

GAAGGACACCAAATGAAAGATTGTACTGAAAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1315 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1349
(fs_start=1307)

AAA

TACTGAAAGACAGGCTAATTTTTTTAGGGA

CCCT TCCGGTCT

AGGCCAGGGA

ACAAGGGA

PK4: -29.020000(kcal/mol): PK_start=1322 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1359
(fs_start=1307)

CCAC

AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAAG GGAA

CCTTCA

GAATTT

=====
(2539) JF683779
=====

PK1: -15.140000(kcal/mol): PK_start=1296 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1324
(fs_start=1316)

CA

GAAAGGAGGGACACCAAATGAAAGACTG

GAC AGAAAGTC
TTTTTTAGGG
GCTAA
PK2: -21.980000(kcal/mol): PK_start=1301 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1338
(fs_start=1316)

C
GAGGGACACCAAATGAAAGACTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1325 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1358
(fs_start=1316)

AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AGCAAGGGG

PK4: -25.075000(kcal/mol): PK_start=1331 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1368
(fs_start=1316)

TCCAGCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGGA
TCCCTCA
AAATT

PK4B: -26.865000(kcal/mol): PK_start=1331 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1394
(fs_start=1316)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTCCCTCAGAGCAGACCGGAGCCATCAG

=====
(2540) JF683780
=====

PK1: -15.100000(kcal/mol): PK_start=1272 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1300
(fs_start=1292)

CA
GAAAGGAAGGCCATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1277 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1314
(fs_start=1292)

C
GAAGGCCATCAAATGAAAGACTGCACTGAGAGA

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          GATTTTTT   AATCGGA
                    TTGGCCTTC
      GGAAAAT
PK3:  -20.285000(kcal/mol): PK_start=1301 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1334
(fs_start=1292)
          AAA
ACTGAGAGACAGGCTAATTTTTTTAGGGA
          CCT   TCCGGTTT
                    AGGCCAGGAA
      AGCAAAGGG
PK4:  -21.815000(kcal/mol): PK_start=1307 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1344
(fs_start=1292)
                    TCCAGCAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
          GGACCGGA   GGA
                    TCCTCA
      AAATTT

=====
(2541) JF683781
=====
PK1:  -13.555000(kcal/mol): PK_start=1284 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1312
(fs_start=1304)
          A
GAAAGGAAGGACACCAAATGAAGGATTGT
          GACA   GAGAGTC
                    TTTTTAGGG
      GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1289 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1325
(fs_start=1304)
          C
GAAGGACACCAAATGAAGGATTGTACTGAGAGA
          GATTTTTT   A   ATCGGA
                    TTGGCCTTC
      GGAAGATC
PK3:  -26.110000(kcal/mol): PK_start=1312 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1346
(fs_start=1304)
          A
TACTGAGAGACAGGCTAATTTTTTTAGGGAAG
          CCCTTC   CGGTCT
                    GCCAGGGA
      ACAAGGGAAG
PK4:  -26.445000(kcal/mol): PK_start=1319 sp=7 s1=8 s2=5 l1=7 l2=4 L3=0 PK_end=1355
(fs_start=1304)
                    TCCCACA
AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCT

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                GGACCGGA    AGGGA
                                TTCCTCC
        GAAT
=====
(2542) JF683782
=====
PK1:  -15.14000(kcal/mol): PK_start=1287 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1315
(fs_start=1307)
                CA
GGAAGGAGGGACATCAAATGAAAGACTG
                GAC    AGAAAGTC
                                TTTTTTAGGG
        GCTAA

PK2:  -21.98000(kcal/mol): PK_start=1292 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1329
(fs_start=1307)
                C
GAGGGACATCAAATGAAAGACTGCACTGAAAGA
                GATTTTTT    AATCGGA
                                TTGGCCTTC
        GGAAAAT

PK3:  -20.28500(kcal/mol): PK_start=1316 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1349
(fs_start=1307)
                AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
                CCT    TCCGGTTT
                                AGGCCAGGGA
        AGCAAGGGG

PK4:  -22.21500(kcal/mol): PK_start=1322 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1359
(fs_start=1307)
                CCAGCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
                GGACCGGAG    GGGA
                                TCCTCA
        GAATTT

PK4B:  -26.86500(kcal/mol): PK_start=1322 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1385
(fs_start=1307)
                TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA    GGGG
                                CCCCAC
        GAATTTTCCTCAGAGCAGACCAGCCATCAG

=====
(2543) JF683783
=====

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PK1: -15.140000(kcal/mol): PK_start=1284 sp=0 s1=3 s2=8 l1=2 l2=5 l3=0 PK_end=1312 (fs_start=1304)

CA
GGAAGGAGGGACATCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -21.980000(kcal/mol): PK_start=1289 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1326 (fs_start=1304)

C
GAGGGACATCAAATGAAAGACTGCACTGAAAGA
GATTTTTT AATCGGA
TTGCGCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1313 sp=0 s1=3 s2=8 l1=3 l2=9 l3=0 PK_end=1346 (fs_start=1304)

AAA
ACTGAAAGACAGGCTAATTTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AGCAAGGGG

PK4: -27.000000(kcal/mol): PK_start=1319 sp=7 s1=7 s2=5 l1=9 l2=6 l3=0 PK_end=1357 (fs_start=1304)

TTCCAGCAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCC
GGACCGG AGGGG
TCCCCAG
AAATTT

PK4B: -24.080000(kcal/mol): PK_start=1320 sp=8 s1=6 s2=4 l1=9 l2=33 l3=1 PK_end=1381 (fs_start=1304)

TTCCAGCAA
GACAGGCTAATTTTTTTAGGGAAAATTTGGCC
GACCGG A GGGG
CCCCAC
GAAATTTTCCCCAGAGCAGACCAGGCCATCAG

=====
(2544) JF683784
=====

PK1: -13.555000(kcal/mol): PK_start=1275 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1303 (fs_start=1295)

A
GAAGGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -21.940000(kcal/mol): PK_start=1280 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1317
(fs_start=1295)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAGAT

PK3: -22.580000(kcal/mol): PK_start=1303 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1337
(fs_start=1295)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTTT
GCCAGGGA
ACAGGGGAAG

PK4: -25.515000(kcal/mol): PK_start=1310 sp=7 s1=10 s2=4 l1=4 l2=5 l3=0 PK_end=1346
(fs_start=1295)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATTGGCCTTC
GGACCGGAAG GGGA
TCCTTC
GAATT

PK4B: -27.795000(kcal/mol): PK_start=1310 sp=7 s1=9 s2=4 l1=6 l2=32 l3=0 PK_end=1373
(fs_start=1295)

CCCACA
AGACAGGCTAATTTTTTAGGGAAGATTGGCCTTC
GGACCGGAA GGGG
CCCCAC
GAATTTCCCTCAAAGCAGACCAGAGCCAACAG

=====
(2545) JF683785
=====

PK1: -10.440000(kcal/mol): PK_start=1264 sp=0 s1=3 s2=7 l1=1 l2=18 l3=0 PK_end=1302
(fs_start=1295)

A
TTGGAAATGTGGAAAGGAAGGACATCAA
GTT AGAAAGT
TTTTTTAGG
CACTGAGAGACAGGCTAA

PK2: -20.460000(kcal/mol): PK_start=1280 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1316
(fs_start=1295)

C
GAAGGACATCAAATGAAAGATTGCACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1303 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1337
(fs_start=1295)

AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -29.020000(kcal/mol): PK_start=1310 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1347
(fs_start=1295)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAACTT

=====
(2546) JF683786
=====

PK1: -15.585000(kcal/mol): PK_start=1260 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1288
(fs_start=1280)

A
GGAAGGAAGGACACCAAATGAAGGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -21.940000(kcal/mol): PK_start=1265 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1302
(fs_start=1280)

C
GAAGGACACCAAATGAAGGACTGTACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1289 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1322
(fs_start=1280)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AGCAAGGGG

PK4: -27.000000(kcal/mol): PK_start=1295 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=1333
(fs_start=1280)

TTCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCC
GGACCGG AGGGG
TCCCCAG
AAATTT

PK4B: -24.080000(kcal/mol): PK_start=1296 sp=8 s1=6 s2=4 l1=9 l2=33 L3=1 PK_end=1357
(fs_start=1280)

TTCCAGCAA
GACAGGCTAATTTTTTAGGGAAAATTTGGCC
GACCGG A GGGG
CCCCAC
GAAATTTTCCCCAGAGCAGACCGGAACCAACAG

=====
(2547) JF683787
=====

PK1: -13.555000(kcal/mol): PK_start=1284 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1312
(fs_start=1304)

A
GTAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1289 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1325
(fs_start=1304)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1312 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1346
(fs_start=1304)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -28.540000(kcal/mol): PK_start=1319 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1356
(fs_start=1304)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

=====
(2548) JF683788
=====

PK1: -13.555000(kcal/mol): PK_start=1293 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1321
(fs_start=1313)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC

```

                TTTT TAGGG
      GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1298 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1334
(fs_start=1313)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT A  ATCGGA
                TGGCCTTC
      GGAAGATC
PK3:  -26.110000(kcal/mol): PK_start=1321 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1355
(fs_start=1313)
                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                CCCTTC  CGGTCT
                GCCAGGAA
      ACAAGGGGAG
PK4:  -25.745000(kcal/mol): PK_start=1328 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1365
(fs_start=1313)
                CCCACA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTT
                GGACCGGAG  GGGA
                TCCTCA
      AAATTT
PK4B:  -30.395000(kcal/mol): PK_start=1328 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1391
(fs_start=1313)
                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
                GGACCGGA  GGGG
                CCCCAC
      AAATTTTCCTCAGAGCAGAACAGAGCCAACAG

=====
(2549) JF683790
=====
PK1:  -13.555000(kcal/mol): PK_start=1287 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1315
(fs_start=1307)
                A
GAAAGGAAGGACATCAAATGAAAGATTGT
                GACA  GAGAGTC
                TTTT TAGGG
      GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1292 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1328
(fs_start=1307)
                C
GAAGGACATCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT A  ATCGGA

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                                TGGCCTTC
          GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1315 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1349
(fs_start=1307)
                                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTCT
                                AGGCCAGGGA
          ACAAGGGG
PK4:  -28.125000(kcal/mol): PK_start=1322 sp=7 s1=8 s2=4 l1=8 l2=8 L3=0 PK_end=1361
(fs_start=1307)
                                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                                GGACCGGA   GGGG
                                TCCCGA
          GAATTTCC
PK4B:  -30.395000(kcal/mol): PK_start=1322 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1385
(fs_start=1307)
                                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                                GGACCGGA   GGGG
                                CCCCAC
          GAATTTCCCTCCCGAGCACACCAGAGCCAACAG

=====
(2550) JF683791
=====
PK1:  -13.555000(kcal/mol): PK_start=1287 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1315
(fs_start=1307)
                                A
GGAAGGAAGGACATCAAATGAAAGATTGT
                                GACA   GAGAGTC
                                TTTTTAGGG
          GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1292 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1328
(fs_start=1307)
                                C
GAAGGACATCAAATGAAAGATTGTACTGAGAGA
                                GATTTTTT   A   ATCGGA
                                TGGCCTTC
          GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1315 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1349
(fs_start=1307)
                                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTCT

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                                AGGCCAGGGA
                ACAAGGGG
PK4:  -28.540000(kcal/mol): PK_start=1322 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1359
(fs_start=1307)
                                CCAC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAGG    GGAA
                                CCTTCA
                GAATTT

PK4B:  -30.395000(kcal/mol): PK_start=1322 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1385
(fs_start=1307)
                                TCCCACAA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT
                                GGACCGGA    GGGG
                                CCCCAA
                GAATTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2551) JF683792
=====
PK1:  -12.520000(kcal/mol): PK_start=1260 sp=0 s1=3 s2=7 l1=3 l2=5 L3=0 PK_end=1287
(fs_start=1280)
                                CAC
GAAAAGAAGGACATCAAATGAAAGACTG
                                GAC    AGAGAGT
                                TTTTTTAAG
                GCAAA

PK2:  -11.830000(kcal/mol): PK_start=1266 sp=0 s1=7 s2=4 l1=4 l2=7 L3=0 PK_end=1298
(fs_start=1280)
                                CAGG
AAGGACATCAAATGAAAGACTGCACTGAGAGA
                                ATTTTTT    AAAC
                                TTTGGC
                AGGAAAA

PK3:  -20.485000(kcal/mol): PK_start=1289 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1322
(fs_start=1280)
                                AAA
ACTGAGAGACAGGCAAATTTTTTAAGGA
                                CCT    TCCGGTTT
                                AGGCCAGGAA
                AGCAAGGGG

PK4:  -24.120000(kcal/mol): PK_start=1295 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=1333
(fs_start=1280)
                                TTCCAGCAA
AGACAGGCAAATTTTTTAAGGAAAATTTGGCC
                                GGACCGG    AGGGG

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TCCTCAG

AAATTT

PK4B: -21.440000(kcal/mol): PK_start=1295 sp=7 s1=7 s2=5 l1=9 l2=29 L3=0 PK_end=1356
(fs_start=1280)

TTCCAGCAA

AGACAGGCAAATTTTTTAAGGAAAATTTGGCC

GGACCGG AGGGG

TTCCTCA

AAATTTTCCTCAGAGCAGACCAGAACCAA

=====
(2552) JF683793
=====

PK1: -13.005000(kcal/mol): PK_start=1275 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=1302
(fs_start=1295)

AA

GAAAGGAAGGACATCAAATGAAAGACTGT

GACA GAGAGT

TTTTTAGG

GCTAAT

PK2: -18.180000(kcal/mol): PK_start=1281 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1316
(fs_start=1295)

C

AAGGACATCAAATGAAAGACTGTAATGAGAGA

ATTTTTT A ATCGGA

TGGCCTTC

GGGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1303 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1337
(fs_start=1295)

A

TAATGAGAGACAGGCTAATTTTTTAGGGAAG

CCCTTC CGGTCT

GCCAGGGA

ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1310 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1347
(fs_start=1295)

CCAC

AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC

GGACCGGAAG GGAA

TCTTCA

GAACTT

=====
(2553) JF683794
=====

PK1: -13.595000(kcal/mol): PK_start=1275 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1303
(fs_start=1295)

A

GAAGAGAGGGACACCAAATGAAGGATTGT

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          GACA    GAAAGTC
                TTTTATAGGG
    GCTAAT
PK2:  -20.50000(kcal/mol): PK_start=1280 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1316
(fs_start=1295)
                C
GAGGGACACCAAATGAAGGATTGTACTGAAAGA
                GATTTTTT  A  ATCGGA
                                TGGCCTTC
                GGAAAATC
PK3:  -27.27500(kcal/mol): PK_start=1303 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1337
(fs_start=1295)
                AAA
TACTGAAAGACAGGCTAATTTTTATAGGGA
                CCCT    TCCGGTCT
                                AGGCCAGGGA
                ACAAGGGA
PK4:  -26.71500(kcal/mol): PK_start=1310 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1347
(fs_start=1295)
                CCAC
AGACAGGCTAATTTTTATAGGAAAATCTGGCCTTC
                GGACCGGAAG    GGAA
                                TCTTCA
                GAATTT
=====
(2554) JF683795
=====
PK1:  -15.10000(kcal/mol): PK_start=1260 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1288
(fs_start=1280)
                CA
GAAAGGAAGGACACCAAATGAAAGACTG
                GAC    AGAGAGTC
                                TTTTTTATAGGG
                GCAAA
PK2:  -14.31000(kcal/mol): PK_start=1265 sp=0 s1=8 s2=4 l1=4 l2=6 L3=0 PK_end=1298
(fs_start=1280)
                CAGG
GAAGGACACCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT  AAAC
                                TTTGGC
                GGAAAA
PK3:  -20.28500(kcal/mol): PK_start=1289 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1322
(fs_start=1280)
                AAA
ACTGAGAGACAGGCAAATTTTTATAGGGA

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          CCT      TCCGGTTT
                AGGCCAGGAA
          AGCAAGGGG

PK4:  -25.075000(kcal/mol): PK_start=1295 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1332
(fs_start=1280)
                TCCAGCA
AGACAGGCAAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA      GGGGA
                TCCCTCA
          AAATT

PK4B:  -26.865000(kcal/mol): PK_start=1295 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1358
(fs_start=1280)
                TCCAGCAA
AGACAGGCAAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA      GGGG
                CCCAC
          AAATTTCCCTCAGAGCAGACCAGAACCAACAG

=====
(2555) JF683796
=====

PK1:  -13.555000(kcal/mol): PK_start=1272 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1300
(fs_start=1292)
                A
GAAAAGAAGGACACCAAATGAAAGATTGT
                GACA      GAGAGTC
                TTTTTAGGG
          GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1277 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1313
(fs_start=1292)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT  A  ATCGGA
                TGGCCTTC
          GGAAGATC

PK3:  -26.110000(kcal/mol): PK_start=1300 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1334
(fs_start=1292)
                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                CCCTTC      CGGTCT
                GCCAGGGA
          ACAAGGGGAG

PK4:  -28.540000(kcal/mol): PK_start=1307 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1344
(fs_start=1292)
                CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC

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                GGACCGGAGG    GGAA
                                CCTTCA
          GAATTT

=====
(2556) JF683797
=====
PK1:  -13.555000(kcal/mol): PK_start=1284 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1312
(fs_start=1304)
                                A
GACAGGAAGGACACCAAATGAAAGATTGT

                GACA    GAGAGTC
                                TTTTATAGGG
          GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1289 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1325
(fs_start=1304)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA

                GATTTTTT    A    ATCGGA
                                TGGCCTTC
          GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1312 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1346
(fs_start=1304)
                                AAA
TACTGAGAGACAGGCTAATTTTTATAGGGA

                CCCT    TCCGGTCT
                                AGGCCAGGGA
          ACAAGGGG

PK4:  -26.235000(kcal/mol): PK_start=1319 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1356
(fs_start=1304)
                                CCAC
AGACAGGCTAATTTTTATAGGAAAATCTGGCCTTC

                GGACCGGAGG    GGAA
                                TCTTCA
          GAATTT

=====
(2557) JF683798
=====
PK1:  -15.100000(kcal/mol): PK_start=1269 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1297
(fs_start=1289)
                                CA
GAAAGGAAGGCCATCAAATGAAAGACTG

                GAC    AGAGAGTC
                                TTTTTATAGGG
          GCTAA

```

PK2: -21.940000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1311
(fs_start=1289)

C
GAAGGCCATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAGAAT

PK3: -18.840000(kcal/mol): PK_start=1297 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1331
(fs_start=1289)

AA
CACTGAGAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTTT
GCCAGGAA
AGCAAAGGGAG

PK4: -21.815000(kcal/mol): PK_start=1304 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1341
(fs_start=1289)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
GGACCGGA GGG
TCCTCA
AAATTT

=====
(2558) JF683799
=====

PK1: -15.585000(kcal/mol): PK_start=1260 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1288
(fs_start=1280)

A
GGAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -21.940000(kcal/mol): PK_start=1265 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1302
(fs_start=1280)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAGAAT

PK3: -18.840000(kcal/mol): PK_start=1288 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1322
(fs_start=1280)

AA
TACTGAGAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTTT
GCCAGGAA
AGCAAAGGGAG

PK4: -27.000000(kcal/mol): PK_start=1295 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=1333
(fs_start=1280)

TTCCAGCAA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCC
GGACCGG AGGGG
TCCCCAG
AAACTT

PK4B: -24.080000(kcal/mol): PK_start=1296 sp=8 s1=6 s2=4 l1=9 l2=33 L3=1 PK_end=1357
(fs_start=1280)

TTCCAGCAA
GACAGGCTAATTTTTTAGGGAGAATTTGGCC
GACCGG A GGGG
CCCCAC
GAAACTTTCCCCAGAGCAGACCAGAACCAACAG

=====
(2559) JF683800
=====

PK1: -13.555000(kcal/mol): PK_start=1278 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1306
(fs_start=1298)

A
GAAGGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1283 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1319
(fs_start=1298)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1306 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1340
(fs_start=1298)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGAA
ACAAGGGG

PK4: -30.530000(kcal/mol): PK_start=1313 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=1351
(fs_start=1298)

TTCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCC
GGACCGG AGGGG
TCCCCAG
AAATTT

PK4B: -25.710000(kcal/mol): PK_start=1314 sp=8 s1=6 s2=4 l1=9 l2=33 L3=1 PK_end=1375
(fs_start=1298)

TTCCCACAA
GACAGGCTAATTTTTTAGGGAAAATCTGGCC
GACCGG A GGGG
CCCCAC
GAAATTTTCCCCAGAGCAGAACAGAGCCAACAG

=====
(2560) JF683801
=====

PK1: -13.305000(kcal/mol): PK_start=1276 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1303
(fs_start=1295)

A
AAAGGAAGGACACCAAATGAAAGAATGT
ACA GAGAGTC
TTTTTAGGG
GGCTAAT

PK2: -20.460000(kcal/mol): PK_start=1280 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1316
(fs_start=1295)

C
GAAGGACACCAAATGAAAGAATGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1303 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1337
(fs_start=1295)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -28.540000(kcal/mol): PK_start=1310 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1347
(fs_start=1295)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1310 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1373
(fs_start=1295)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCTTCAGAGCAGGCCAGAGCCATCAG

=====
(2561) JF683802
=====

PK1: -15.140000(kcal/mol): PK_start=1269 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1297
(fs_start=1289)

CA
GGAAGGAAGGACACCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -21.980000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1311
(fs_start=1289)

C
GAAGGACACCAAATGAAAGACTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1298 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1331
(fs_start=1289)

AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AACAAAGGG

PK4: -19.885000(kcal/mol): PK_start=1304 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1341
(fs_start=1289)

CCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGAG GGAA
TCTTCA
GAATTT

=====
(2562) JF683803
=====

PK1: -12.755000(kcal/mol): PK_start=1275 sp=0 s1=4 s2=7 l1=4 l2=6 L3=0 PK_end=1306
(fs_start=1298)

ACTG
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTT
TTTTTAGGG
GCTAAT

PK2: -19.910000(kcal/mol): PK_start=1283 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1320
(fs_start=1298)

C
GGACACCAAATGAAAGACTGTACTGTTGAGAGA
GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAAT

PK3: -23.745000(kcal/mol): PK_start=1306 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1340
(fs_start=1298)

AAA

TGTTGAGAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT

AGGCCAGGGA

ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1313 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1350
(fs_start=1298)

CCAC

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC

GGACCGGAGG GGAA

CCTTCA

GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1313 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1376
(fs_start=1298)

TCCCACAA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG

CCCCAC

GAATTTCTTCAGAACAGGCCAGGCCAACAG

=====

(2563) JF683806

=====

PK1: -15.585000(kcal/mol): PK_start=1260 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1288
(fs_start=1280)

A

GGAAGGAAGGACACCAAATGAAGGACTGT

GACA GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -21.940000(kcal/mol): PK_start=1265 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1302
(fs_start=1280)

C

GAAGGACACCAAATGAAGGACTGTACTGAGAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAAT

PK3: -20.285000(kcal/mol): PK_start=1289 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1322
(fs_start=1280)

AAA

ACTGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT

```

                                AGGCCAGGAA
                                AGCAAAGGG

PK4:  -22.840000(kcal/mol): PK_start=1295 sp=7 s1=7 s2=4 l1=10 l2=6 L3=0 PK_end=1332
(fs_start=1280)
                                TTCCAGCAAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCC

                                GGACCGG   AGGG
                                TCCCCA
                                AAATTT

=====
(2564) JF683807
=====

PK1:  -15.645000(kcal/mol): PK_start=1266 sp=0 s1=3 s2=9 l1=4 l2=16 L3=0 PK_end=1309
(fs_start=1301)
                                CCAA
GCTGTTGGAAGTGTGGAAAAGAAGGACA

                                TGT   TAGAAAGTC
                                ATTTTTTAGGG
                                ACTGAAAGACAGGCTA

PK2:  -20.500000(kcal/mol): PK_start=1286 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1322
(fs_start=1301)
                                C
GAAGGACACCAACTGAAAGATTGTACTGAAAGA

                                GATTTTTT   A   ATCGGA
                                TGGCCTTC
                                GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1309 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1343
(fs_start=1301)
                                AAA
TACTGAAAGACAGGCTAATTTTTTTAGGGA

                                CCCT   TCCGGTCT
                                AGGCCAGGAA
                                ACAAGGGG

PK4:  -25.745000(kcal/mol): PK_start=1316 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1353
(fs_start=1301)
                                CCCACA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTT

                                GGACCGGAG   GGGG
                                TCCTCA
                                AAACTT

PK4B:  -30.395000(kcal/mol): PK_start=1316 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1379
(fs_start=1301)
                                TCCCACAA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT

                                GGACCGGA   GGGG

```

CCCCAC
AAACTTTCCTCAGAGCAGGACAGAACCATCAG

=====
(2565) JF683809
=====

PK1: -13.555000(kcal/mol): PK_start=1275 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1303
(fs_start=1295)

A
GAAGGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1280 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1316
(fs_start=1295)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1303 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1337
(fs_start=1295)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=1310 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1347
(fs_start=1295)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAACTT

PK4B: -30.395000(kcal/mol): PK_start=1310 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1373
(fs_start=1295)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAACTTTCCTCAGAGCAGACTAGAGCCAACAG

=====
(2566) JF689852
=====

PK1: -13.555000(kcal/mol): PK_start=1269 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1297
(fs_start=1289)

A
GAAAGGAAGGACACCAAATGAAAGATTGT

GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1310
(fs_start=1289)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1297 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1331
(fs_start=1289)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.445000(kcal/mol): PK_start=1304 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1341
(fs_start=1289)

TCCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT

GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(2567) JF689854
=====

PK1: -13.555000(kcal/mol): PK_start=1269 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1297
(fs_start=1289)

A
GAAAAGAAGGACACCAAATGAAAGATTGT

GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1310
(fs_start=1289)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1297 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1331
(fs_start=1289)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG

CCCTTC CGGTCT
GCCAGGGA
GCAAGGGAAG
PK4: -26.715000(kcal/mol): PK_start=1304 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1341
(fs_start=1289)

CCGC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2568) JF689856
=====

PK1: -13.595000(kcal/mol): PK_start=1275 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1303
(fs_start=1295)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1280 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1316
(fs_start=1295)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1303 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1337
(fs_start=1295)

A
TACTGAAAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAAGGAAG

PK4: -23.185000(kcal/mol): PK_start=1310 sp=7 s1=8 s2=4 l1=8 l2=5 L3=0 PK_end=1346
(fs_start=1295)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGA
TTCTCC
GAACT

=====
(2569) JF689857
=====

PK1: -13.555000(kcal/mol): PK_start=1269 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1297
(fs_start=1289)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1310
(fs_start=1289)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1297 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1331
(fs_start=1289)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1304 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1341
(fs_start=1289)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2570) JF689859
=====

PK1: -13.555000(kcal/mol): PK_start=1269 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1297
(fs_start=1289)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1310
(fs_start=1289)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1297 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1331
(fs_start=1289)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1304 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1341
(fs_start=1289)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2571) JF689862
=====

PK1: -11.405000(kcal/mol): PK_start=1269 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1297
(fs_start=1289)

A
GACAGGAAGGACACCAAATGAAAGATTGT
AACAA GAGAGTT
TTTTTAGGG
GCTAAT

PK2: -13.790000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=4 l1=3 l2=8 l3=1 PK_end=1308
(fs_start=1289)

CAA
GAAGGACACCAAATGAAAGATTGTATTGAGAGA
GATTTTTT A ATCG
TGGCCT
GGAAAATC

PK3: -31.920000(kcal/mol): PK_start=1297 sp=0 s1=3 s2=10 l1=5 l2=3 l3=0 PK_end=1330
(fs_start=1289)

AAAAT
TATTGAGAGACAAGCTAATTTTTTAGGG
CCC CCTTCCGGTC
GGGAGGCCAGGG
AAG

PK4: -26.235000(kcal/mol): PK_start=1304 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1341
(fs_start=1289)

CCCC
AGACAAGCTAATTTTTTAGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAACTT

PK4B: -30.395000(kcal/mol): PK_start=1304 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1367
(fs_start=1289)

TCCCCCAA
AGACAAGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAACTTTCTTCAGAGCAGACCAGAACCAACAG

=====
(2572) JF689863
=====

PK1: -12.605000(kcal/mol): PK_start=1270 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1297
(fs_start=1289)

A
AAAGGAAGGACACCAAATGAAAGAGTGT
ACG GAGAGTC
TTTTTAGGG
GGCTAAT

PK2: -18.720000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1310
(fs_start=1289)

C
GAAGGACACCAAATGAAAGAGTGTACTGAGAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -26.605000(kcal/mol): PK_start=1297 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1331
(fs_start=1289)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCGGGGA
ACAAGGGA

PK4: -27.875000(kcal/mol): PK_start=1304 sp=7 s1=9 s2=4 l1=6 l2=25 L3=0 PK_end=1360
(fs_start=1289)

CCCACA
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTT
GGGCCGGAA GGGA
CCCTCA
GAACTTTCTTCAGAGCAGACCAGAG

=====
(2573) JF689864
=====

PK1: -12.755000(kcal/mol): PK_start=1269 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1297
(fs_start=1289)

A
GAAAGGAAGGACATCAAATGAAAGACTGT
GACA GAGAGTT

```

          TTTT TAGGG
    GCTAAT
PK2:  -18.430000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1310
(fs_start=1289)
          C
    GAAGGACATCAAATGAAAGACTGTATTGAGAGA
          GATTTTTT A  ATCGGA
          TGGCCTTC
    GGAAGATC
PK3:  -26.110000(kcal/mol): PK_start=1297 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1331
(fs_start=1289)
          A
    TATTGAGAGACAGGCTAATTTTTTAGGGAAG
          CCCTTC  CGGTCT
          GCCAGGGA
    ACAAAGGAAG
PK4:  -26.925000(kcal/mol): PK_start=1304 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1341
(fs_start=1289)
          TCCCACA
    AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
          GGACCGGA  AGGAA
          TCCTTCA
    GAATT

=====
(2574) JF689865
=====
PK1:  -10.445000(kcal/mol): PK_start=1270 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1297
(fs_start=1289)
          A
    AAAGGAAGGACACCAAATGAAAGAGTGT
          ACA  GGGAGTC
          TTTT TAGGG
    GGCTAAT
PK2:  -17.700000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1310
(fs_start=1289)
          C
    GAAGGACACCAAATGAAAGAGTGTACTGAGGGA
          GATTTTTT A  ATCGGA
          TGGCCTTC
    GGAAGATC
PK3:  -26.110000(kcal/mol): PK_start=1297 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1331
(fs_start=1289)
          A
    TACTGAGGGACAGGCTAATTTTTTAGGGAAG
          CCCTTC  CGGTCT

```

GCCAGGGA

ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1304 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1341
(fs_start=1289)

CCAC

GGACAGGCTAATTTTTTTAGGGAAGATCTGGCCTTC

GGACCGGAAG GGAA

TCTTCA

GAACTT

=====
(2575) JF689866
=====

PK1: -10.640000(kcal/mol): PK_start=1261 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1299
(fs_start=1292)

A

TTGGAATGTGAAAAGAAGGACACCAA

GTT AGAAAGT

TTTTTTAGG

CACTGAGAGACAGGCTAA

PK2: -20.460000(kcal/mol): PK_start=1277 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1313
(fs_start=1292)

C

GAAGGACACCAAATGAAAGATTGCACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1300 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1334
(fs_start=1292)

A

CACTGAGAGACAGGCTAATTTTTTTAGGGAAG

TCCTTC CGGTCT

GCCAGGGA

ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1307 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1344
(fs_start=1292)

CTAC

AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCTTC

GGACCGGAAG GGAA

TCTTCA

GAATTT

=====
(2576) JF689867
=====

PK1: -13.555000(kcal/mol): PK_start=1269 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1297
(fs_start=1289)

A

GAAAGGAAGGACACCAAATGAAAGATTGT

```

          GACA    GAGAGTC
                TTTTATAGG
    GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1310
(fs_start=1289)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT A  ATCGGA
                        TGGCCTTC
    GGAAGATC
PK3:  -26.110000(kcal/mol): PK_start=1297 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1331
(fs_start=1289)
                A
TACTGAGAGACAGGCTAATTTTTATAGGGAAG
                CCCTTC    CGGTCT
                        GCCAGGAA
    ACAAGGGAAG
PK4:  -26.445000(kcal/mol): PK_start=1304 sp=7 s1=8 s2=5 l1=7 l2=4 L3=0 PK_end=1340
(fs_start=1289)
                TCCCACA
AGACAGGCTAATTTTTATAGGGAAGATCTGGCCT
                GGACCGGA    AGGGA
                        TTCCTCC
    AAAC
=====
(2577) JF689868
=====
PK1:  -10.640000(kcal/mol): PK_start=1273 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1311
(fs_start=1304)
                A
TTGGAAATGTGGAAAAGAAGGACACCAA
                GTT    AGAAAGT
                        TTTTTTAGG
    CACTGAGAGACAGGCTAA
PK2:  -20.460000(kcal/mol): PK_start=1289 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1325
(fs_start=1304)
                C
GAAGGACACCAAATGAAAGATTGCACTGAGAGA
                GATTTTTT A  ATCGGA
                        TGGCCTTC
    GGAAGATC
PK3:  -22.650000(kcal/mol): PK_start=1313 sp=0 s1=5 s2=6 l1=1 l2=11 L3=0 PK_end=1346
(fs_start=1304)
                A
ACTGAGAGACAGGCTAATTTTTATAGGGAAG

```


CCTTC CGGTCT
 GCCAGGGA
 YCCAAAGGAAG
 PK4: -25.995000(kcal/mol): PK_start=1319 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1356
 (fs_start=1304)
 TCCYCCAA
 AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
 GGACCGGA AGGA
 TCCTCA
 GAATTT

=====
 (2578) JF689870
 =====

PK1: -10.975000(kcal/mol): PK_start=1269 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=1296
 (fs_start=1289)
 AA
 GAAAGGAAGGACACCAAATGAAAGATTGT
 GACA GAGAGT
 TTTTTTAGG
 GCTAAT

PK2: -18.180000(kcal/mol): PK_start=1275 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1310
 (fs_start=1289)
 C
 AAGGACACCAAATGAAAGATTGTAATGAGAGA
 ATTTTTT A ATCGGA
 TGGCCTTC
 GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1297 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1331
 (fs_start=1289)
 A
 TAATGAGAGACAGGCTAATTTTTTAGGGAAG
 CCCTTC CGGTCT
 GCCAGGGA
 ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1304 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1341
 (fs_start=1289)
 CCAC
 AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
 GGACCGGAAG GGAA
 TCTTCA
 GAATTT

=====
 (2579) JF689871
 =====

PK1: -13.205000(kcal/mol): PK_start=1276 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1303
(fs_start=1295)

A
AAAGGAAGGACACCAAATGAAAGAGTGT
ACA GAGAGTC
TTTTTAGGG
GGCTAAT

PK2: -20.460000(kcal/mol): PK_start=1280 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1316
(fs_start=1295)

C
GAAGGACACCAAATGAAAGAGTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1303 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1337
(fs_start=1295)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1310 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1347
(fs_start=1295)

CTAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2580) JF689872
=====

PK1: -10.640000(kcal/mol): PK_start=1252 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1290
(fs_start=1283)

A
TTGGAAATGTGGAAAGGAAGGACACCAA
GTT AGAAAGT
TTTTTTAGG
CACTGAGAGACAGGCTAA

PK2: -20.460000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1304
(fs_start=1283)

C
GAAGGACACCAAATGAAAGATTGCACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1291 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1325 (fs_start=1283)

A
CACTGAGAGACAGGCTAATTTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAAGGAAG

PK4: -24.115000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=5 l1=7 l2=5 l3=0 PK_end=1335 (fs_start=1283)

TCCCACA
AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGAA
TTCTTCA
GAATT

=====
(2581) JF689873
=====

PK1: -13.205000(kcal/mol): PK_start=1270 sp=0 s1=3 s2=7 l1=1 l2=7 l3=0 PK_end=1297 (fs_start=1289)

A
AAAGGAAGGACACCAAATGAAAGAGTGT
ACA GAGAGTC
TTTTTAGGG
GGCTAAT

PK2: -20.460000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1310 (fs_start=1289)

C
GAAGGACACCAAATGAAAGAGTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1297 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1331 (fs_start=1289)

A
TACTGAGAGACAGGCTAATTTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1304 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1341 (fs_start=1289)

CTAC
AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2582) JF689874
=====

PK1: -10.995000(kcal/mol): PK_start=1255 sp=0 s1=3 s2=7 l1=4 l2=18 l3=0 PK_end=1296
(fs_start=1289)

CTGTTGGAAATGTGGAAAAGAAGGACAT
 CAAA
 GTG AGAAAGT
 TTTTTTAGG
 CACTGAAAAACAGGCTAA

PK2: -20.540000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1310
(fs_start=1289)

 C
GAAGGACATCAAATGAAAGAGTGCACTGAAAAA
 GATTTTTT A ATCGGA
 TGGCCTTC
 GGAACATC

PK3: -27.275000(kcal/mol): PK_start=1297 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=1331
(fs_start=1289)

 ACA
CACTGAAAAACAGGCTAATTTTTTTAGGGA
 CCCT TCCGGTCT
 AGGCCAGGGA
 GCAAGGGG

PK4: -26.235000(kcal/mol): PK_start=1304 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1341
(fs_start=1289)

 CCGC
AAACAGGCTAATTTTTTTAGGGAACATCTGGCCTTC
 GGACCGGAGG GGAA
 TCTTCA
 GAACTT

PK4B: -30.395000(kcal/mol): PK_start=1304 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=1367
(fs_start=1289)

 TCCCGCAA
AAACAGGCTAATTTTTTTAGGGAACATCTGGCCT
 GGACCGGA GGGG
 CCCCAC
 GAACTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2583) JF689875
=====

PK1: -13.555000(kcal/mol): PK_start=1266 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1294
(fs_start=1286)

 A
GAAAGGAAGGACACCAAATGAAAGATTGT
 GACA GAGAGTC

```

                TTTT TAGGG
      GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1271 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1307
(fs_start=1286)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT A  ATCGGA
                TGGCCTTC
      GGAGGATC
PK3:  -25.760000(kcal/mol): PK_start=1294 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1328
(fs_start=1286)
                A
TACTGAGAGACAGGCTAATTTTTTAGGGAGG
                CCCTTC  CGGTCT
                GCCAGGGA
      ACAAGGGAAG
PK4:  -26.715000(kcal/mol): PK_start=1301 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1338
(fs_start=1286)
                CCAC
AGACAGGCTAATTTTTTAGGGAGGATCTGGCCTTC
                GGACCGGAAG  GGAA
                TCTTCA
      GAACTT

=====
(2584) JF689876
=====
PK1:  -13.555000(kcal/mol): PK_start=1269 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1297
(fs_start=1289)
                A
GACAGGAAGGACACCAGATGAAAGATTGT
                GACA  GAGAGTC
                TTTT TAGGA
      GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1310
(fs_start=1289)
                C
GAAGGACACCAGATGAAAGATTGTACTGAGAGA
                GATTTTTT A  ATCGGA
                TGGCCTTC
      GAAAAATC
PK3:  -24.015000(kcal/mol): PK_start=1297 sp=0 s1=3 s2=8 l1=4 l2=9 L3=0 PK_end=1331
(fs_start=1289)
                AAAA
TACTGAGAGACAGGCTAATTTTTTAGGA
                CCT  TCCGGTCT

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                                AGGCCAGGGA
                                CACAAGGGA

PK4:  -29.020000(kcal/mol): PK_start=1304 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1341
(fs_start=1289)
                                CCAC
AGACAGGCTAATTTTTTTAGGAAAAATCTGGCCTTC
                                GGACCGGAAG    GGAA
                                CCTTCA
                                GAACTT

=====
(2585) JF689877
=====
PK1:  -9.065000(kcal/mol): PK_start=1269 sp=0 s1=4 s2=6 l1=2 l2=5 L3=0 PK_end=1295
(fs_start=1289)
                                AC
GACAGGAAGGACACCAAATGAAAGATTGT
                                GACA    GAAGGA
                                TTTTTTAG
                                GCTAA

PK2:  -16.390000(kcal/mol): PK_start=1277 sp=0 s1=5 s2=6 l1=1 l2=10 L3=2 PK_end=1309
(fs_start=1289)
                                C
GGACACCAAATGAAAGATTGTACAGGAAGA
                                TTTTT TA  ATCGGA
                                TGGCCTTC
                                AGGGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1297 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1331
(fs_start=1289)
                                AAA
TACAGGAAGACAGGCTAATTTTTTTAGGGA
                                CCCT    TCCGGTCT
                                AGGCCAGGGA
                                ACAAGGGG

PK4:  -26.235000(kcal/mol): PK_start=1304 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1341
(fs_start=1289)
                                CCAC
AGACAGGCTAATTTTTTTAGGAAAAATCTGGCCTTC
                                GGACCGGAGG    GGAA
                                TCTTCA
                                GAATTT

PK4B:  -30.395000(kcal/mol): PK_start=1304 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1367
(fs_start=1289)
                                TCCCACAA
AGACAGGCTAATTTTTTTAGGAAAAATCTGGCCT
                                GGACCGGA    GGGG

```

CCCCAC
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2586) JF689879
=====

PK1: -13.555000(kcal/mol): PK_start=1278 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1306
(fs_start=1298)

A
GAAAGGAAGGACACCAAATGAAGGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1283 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1319
(fs_start=1298)

C
GAAGGACACCAAATGAAGGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1306 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1340
(fs_start=1298)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -29.020000(kcal/mol): PK_start=1313 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1350
(fs_start=1298)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAACTT

=====
(2587) JF689883
=====

PK1: -10.975000(kcal/mol): PK_start=1287 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=1314
(fs_start=1307)

GA
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGT
TTTTTAGG
GCTAAT

PK2: -18.180000(kcal/mol): PK_start=1293 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1328
(fs_start=1307)

C
AAGGACACCAAATGAAAGATTGTGATGAGAGA

```

          A TCGGA
          TGGCCTTC
GGGAAGATC

PK3:  -26.110000(kcal/mol): PK_start=1315 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1349
(fs_start=1307)
          A
TGATGAGAGACAGGCTAATTTTTTAGGGAAG
          CCCTTC   CGGTCT
          GCCAGGGA
          ACAAGGGGAG

PK4:  -28.540000(kcal/mol): PK_start=1322 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1359
(fs_start=1307)
          CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
          GGACCGGAGG   GGAA
          CCTTCA
          GAATTT

PK4B:  -30.395000(kcal/mol): PK_start=1322 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1385
(fs_start=1307)
          TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
          GGACCGGA   GGGG
          CCCCAT
          GAATTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2588) JF689884
=====
PK1:  -10.445000(kcal/mol): PK_start=1267 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1294
(fs_start=1286)
          A
AAAGGAAGGACACCAAATGAAAGAGTGT
          ACA   GGGAGTC
          TTTTTAGGG
          GGCTAAT

PK2:  -17.700000(kcal/mol): PK_start=1271 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1307
(fs_start=1286)
          C
GAAGGACACCAAATGAAAGAGTGTACTGAGGGA
          GATTTTTT   A   A TCGGA
          TGGCCTTC
          GGAAGATC

PK3:  -26.110000(kcal/mol): PK_start=1294 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1328
(fs_start=1286)
          A
TACTGAGGGACAGGCTAATTTTTTAGGGAAG

```


CCCTTC CGGTCT
 GCCAGGGA
 ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1301 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1338
 (fs_start=1286)

CCAC
 GGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
 GGACCGGAAG GGAA
 TCTTCA
 GAACTT

=====
 (2589) JF689885
 =====

PK1: -13.555000(kcal/mol): PK_start=1290 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1318
 (fs_start=1310)

A
 GAAGGGAAGGACATCAAATGAAAGATTGT
 GACA GAGAGTC
 TTTTTAGGG
 GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1295 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1331
 (fs_start=1310)

C
 GAAGGACATCAAATGAAAGATTGTACTGAGAGA
 GATTTTTT A ATCGGA
 TGGCCTTC
 GGAAAATC

PK3: -23.815000(kcal/mol): PK_start=1319 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1352
 (fs_start=1310)

AAA
 ACTGAGAGACAGGCTAATTTTTTAGGGA
 CCT TCCGGTCT
 AGGCCAGGGA
 AGCAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1325 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1362
 (fs_start=1310)

CAGC
 AGACAGGCTAATTTTTTAGGAAAATCTGGCCTTC
 GGACCGGAAG GGAA
 TCTTCA
 GAATTT

=====
 (2590) JF689886
 =====

PK1: -13.555000(kcal/mol): PK_start=1275 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1303
(fs_start=1295)

A
GAAGGGAAGGACATCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1280 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1316
(fs_start=1295)

C
GAAGGACATCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1303 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1337
(fs_start=1295)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -29.020000(kcal/mol): PK_start=1310 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1347
(fs_start=1295)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAACTT

=====
(2591) JF689887
=====

PK1: -13.555000(kcal/mol): PK_start=1287 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1315
(fs_start=1307)

A
GAAGGGAAGGACACCARATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1292 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1328
(fs_start=1307)

C
GAAGGACACCARATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1315 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1349
(fs_start=1307)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -29.020000(kcal/mol): PK_start=1322 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1359
(fs_start=1307)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(2592) JF689889
=====

PK1: -13.555000(kcal/mol): PK_start=1269 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1297
(fs_start=1289)

A
GACAGGAAGGACATCAGATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1310
(fs_start=1289)

C
GAAGGACATCAGATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1297 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1331
(fs_start=1289)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1304 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1341
(fs_start=1289)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2593) JF689890
=====

PK1: -13.555000(kcal/mol): PK_start=1269 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1297
(fs_start=1289)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1310
(fs_start=1289)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1297 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1331
(fs_start=1289)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -29.020000(kcal/mol): PK_start=1304 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1341
(fs_start=1289)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAACTT

=====
(2594) JF689892
=====

PK1: -13.555000(kcal/mol): PK_start=1272 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1300
(fs_start=1292)

A
GACAGGAAGGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1277 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1313
(fs_start=1292)

C
GAAGGGCACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA

```

                                TGGCCTTC
          GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1300 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1334
(fs_start=1292)
                                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTCT
                                AGGCCAGGGA
          ACAGGGGA

PK4:  -26.365000(kcal/mol): PK_start=1307 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1344
(fs_start=1292)
                                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAAG   GGGA
                                TCTTCA
          GAACTT

PK4B:  -31.325000(kcal/mol): PK_start=1307 sp=7 s1=9 s2=4 l1=6 l2=32 L3=0 PK_end=1370
(fs_start=1292)
                                CCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT
                                GGACCGGAA   GGGG
                                CCCCAC
          GAACTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2595) JF689894
=====
PK1:  -13.595000(kcal/mol): PK_start=1281 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1309
(fs_start=1301)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                                GACA   GAAAGTC
                                TTTTTAGGG
          GCTAAT

PK2:  -20.500000(kcal/mol): PK_start=1286 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1322
(fs_start=1301)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
                                GATTTTTT   A   ATCGGA
                                TGGCCTTC
          GGAAAATG

PK3:  -24.465000(kcal/mol): PK_start=1309 sp=0 s1=4 s2=6 l1=5 l2=8 L3=0 PK_end=1341
(fs_start=1301)
                                AAATG
TACTGAAAGACAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGT

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                                AGGCCAGG
          ACAAGGGG
PK4:  -22.825000(kcal/mol): PK_start=1318 sp=9 s1=8 s2=4 l1=4 l2=8 L3=0 PK_end=1353
(fs_start=1301)
                                CCAC
ACAGGCTAATTTTTTAGGGAAAATGTGGCCTTC
                                ACCGGAGG    GGAA
                                TCTTCA
          GGAATTT

PK4B:  -26.985000(kcal/mol): PK_start=1318 sp=9 s1=6 s2=4 l1=8 l2=34 L3=0 PK_end=1379
(fs_start=1301)
                                TCCCACAA
ACAGGCTAATTTTTTAGGGAAAATGTGGCCT
                                ACCGGA    GGGG
                                CCCCAC
          GGAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2596) JF689895
=====
PK1:  -13.555000(kcal/mol): PK_start=1278 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1306
(fs_start=1298)
                                A
GAAAGGAAGGACACCAGATGAAAGATTGT
                                GACA    GAGAGTC
                                TTTTtaggg
          GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1283 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1319
(fs_start=1298)
                                C
GAAGGACACCAGATGAAAGATTGTACTGAGAGA
                                GATTTTTT  A  ATCGGA
                                TGGCCTTC
          GGAAGATC

PK3:  -25.060000(kcal/mol): PK_start=1306 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1340
(fs_start=1298)
                                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                                TCCTTC    CGGTCT
                                GCCAGGGA
          CCAAAGGAAG

PK4:  -24.115000(kcal/mol): PK_start=1313 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1350
(fs_start=1298)
                                TCCTCCA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
                                GGACCGGA    AGGAA

```

TTCTTCA

GAACT

PK4B: -26.53000(kcal/mol): PK_start=1313 sp=7 s1=8 s2=4 l1=1 l2=40 L3=7 PK_end=1377
(fs_start=1298)

T

AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT

GGACCGGA AGGAAAC CTCC

GAGGAG

GAACTTTCTTCAGAGCAGACCAGAGCCAACAGCCCCACCA

=====

(2597) JF689896

=====

PK1: -12.95500(kcal/mol): PK_start=1269 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1297
(fs_start=1289)

A

GAAAGGAAGGACACCAAATGAGAGATTGT

GACG GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -16.08000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1310
(fs_start=1289)

C

GAAGGACACCAAATGAGAGATTGTACTGAGAGG

GATTTTTT A ATCGGA

TGGTCTTC

GGAAGGTC

PK3: -23.28500(kcal/mol): PK_start=1297 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1331
(fs_start=1289)

G

TACTGAGAGGCAGGCTAATTTTTTAGGGAAG

TCCTTC TGGTCT

GCCAGGGA

GCAAGGGAAG

PK4: -26.38000(kcal/mol): PK_start=1304 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1341
(fs_start=1289)

CTGC

AGGCAGGCTAATTTTTTAGGGAAGGTCTGGTCTTC

GGACCGGAAG GGAA

CCTTCA

GAATTT

PK4B: -24.07000(kcal/mol): PK_start=1304 sp=7 s1=9 s2=4 l1=1 l2=40 L3=5 PK_end=1370
(fs_start=1289)

C

AGGCAGGCTAATTTTTTAGGGAAGGTCTGGTCTTC

GGACCGGAA GGGAA CGTC

GCGGAG
GAATTTCTTCAGAGCAGACCAGAGCCAACAGCCCCACCA

=====
(2598) JF689897
=====

PK1: -10.995000(kcal/mol): PK_start=1252 sp=0 s1=3 s2=7 l1=4 l2=18 L3=0 PK_end=1293
(fs_start=1286)

CTGTTGGAAATGTGGAAAGGAAGGACAT CAAA
GTG AGAAAGT
TTTTTTAGG
CACAGAAAGACAGGCTAA

PK2: -17.220000(kcal/mol): PK_start=1273 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=1307
(fs_start=1286)

AGGACATCAAATGAAAGAGTGCACAGAAAGA C
TTTTTT A ATCGGA
TGGCCTTC
AGGGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1294 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1328
(fs_start=1286)

CACAGAAAGACAGGCTAATTTTTTAGGGA AAA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -29.020000(kcal/mol): PK_start=1301 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1338
(fs_start=1286)

AGACAGGCTAATTTTTTAGGAAAATCTGGCCTTC CCAC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(2599) JF719819
=====

PK1: -15.025000(kcal/mol): PK_start=2047 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2075
(fs_start=2067)

GAAAGGAAGGACACCAAATGAAAGACTGT A
GACG GAAAGTC
TTTTTAGGG
GCGAAT

PK2: -8.455000(kcal/mol): PK_start=2061 sp=0 s1=3 s2=6 l1=1 l2=4 L3=0 PK_end=2083
(fs_start=2067)

CAAATGAAAGACTGTACTGAAAGGCAGG C


```

          TTT      TTTAAG
                AAATTCTG
          AGGG
PK3:  -26.805000(kcal/mol): PK_start=2075 sp=0 s1=4 s2=9 l1=2 l2=8 L3=0 PK_end=2110
(fs_start=2067)
                AA
TACTGAAAGGCAGGCGAATTTTTTAGGGA
                CCCT      TCCGGTCTT
                AGGCCAGGGAA
          ACAAGGGG
PK4:  -27.045000(kcal/mol): PK_start=2081 sp=6 s1=9 s2=4 l1=8 l2=6 L3=0 PK_end=2120
(fs_start=2067)
                TCCCACAA
AAGGCAGGCGAATTTTTTAGGGAAATCTGGCCT
                GGGACCGGA      GGGG
                CTCCAG
          AATTTC

=====
(2600) JF804805
=====
PK1:  -10.640000(kcal/mol): PK_start=1414 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1452
(fs_start=1445)
                A
TTGGAAATGTGGAAAGGAAGGACACCAA
                GTT      AGAAAGT
                TTTTTTAGG
          CACAGAAAGACAGGCTAA
PK2:  -18.700000(kcal/mol): PK_start=1432 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1467
(fs_start=1445)
                C
AGGACACCAAATGAAAGATTGCACAGAAAGA
                TTTTTT      AATCGGA
                TTGGCCTTC
          AGGGAAAAT
PK3:  -18.720000(kcal/mol): PK_start=1454 sp=0 s1=4 s2=4 l1=5 l2=10 L3=0 PK_end=1484
(fs_start=1445)
                AATTT
ACAGAAAGACAGGCTAATTTTTTAGGGAA
                CCTT      CCGG
                GGCCTG
          AACAAGGGGA
PK4:  -20.515000(kcal/mol): PK_start=1463 sp=10 s1=7 s2=4 l1=4 l2=9 L3=0 PK_end=1497
(fs_start=1445)
                CAAC
CAGGCTAATTTTTTAGGGAAAATTTGGCCTTC

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CCGGAGG GGAA
TGGAAATTT TCTTCA
PK4B: -24.675000(kcal/mol): PK_start=1463 sp=10 s1=5 s2=4 l1=8 l2=35 L3=0
PK_end=1523 (fs_start=1445)
TCCAACAA
CAGGCTAATTTTTTAGGGAAAATTTGGCCT
CCGGA GGGG
CCCCGC
TGGAAATTTTCTTCAGAACAGGCCAGAGCCAACAG

=====
(2601) JF804806
=====

PK1: -15.140000(kcal/mol): PK_start=1302 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1330
(fs_start=1322)
CA
GAAAAGAAGGACACCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -21.980000(kcal/mol): PK_start=1307 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1344
(fs_start=1322)
C
GAAGGACACCAAATGAAAGACTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1330 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1364
(fs_start=1322)
AAA
CACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -26.865000(kcal/mol): PK_start=1337 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1400
(fs_start=1322)
TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCATTCAAACAGGCCAGAGCCAACAG

=====
(2602) JF804807
=====

PK1: -15.140000(kcal/mol): PK_start=1339 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1367
(fs_start=1359)

CA
GGAAAGAGGGGCACCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTTAGGG
GCTAA

PK2: -21.980000(kcal/mol): PK_start=1344 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1381
(fs_start=1359)

C
GAGGGGCACCAAATGAAAGACTGCACTGAAAGA
GATTTTTT AATCGGA
TTGCCTTC
GGAAAAT

PK3: -21.780000(kcal/mol): PK_start=1367 sp=0 s1=5 s2=4 l1=5 l2=9 L3=0 PK_end=1398
(fs_start=1359)

AATTT
CACTGAAAGACAGGCTAATTTTTTTAGGGAA
CCCTT CCGG
GGCCCG
ACAAGGGGA

PK4: -24.675000(kcal/mol): PK_start=1377 sp=10 s1=5 s2=4 l1=8 l2=35 L3=0 PK_end=1437
(fs_start=1359)

TCCCACAA
CAGGCTAATTTTTTTAGGGAAAATTTGGCCT
CCGGA GGGG
CCCCGC
CGGGAATTTTCATTTCAGAACAGGCCAGAACCAACAG

=====
(2603) JF804808
=====

PK1: -15.100000(kcal/mol): PK_start=1292 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1320
(fs_start=1312)

CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTTAGGG
GCTAA

PK2: -20.460000(kcal/mol): PK_start=1297 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1333
(fs_start=1312)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT A ATCGGA
TGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1320 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1354
(fs_start=1312)

A
CACTGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
CCAAGGGAAG

PK4: -29.020000(kcal/mol): PK_start=1327 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1364
(fs_start=1312)

CTCC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

PK4B: -26.530000(kcal/mol): PK_start=1327 sp=7 s1=8 s2=4 l1=1 l2=40 l3=7 PK_end=1391
(fs_start=1312)

T
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGGAAC CTCC
GAGGAG
GAATTTCTTCAGAGCAGACCAGAACCAACAGCCCCACCA

=====
(2604) JF804809

=====
PK1: -12.360000(kcal/mol): PK_start=1275 sp=0 s1=3 s2=7 l1=1 l2=18 l3=0 PK_end=1313
(fs_start=1306)

A
TTGGAAATGTGGAAGAGAAGGACACCAG
GTC AGAAAGT
TTTTTTAGG
CACTGAAAGACAGGCTAA

PK2: -21.980000(kcal/mol): PK_start=1291 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1328
(fs_start=1306)

C
GAAGGACACCAGATGAAAGACTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1315 sp=0 s1=3 s2=8 l1=3 l2=9 l3=0 PK_end=1348
(fs_start=1306)

AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AGCAAGGGA

PK4: -25.490000(kcal/mol): PK_start=1321 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1358
(fs_start=1306)

CAGC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(2605) JF804810
=====

PK1: -13.555000(kcal/mol): PK_start=1360 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1388
(fs_start=1380)

A
GAAGGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1365 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1401
(fs_start=1380)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTCC
GGAAGATC

PK3: -33.030000(kcal/mol): PK_start=1389 sp=0 s1=3 s2=10 l1=4 l2=3 l3=0 PK_end=1421
(fs_start=1380)

AGAT
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT CCCTCCGGTC
GGGAGGCCAGGG
AAG

PK4: -29.045000(kcal/mol): PK_start=1395 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1432
(fs_start=1380)

CTCC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTCC
GGACCGGAGG GGAA
TCTTCA
GAACTT

PK4B: -30.395000(kcal/mol): PK_start=1395 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=1458
(fs_start=1380)

CCCTCCAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAACTTTCTTCAGAGCAGGCCAGGCCATCAG

=====
(2606) JF804811
=====

PK1: -15.140000(kcal/mol): PK_start=1304 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1332
(fs_start=1324)

CA
GGAAAGAAGGACACCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -21.980000(kcal/mol): PK_start=1309 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1346
(fs_start=1324)

C
GAAGGACACCAAATGAAAGACTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAGAAT

PK3: -18.840000(kcal/mol): PK_start=1332 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1366
(fs_start=1324)

AA
CACTGAAAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTTT
GCCAGGAA
CACAAAGGGAG

PK4: -23.985000(kcal/mol): PK_start=1339 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1377
(fs_start=1324)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
GGACCGGA GGGG
CTCCAG
AAATTTTC

PK4B: -26.865000(kcal/mol): PK_start=1339 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1402
(fs_start=1324)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
GGACCGGA GGGG
CCCCGC
AAATTTCTCCAGAACAGGACAGAGCCAACAG

=====
(2607) JF804812
=====

PK1: -15.625000(kcal/mol): PK_start=1413 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1441
(fs_start=1433)

A
GAAAAGAAGGACACCAAATGAAAGACTGT
GACA GAAAGTC

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          TTTT TAGGG
    GCTAAT
PK2:  -21.980000(kcal/mol): PK_start=1418 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1455
(fs_start=1433)
          C
GAAGGACACCAAATGAAAGACTGTACTGAAAGA
          GATTTTTT   AATCGGA
          TTGGCCTTC
    GGAGAAT
PK3:  -18.840000(kcal/mol): PK_start=1441 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1475
(fs_start=1433)
          AA
TACTGAAAGACAGGCTAATTTTTTAGGGAG
          CCTTC   CGGTTT
          GCCAGGAA
    CAGAAGGGGAG
PK4:  -26.865000(kcal/mol): PK_start=1448 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1511
(fs_start=1433)
          TCCCAGAA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
          GGACCGGA   GGGG
          CCCCCG
    AAATTTCAATTCAGAACAGGCCAGGCCATCAG

=====
(2608) JF804813
=====
PK1:  -10.640000(kcal/mol): PK_start=1269 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1307
(fs_start=1300)
          A
TTGGAATGTGGAAGAGAAGGACACCAA
          GTT   AGAAAGT
          TTTTTTAGG
    CACTGAAAGACAGGCTAA
PK2:  -21.980000(kcal/mol): PK_start=1285 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1322
(fs_start=1300)
          C
GAAGGACACCAAATGAAAGATTGCACTGAAAGA
          GATTTTTT   AATCGGA
          TTGGCCTTC
    GGAAAAT
PK3:  -23.745000(kcal/mol): PK_start=1308 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1342
(fs_start=1300)
          AAA
CACTGAAAGACAGGCTAATTTTTTAGGGA
          CCCT   TCCGGTTT

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                                AGGCCAGGAA
                ACAAGGGG
PK4:  -25.010000(kcal/mol): PK_start=1315 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1352
(fs_start=1300)
                                CCAC
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTTC
                                GGACCGGAGG    GGAA
                                CCTTCA
                AAATTT
PK4B:  -26.865000(kcal/mol): PK_start=1315 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1378
(fs_start=1300)
                                TCCCACAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
                                GGACCGGA    GGGG
                                CCCCAC
                AAATTTCTTCAGAACAGGCCAGAGCCAACAG

=====
(2609) JF932468
=====
PK1:  -13.555000(kcal/mol): PK_start=1416 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1444
(fs_start=1436)
                                A
GAAAGGAAGGACACCAAATGAAGGATTGT
                                GACA    GAGAGTC
                                TTTTTAGGG
                GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1421 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1457
(fs_start=1436)
                                C
GAAGGACACCAAATGAAGGATTGTACTGAGAGA
                                GATTTTTT    A    ATCGGA
                                TGGCCTTC
                GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1444 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1478
(fs_start=1436)
                                AAA
TACTGAGAGACAGGCTAATTTTTTTAGGGA
                                CCCT    TCCGGTCT
                                AGGCCAGGGA
                AGAGGGGG
PK4:  -32.140000(kcal/mol): PK_start=1451 sp=7 s1=11 s2=4 l1=2 l2=7 L3=0 PK_end=1489
(fs_start=1436)
                                CA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTCC
                                GGACCGGAGGG    GGAG

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CTTCAG

GAATTTT

PK4B: -31.255000(kcal/mol): PK_start=1451 sp=7 s1=9 s2=4 l1=6 l2=32 L3=0 PK_end=1514
(fs_start=1436)

CCCAGA

AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTT

GGACCGGAG GGGG

CCCCAC

GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2610) JF932469
=====

PK1: -13.555000(kcal/mol): PK_start=1499 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1527
(fs_start=1519)

A

GAAAGGAAGGACACCAAATGAAGGATTGT

GACA GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1504 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1540
(fs_start=1519)

C

GAAGGACACCAAATGAAGGATTGTACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1527 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1561
(fs_start=1519)

AAA

TACTGAGAGACAGGCTAATTTTTTTAGGGA

CCCT TCCGGTCT

AGGCCAGGGA

ACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=1534 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1571
(fs_start=1519)

CCAC

AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAGG GGAA

TCTTCA

GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1534 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1597
(fs_start=1519)

TCCCACAA

AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT

GGACCGGA GGGG

CCCCAC
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2611) JF932470
=====

PK1: -13.595000(kcal/mol): PK_start=1490 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1518
(fs_start=1510)

A
GAAAGGAAGGACACCAAATGAAGGATTGT

GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1495 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1531
(fs_start=1510)

C
GAAGGACACCAAATGAAGGATTGTACTGAAAGA

GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1518 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1552
(fs_start=1510)

A
TACTGAAAGACAGGCTAATTTTTTAGGGAAG

CCCTTC CGGTCT
GCCAGGGA
ACAAGGGGAG

PK4: -28.540000(kcal/mol): PK_start=1525 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1562
(fs_start=1510)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC

GGACCGGAGG GGAA
CCTTCA
GAACTT

PK4B: -30.395000(kcal/mol): PK_start=1525 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1588
(fs_start=1510)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT

GGACCGGA GGGG
CCCCAC
GAACTTCTTCAGAGCAGGCCAGAGCCAACAG

=====
(2612) JF932471
=====

PK1: -10.725000(kcal/mol): PK_start=1505 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1533
(fs_start=1525)

A
GAAAGGAAGGACACCAAATGAAGGATTGT

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          GACA    GAGAGTT
                TTTTtaggg
    GCTAAT
PK2:  -18.430000(kcal/mol): PK_start=1510 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1546
(fs_start=1525)
                C
GAAGGACACCAAATGAAGGATTGTATTGAGAGA
                GATTTTTT A  ATCGGA
                        TGGCCTTC
    GGAAGATC
PK3:  -26.110000(kcal/mol): PK_start=1533 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1567
(fs_start=1525)
                A
TATTGAGAGACAGGCTAATTTTTTAGGGAAG
                CCCTTC    CGGTCT
                        GCCAGGGA
    ACAAGGGGAG
PK4:  -26.235000(kcal/mol): PK_start=1540 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1577
(fs_start=1525)
                CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
                GGACCGGAGG    GGAA
                        TCTTCA
    GAATTT
PK4B:  -30.395000(kcal/mol): PK_start=1540 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1603
(fs_start=1525)
                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
                GGACCGGA    GGGG
                        CCCAC
    GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2613) JF932472
=====
PK1:  -13.555000(kcal/mol): PK_start=1502 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1530
(fs_start=1522)
                A
GAAAGGAAGGACACCAAATGAAGGATTGT
                GACA    GAGAGTC
                        TTTTtaggg
    GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1507 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1543
(fs_start=1522)
                C
GAAGGACACCAAATGAAGGATTGTACTGAGAGA

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          GATTTTTT A ATCGGA
                                TGGCCTTC
      GGAAGCTC
PK3:  -26.110000(kcal/mol): PK_start=1530 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1564
(fs_start=1522)
                                C
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
          CCCTTC   CGGTCT
                                GCCAGGGA
          ACAAGGGGAG
PK4:  -26.095000(kcal/mol): PK_start=1536 sp=6 s1=9 s2=4 l1=8 l2=6 L3=0 PK_end=1575
(fs_start=1522)
                                TCCCACAA
GAGACAGGCTAATTTTTTAGGGAAGCTCTGGCCT
          GGGACCGGA   GGGG
                                CTCAG
          AACTTC
PK4B:  -32.705000(kcal/mol): PK_start=1536 sp=6 s1=9 s2=4 l1=8 l2=31 L3=0 PK_end=1600
(fs_start=1522)
                                TCCCACAA
GAGACAGGCTAATTTTTTAGGGAAGCTCTGGCCT
          GGGACCGGA   GGGG
                                CCCCAC
          AACTTCCTCAGAGCAGACCAGAGCCAACAG
=====
(2614) JF932473
=====
PK1:  -13.555000(kcal/mol): PK_start=1510 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1538
(fs_start=1530)
                                A
GAAAAGAAGGACACCAAATGAAGGATTGT
          GACA   GAGAGTC
                                TTTTTAGGG
          GCTAAT
PK2:  -21.940000(kcal/mol): PK_start=1515 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1552
(fs_start=1530)
                                C
GAAGGACACCAAATGAAGGATTGTACTGAGAGA
          GATTTTTT   AATCGGA
                                TTGGCCTTC
          GGAAGAT
PK3:  -22.580000(kcal/mol): PK_start=1538 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1572
(fs_start=1530)
                                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG

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          CCCTTC   CGGTTT
                    GCCAGGGA
ACAAGGGGAG

PK4:  -22.705000(kcal/mol): PK_start=1545 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1582
(fs_start=1530)
                    CCAC
AGACAGGCTAATTTTTTAGGGAAGATTGGCCTTC
                    GGACCGGAGG   GGAA
                                TCTTCA
                    GAATTT

PK4B:  -26.865000(kcal/mol): PK_start=1545 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1608
(fs_start=1530)
                    TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATTGGCCT
                    GGACCGGA   GGGG
                                CCCCAC
                    GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2615) JF932474
=====
PK1:  -13.555000(kcal/mol): PK_start=1503 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1531
(fs_start=1523)
                    A
GAAGGGAAGGACACCAAATGAAGGATTGT
                    GACA   GAGAGTC
                                TTTTTAGGG
                    GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1508 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1544
(fs_start=1523)
                    C
GAAGGACACCAAATGAAGGATTGTACTGAGAGA
                    GATTTTTT   A   ATCGGA
                                TGGCCTTC
                    GGAAGATC

PK3:  -25.060000(kcal/mol): PK_start=1531 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1565
(fs_start=1523)
                    A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                    TCCTTC   CGGTCT
                                GCCAGGGA
                    GCAAGGGGAG

PK4:  -28.540000(kcal/mol): PK_start=1538 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1575
(fs_start=1523)
                    CTGC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC

```

GGACCGGAGG GGAA
 CCTTCA
 GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1538 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1601
 (fs_start=1523)

TCCTGCAA
 AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT

GGACCGGA GGGG
 CCCCAC
 GAATTTCC TTCAGAGCAGACCAGAACCAACAG

=====
 (2616) JF932475
 =====

PK1: -8.035000(kcal/mol): PK_start=1502 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1530
 (fs_start=1522)

A
 GAAAAGAAGGACACCAAATGAAGGATTGT

GACA GGGGGTC
 TTTTTAGGG
 GCTAAT

PK2: -14.940000(kcal/mol): PK_start=1507 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1543
 (fs_start=1522)

C
 GAAGGACACCAAATGAAGGATTGTACTGGGGGA

GATTTTTT A ATCGGA
 TGGCCTTC
 GGAAAGTC

PK3: -27.275000(kcal/mol): PK_start=1530 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1564
 (fs_start=1522)

AAG
 TACTGGGGGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT
 AGGCCAGGGA
 ACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=1537 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1574
 (fs_start=1522)

CCAC
 GGACAGGCTAATTTTTTAGGGAAAGTCTGGCCTTC

GGACCGGAGG GGAA
 TCTTCA
 GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1537 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1600
 (fs_start=1522)

TCCCACAA
 GGACAGGCTAATTTTTTAGGGAAAGTCTGGCCT

GGACCGGA GGGG
CCCCAA
GAATTTTCTTCAGAGCAGACCAGAGCCGACAG

=====
(2617) JF932476
=====

PK1: -13.555000(kcal/mol): PK_start=1438 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1466
(fs_start=1458)

A
GAAAGGAAGGACACCAAATGAAGGATTGT

GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1443 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1479
(fs_start=1458)

C
GAAGGACACCAAATGAAGGATTGTACTGAGAGA

GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1466 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1500
(fs_start=1458)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG

CCCTTC CGGTCT
GCCAGGGA
ACAAGGGGAG

PK4: -24.345000(kcal/mol): PK_start=1473 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1510
(fs_start=1458)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT

GGACCGGA GGGG
TCTCCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1473 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1536
(fs_start=1458)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT

GGACCGGA GGGG
CCCCAC
GAATTTTCTCCAGAGCAGGCCAGCCAACAG

=====
(2618) JF932477
=====

PK1: -13.555000(kcal/mol): PK_start=1503 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1531 (fs_start=1523)

A
GAAGGGAAGGACACCAAATGAAGGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1508 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1544 (fs_start=1523)

C
GAAGGACACCAAATGAAGGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1531 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1565 (fs_start=1523)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=1538 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1575 (fs_start=1523)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1538 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1601 (fs_start=1523)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCTTCAGAACAGGCCAGAGCCAACAG

=====
(2619) JF932478
=====

PK1: -13.555000(kcal/mol): PK_start=1511 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1539 (fs_start=1531)

A
GACAGGAAGGACACCAAATGAAGGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1516 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1552
(fs_start=1531)

C
GAAGGACACCAAATGAAGGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGGTC

PK3: -25.440000(kcal/mol): PK_start=1539 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1573
(fs_start=1531)

G
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCGGGA
ACAAGGGGAG

PK4: -27.870000(kcal/mol): PK_start=1546 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1583
(fs_start=1531)

CCAC
AGACAGGCTAATTTTTTAGGGAAGGTCTGGCCTTC
GGGCCGAGG GGAA
CCTTCA
GAATTT

PK4B: -29.725000(kcal/mol): PK_start=1546 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1609
(fs_start=1531)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGGTCTGGCCT
GGGCCGGA GGGG
CCCCAC
GAATTTCTTCAGAGCAGGCCAGCCAACAG

=====
(2620) JF932479
=====

PK1: -13.555000(kcal/mol): PK_start=1509 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1537
(fs_start=1529)

A
GAAAGGAAGGACATCAAATGAAGGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1514 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1550
(fs_start=1529)

C
GAAGGACATCAAATGAAGGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAGTC

PK3: -27.275000(kcal/mol): PK_start=1537 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1571
(fs_start=1529)

AAG
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -25.745000(kcal/mol): PK_start=1544 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1581
(fs_start=1529)

CCCACA
AGACAGGCTAATTTTTTAGGGAAAGTCTGGCCTT
GGACCGGAG GGGA
TCCTCA
GAACTT

PK4B: -30.395000(kcal/mol): PK_start=1544 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1607
(fs_start=1529)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAGTCTGGCCT
GGACCGGA GGGG
CCCCAC
GAACTTTCCTCAGAGCAGACTAGAGCCAACAG

=====
(2621) JF932480
=====

PK1: -13.555000(kcal/mol): PK_start=1516 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1544
(fs_start=1536)

A
GAAGGGAAGGACACCAAATGAAGGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1521 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1557
(fs_start=1536)

C
GAAGGACACCAAATGAAGGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGCTC

PK3: -26.110000(kcal/mol): PK_start=1544 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1578
(fs_start=1536)

C
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGGAG

PK4: -26.655000(kcal/mol): PK_start=1550 sp=6 s1=9 s2=4 l1=8 l2=5 L3=0 PK_end=1588
(fs_start=1536)

TCCCACAA
GAGACAGGCTAATTTTTTAGGGAAGCTCTGGCCT
GGGACCGGA GGGG
TCTCCA
AATTT

PK4B: -32.705000(kcal/mol): PK_start=1550 sp=6 s1=9 s2=4 l1=8 l2=31 L3=0 PK_end=1614
(fs_start=1536)

TCCCACAA
GAGACAGGCTAATTTTTTAGGGAAGCTCTGGCCT
GGGACCGGA GGGG
CCCCAC
AATTTTCTCCAGAGCAGACCAGAGCCAACAG

=====
(2622) JF932481
=====

PK1: -13.555000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1540
(fs_start=1532)

A
GAAAGGAAGGACACCAAATGAAGGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1517 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1553
(fs_start=1532)

C
GAAGGACACCAAATGAAGGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1540 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1574
(fs_start=1532)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1547 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1584
(fs_start=1532)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAACTT

PK4B: -30.395000(kcal/mol): PK_start=1547 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1610
(fs_start=1532)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAACTTTCTTCAGAGCAGGCCAGAGCCAACAG

=====
(2623) JF932482
=====

PK1: -13.555000(kcal/mol): PK_start=1501 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1529
(fs_start=1521)

A
GAAAGGAAGGACACCAAATGAAGGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1506 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1542
(fs_start=1521)

C
GAAGGACACCAAATGAAGGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1529 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1563
(fs_start=1521)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1536 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1573
(fs_start=1521)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1536 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1599
(fs_start=1521)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CCCCGC
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2624) JF932483
=====

PK1: -13.555000(kcal/mol): PK_start=1311 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1339
(fs_start=1331)

A
GAAAGGAAGGACACCAAATGAAGGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1316 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1352
(fs_start=1331)

C
GAAGGACACCAAATGAAGGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1339 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1373
(fs_start=1331)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1346 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1383
(fs_start=1331)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1346 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=1409
(fs_start=1331)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2625) JF932484
=====

PK1: -13.595000(kcal/mol): PK_start=1431 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1459
(fs_start=1451)

A
GAAAAGAAGGACACCAAATGAAGGATTGT
GACA GAAAGTC

TTTTTAGGG
GCTAAT
PK2: -21.640000(kcal/mol): PK_start=1436 sp=0 s1=7 s2=7 l1=1 l2=8 L3=2 PK_end=1472
(fs_start=1451)

A
GAAGGACACCAATTGAAGGATTGTACTGAAAG
GATTTTT TA ATCGGAC
TGCCTGCC
GGAAGATC

PK3: -24.460000(kcal/mol): PK_start=1459 sp=0 s1=3 s2=8 l1=4 l2=8 L3=1 PK_end=1492
(fs_start=1451)

AAGA
TACTGAAAGACAGGCTAATTTTTTAGGG
CCC G TCCGGTCT
AGGCCAGGAA
ACAAGGGG

PK4: -22.195000(kcal/mol): PK_start=1466 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1503
(fs_start=1451)

GCCCACA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGGA
TTCTTCA
AAATT

PK4B: -30.395000(kcal/mol): PK_start=1466 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1529
(fs_start=1451)

GCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2626) JF932485
=====

PK1: -13.555000(kcal/mol): PK_start=1418 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1446
(fs_start=1438)

A
GAAAGGAAGGACACCAAATGAAGGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1423 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1459
(fs_start=1438)

C
GAAGGACACCAAATGAAGGATTGTACTGAGAGA
GATTTTTT A ATCGGA

TGGCCTTC

GGAAAATC

PK3: -24.395000(kcal/mol): PK_start=1446 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1480
(fs_start=1438)

AAA

TACTGAGAGACAGGCTAATTTTTTAGGGA

CTCT TCCGGTCT

AGGCCAGGGA

ACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=1453 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1490
(fs_start=1438)

TCAC

AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAGG GGAA

TCTTCA

GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1453 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1516
(fs_start=1438)

TCTCACAA

AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT

GGACCGGA GGGG

CCCCAC

GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====

(2627) JF932486

=====

PK1: -13.070000(kcal/mol): PK_start=1510 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1538
(fs_start=1530)

CA

GAAGGGAAGGACACCAAATGAAGGATTG

GAC AGAGAGTC

TTTTTTAGGG

GCTAA

PK2: -20.460000(kcal/mol): PK_start=1515 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1551
(fs_start=1530)

C

GAAGGACACCAAATGAAGGATTGCACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1538 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1572
(fs_start=1530)

A

CACTGAGAGACAGGCTAATTTTTTAGGGAAG

CCCTTC CGGTCT

```

                                GCCAGGGA
          ACAAGGGGAG
PK4:  -26.235000(kcal/mol): PK_start=1545 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1582
(fs_start=1530)
                                CCAC
AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCTTC
                                GGACCGGAGG    GGAA
                                TCTTCA
          GAACTT
PK4B:  -30.395000(kcal/mol): PK_start=1545 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1608
(fs_start=1530)
                                TCCCACAA
AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCT
                                GGACCGGA    GGGG
                                CCCCAC
          GAACTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2628) JF932487
=====
PK1:  -13.555000(kcal/mol): PK_start=1417 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1445
(fs_start=1437)
                                A
GAAAGGAAGGACACCAAATGAAGGATTGT
                                GACA    GAGAGTC
                                TTTTTAGGG
          GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1422 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1458
(fs_start=1437)
                                C
GAAGGACACCAAATGAAGGATTGTACTGAGAGA
                                GATTTTTT    A    ATCGGA
                                TGGCCTTC
          GGAAGATC
PK3:  -26.110000(kcal/mol): PK_start=1445 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1479
(fs_start=1437)
                                A
TACTGAGAGACAGGCTAATTTTTTTAGGGAAG
                                CCCTTC    CGGTCT
                                GCCAGGGA
          ACAAGGGGAG
PK4:  -26.235000(kcal/mol): PK_start=1452 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1489
(fs_start=1437)
                                CCAC
AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCTTC
                                GGACCGGAGG    GGAA

```


TCTTCA

GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1452 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1515
(fs_start=1437)

TCCCACAA

AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT

GGACCGGA GGGG

CCCCAC

GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====

(2629) JF932488

=====

PK1: -13.555000(kcal/mol): PK_start=1503 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1531
(fs_start=1523)

A

GAAAGGAAGGACACCAAATGAAGGATTGT

GACA GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1508 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1544
(fs_start=1523)

C

GAAGGACACCAAATGAAGGATTGTACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1531 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1565
(fs_start=1523)

AAA

TACTGAGAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT

AGGCCAGGAA

ACAAGGGG

PK4: -28.540000(kcal/mol): PK_start=1538 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1575
(fs_start=1523)

CCAC

AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAGG GGAA

CCTTCA

AAATTT

PK4B: -30.395000(kcal/mol): PK_start=1538 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1601
(fs_start=1523)

TCCCACAA

AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT

GGACCGGA GGGG

CCCCAC
AAATTCCTTCAGAGCAGACCAGAGCCAACAG

=====
(2630) JF932489
=====

PK1: -10.725000(kcal/mol): PK_start=1517 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1545
(fs_start=1537)

A
GAAAGGAAGGACACCAAATGAAGGATTGT
GACA GAGAGTT
TTTTTAGGG
GCTAAT

PK2: -18.430000(kcal/mol): PK_start=1522 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1558
(fs_start=1537)

C
GAAGGACACCAAATGAAGGATTGTATTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1545 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1579
(fs_start=1537)

A
TATTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGGAG

PK4: -28.540000(kcal/mol): PK_start=1552 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1589
(fs_start=1537)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1552 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1615
(fs_start=1537)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTCCTTCAGAGCAGACCAGAGCCAACAG

=====
(2631) JF932490
=====

PK1: -12.755000(kcal/mol): PK_start=1332 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1360
(fs_start=1352)

A
GAAAGGAAGGACACCAAATGAAGGACTGT

GACA GAGAGTT
TTTTTAGGG
GCTAAT
PK2: -18.430000(kcal/mol): PK_start=1337 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1373
(fs_start=1352)

C
GAAGGACACCAAATGAAGGACTGTATTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGGTC

PK3: -26.110000(kcal/mol): PK_start=1360 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1394
(fs_start=1352)

G
TATTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGGAG

PK4: -28.540000(kcal/mol): PK_start=1367 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1404
(fs_start=1352)

CCAC
AGACAGGCTAATTTTTTAGGGAAGGTCTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1367 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1430
(fs_start=1352)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGGTCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2632) JF932491
=====

PK1: -13.555000(kcal/mol): PK_start=1315 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1343
(fs_start=1335)

A
GAAAGGAAGGACACCAAATGAAGGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1320 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1356
(fs_start=1335)

C
GAAGGACACCAAATGAAGGATTGTACTGAGAGA

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          GATTTTTT A ATCGGA
                    TGGCCTTC
    GGAAGATC
PK3:  -26.110000(kcal/mol): PK_start=1343 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1377
(fs_start=1335)
          A
TACTGAGAGACAGGCTAATTTTTTTAGGGAAG
          CCCTTC   CGGTCT
                    GCCAGGGA
    ACAAGGGGAG
PK4:  -26.235000(kcal/mol): PK_start=1350 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1387
(fs_start=1335)
                    CCAC
AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCTTC
          GGACCGGAGG   GGAA
                    TCTTCA
    GAATTT
PK4B:  -30.395000(kcal/mol): PK_start=1350 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1413
(fs_start=1335)
                    TCCCACAA
AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCT
          GGACCGGA   GGGG
                    CCCCAC
    GAATTTTCTTCAGAGCAGGCCAGAGCCAACAG
=====
(2633) JF932493
=====
PK1:  -13.555000(kcal/mol): PK_start=1418 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1446
(fs_start=1438)
          A
GACAGGAAGGACACCAAATGAAGGATTGT
          GACA   GAGAGTC
                    TTTTTAGGG
    GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1423 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1459
(fs_start=1438)
          C
GAAGGACACCAAATGAAGGATTGTACTGAGAGA
          GATTTTTT A ATCGGA
                    TGGCCTTC
    GGAAACTC
PK3:  -30.485000(kcal/mol): PK_start=1446 sp=0 s1=4 s2=9 l1=2 l2=8 L3=0 PK_end=1481
(fs_start=1438)
          AA
TACTGAGAGACAGGCTAATTTTTTTAGGGA

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          CCCT      TCCGGTCTC
                AGGCCAGGGAA
    ACAAGGGG
PK4:  -28.355000(kcal/mol): PK_start=1452 sp=6 s1=10 s2=4 l1=6 l2=5 L3=0 PK_end=1490
(fs_start=1438)
                CCCACA
GAGACAGGCTAATTTTTTTAGGGAAACTCTGGCCTT
                GGGACCGGAG      GGGA
                TCCTCA
          AATTT
PK4B:  -33.005000(kcal/mol): PK_start=1452 sp=6 s1=9 s2=4 l1=8 l2=31 L3=0 PK_end=1516
(fs_start=1438)
                TCCCACAA
GAGACAGGCTAATTTTTTTAGGGAAACTCTGGCCTT
                GGGACCGGA      GGGG
                CCCCAC
          AATTTTCCTCAGAGCAGACCAGAGCCAACAG

=====
(2634) JF932494
=====
PK1:  -10.425000(kcal/mol): PK_start=1507 sp=0 s1=4 s2=6 l1=2 l2=5 L3=0 PK_end=1533
(fs_start=1527)
                AC
GAAAGGAAGGACACCAAATGAAAGATTGT
                GACA      GAGAGA
                TTTTTTAG
          GCTAA
PK2:  -17.180000(kcal/mol): PK_start=1514 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=1548
(fs_start=1527)
                C
AGGACACCAAATGAAAGATTGTACAGAGAGA
                TTTTTT  A  ATCGGA
                TGGCCTTC
          AGGAAAGATC
PK3:  -17.340000(kcal/mol): PK_start=1538 sp=0 s1=3 s2=6 l1=1 l2=13 L3=0 PK_end=1569
(fs_start=1527)
                A
AGAGAGACAGGCTAATTTTTTTAGGAAAG
                TTC      CGGTCT
                GCCAGGGA
          CCCACAAGGGAAG
PK4:  -26.715000(kcal/mol): PK_start=1542 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1579
(fs_start=1527)
                CCAC
AGACAGGCTAATTTTTTTAGGAAAGATCTGGCCTTC

```

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                GGACCGGAAG    GGAA
                                TCTTCA
          GAATTT
=====
(2635) JF932495
=====
PK1:  -13.555000(kcal/mol): PK_start=1437 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1465
(fs_start=1457)
                                T
GAAAGGAAGGACACCAAATGAAAGATTGT
                GACA    GAGAGTC
                                TTTTTAGGG
          GCTAAT

PK2:  -21.020000(kcal/mol): PK_start=1440 sp=0 s1=10 s2=6 l1=1 l2=6 L3=1 PK_end=1478
(fs_start=1457)
                                C
AGGAAGGACACCAAATGAAAGATTGTTCTGAGAGA
                GGGATTTTTT    A    ATCGGA
                                TGGCCTTC
          AAAATC

PK3:  -27.275000(kcal/mol): PK_start=1465 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1499
(fs_start=1457)
                                AAA
TTCTGAGAGACAGGCTAATTTTTTAGGGA
                CCCT    TCCGGTCT
                                AGGCCAGGGA
          ACAAGGGG

PK4:  -26.235000(kcal/mol): PK_start=1472 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1509
(fs_start=1457)
                                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                GGACCGGAGG    GGAA
                                TCTTCA
          GAATTT

PK4B:  -30.395000(kcal/mol): PK_start=1472 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1535
(fs_start=1457)
                                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                GGACCGGA    GGGG
                                CCCCAC
          GAATTTTCTTCAGAGCAGGCCAGAACCATCAG
=====
(2636) JF932496
=====

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PK1: -10.975000(kcal/mol): PK_start=1434 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=1461
(fs_start=1454)

AA
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGT
TTTTTAGG
GCTAAT

PK2: -16.800000(kcal/mol): PK_start=1440 sp=0 s1=7 s2=5 l1=2 l2=9 L3=1 PK_end=1474
(fs_start=1454)

CA
AAGGACACCAAATGAAAGATTGTAATGAGAGA
ATTTTTT A ATCGG
TGGCCCT
GGGAAGATC

PK3: -24.730000(kcal/mol): PK_start=1462 sp=0 s1=4 s2=7 l1=3 l2=9 L3=1 PK_end=1495
(fs_start=1454)

AGA
TAATGAGAGACAGGCTAATTTTTTTAGGGA
CCCT C CCGGTCT
GGCCAGGGA
ACAAGGGAA

PK4: -23.190000(kcal/mol): PK_start=1469 sp=7 s1=7 s2=6 l1=8 l2=4 L3=0 PK_end=1506
(fs_start=1454)

CTCCCACA
AGACAGGCTAATTTTTTTAGGGAAGATCTGGCC
GGACCGG AAGGGA
TTTCTTCA
GAAT

=====
(2637) JF932497
=====

PK1: -13.555000(kcal/mol): PK_start=1511 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1539
(fs_start=1531)

A
GAAAGGAAGGACACCAAATGAAGGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1516 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1552
(fs_start=1531)

C
GAAGGACACCAAATGAAGGATTGTTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1539 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1573
(fs_start=1531)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1546 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1583
(fs_start=1531)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAACTT

PK4B: -30.395000(kcal/mol): PK_start=1546 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=1609
(fs_start=1531)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CCCCAA
GAACTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2638) JF932498
=====

PK1: -13.555000(kcal/mol): PK_start=1511 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1539
(fs_start=1531)

A
GAAAGGAAGGACACCAAATGAAGGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1516 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1552
(fs_start=1531)

C
GAAGGACACCAAATGAAGGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1539 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1573
(fs_start=1531)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGAA
ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1546 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1583
(fs_start=1531)

```
CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
AAATTT
```

PK4B: -30.395000(kcal/mol): PK_start=1546 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1609
(fs_start=1531)

```
TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTTCTTCAGAGCAGGCCAGAGCCAACAG
```

=====
(2639) JF932499
=====

PK1: -13.555000(kcal/mol): PK_start=1510 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1538
(fs_start=1530)

```
A
GAAAGGAAGGACACCAAATGAAGGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT
```

PK2: -20.460000(kcal/mol): PK_start=1515 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1551
(fs_start=1530)

```
C
GAAGGACACCAAATGAAGGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAGGATC
```

PK3: -25.760000(kcal/mol): PK_start=1538 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1572
(fs_start=1530)

```
A
TACTGAGAGACAGGCTAATTTTTTAGGGAGG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGGAG
```

PK4: -26.235000(kcal/mol): PK_start=1545 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1582
(fs_start=1530)

```
CCAC
AGACAGGCTAATTTTTTAGGGAGGATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAACTT
```

PK4B: -30.395000(kcal/mol): PK_start=1545 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1608
(fs_start=1530)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAGGATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAACTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2640) JF932500
=====

PK1: -13.555000(kcal/mol): PK_start=1502 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1530
(fs_start=1522)

A
GAAAGGAAGGACACCAAATGAAGGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1507 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1543
(fs_start=1522)

C
GAAGGACACCAAATGAAGGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1530 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1564
(fs_start=1522)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1537 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1574
(fs_start=1522)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1537 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1600
(fs_start=1522)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2641) JN024100
=====

PK1: -12.955000(kcal/mol): PK_start=1510 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1538
(fs_start=1530)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -18.720000(kcal/mol): PK_start=1515 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1551
(fs_start=1530)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAAGC

PK3: -27.045000(kcal/mol): PK_start=1538 sp=0 s1=4 s2=7 l1=4 l2=8 L3=0 PK_end=1571
(fs_start=1530)

AAAG
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTC
AGGCCAGGG
ACAAGGGA

PK4: -25.385000(kcal/mol): PK_start=1546 sp=8 s1=9 s2=4 l1=4 l2=7 L3=0 PK_end=1582
(fs_start=1530)

CCAC
GGCAGGCTAATTTTTTAGGAAAAGCTGGCCTTC
GACCGAAG GGAA
TCTTCA
GGAATTT

=====
(2642) JN024101
=====

PK1: -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -18.720000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT A ATCGGA

```

                                TGGCCTTC
          GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)
                                AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTCT
                                AGGCCAGGGA
          ACAAGGGA
PK4:  -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)
                                CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAAG   GGAA
                                TCTTCA
          GAATTT
=====
(2643) JN024103
=====
PK1:  -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                                GACG   GAGAGTC
                                TTTTTAGGG
          GCTAAT
PK2:  -18.720000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
                                GATTTTTT   A   ATCGGA
                                TGGCCTTC
          GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)
                                AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTCT
                                AGGCCAGGGA
          ACAAGGGA
PK4:  -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)
                                CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAAG   GGAA

```

```

                                TCTTCA
                                GAATTT
=====
(2644) JN024104
=====
PK1:  -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                                GACG   GAGAGTC
                                TTTTtaggg
                                GCTAAT

PK2:  -18.720000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
                                GATTTTTT A  ATCGGA
                                TGGCCTTC
                                GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)
                                AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTCT
                                AGGCCAGGGA
                                ACAAGGGA

PK4:  -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)
                                CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAAG   GGAA
                                TCTTCA
                                GAATTT

=====
(2645) JN024105
=====
PK1:  -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                                GACG   GAGAGTC
                                TTTTtaggg
                                GCTAAT

PK2:  -18.720000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG

```

GATTTTTT A ATCGGA
 TGGCCTTC
 GGAAAATC
 PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
 (fs_start=1504)
 AAA
 TACTGAGAGGCAGGCTAATTTTTTAGGGA
 CCCT TCCGGTCT
 AGGCCAGGGA
 ACAAGGGA
 PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
 (fs_start=1504)
 CCAC
 AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
 GGACCGGAAG GGAA
 TCTTCA
 GAATTT
 =====
 (2646) JN024106
 =====
 PK1: -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
 (fs_start=1504)
 A
 GAAAGGAAGGACACCAAATGAAAGATTGT
 GACG GAGAGTC
 TTTTTAGGG
 GCTAAT
 PK2: -18.720000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
 (fs_start=1504)
 C
 GAAGGACACCAAATGAAAGATTGTACTGAGAGG
 GATTTTTT A ATCGGA
 TGGCCTTC
 GGAAAATC
 PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
 (fs_start=1504)
 AAA
 TACTGAGAGGCAGGCTAATTTTTTAGGGA
 CCCT TCCGGTCT
 AGGCCAGGGA
 ACAAGGGA
 PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
 (fs_start=1504)
 CCAC
 AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

```

                GGACCGGAAG    GGAA
                                TCTTCA
          GAATTT

=====
(2647) JN024107
=====
PK1:  -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT

                GACG    GAGAGTC
                                TTTTtaggg
          GCTAAT

PK2:  -18.720000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG

                GATTTTTT  A  ATCGGA
                                TGGCCTTC
          GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)
                                AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA

                CCCT    TCCGGTCT
                                AGGCCAGGGA
          ACAAGGGA

PK4:  -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)
                                CCAC
AGGCAGGCTAATTTTTTAGGAAAATCTGGCCTTC

                GGACCGGAAG    GGAA
                                TCTTCA
          GAATTT

=====
(2648) JN024108
=====
PK1:  -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT

                GACG    GAGAGTC
                                TTTTtaggg
          GCTAAT

```

PK2: -18.72000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.27500(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.71500(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGGCAGGCTAATTTTTTAGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2649) JN024109

=====
PK1: -12.95500(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -18.72000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.27500(kcal/mol): PK_start=1511 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1545
(fs_start=1503)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)

CCAC
AGGCAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2650) JN024110
=====

PK1: -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -18.720000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAGAGGCAGGCTAATTTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGGCAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2651) JN024111
=====

PK1: -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACG GAGAGTC

```

                TTTT TAGGG
      GCTAAT
PK2:  -18.72000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
                GATTTTTT A  ATCGGA
                TGGCCTTC
      GGAAAATC
PK3:  -27.27500(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)
                AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTCT
                AGGCCAGGGA
      ACAAGGGA
PK4:  -26.71500(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)
                CCAC
AGGCAGGCTAATTTTTTAGGAAAATCTGGCCTTC
                GGACCGGAAG   GGAA
                TCTTCA
      GAATTT

=====
(2652) JN024112
=====
PK1:  -12.95500(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)
                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                GACG   GAGAGTC
                TTTT TAGGG
      GCTAAT
PK2:  -18.72000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
                GATTTTTT A  ATCGGA
                TGGCCTTC
      GGAAAATC
PK3:  -27.27500(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)
                AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTCT

```

AGGCCAGGGA

ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC

AGGCAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAAG GGAA

TCTTCA

GAATTT

=====
(2653) JN024113
=====

PK1: -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A

GAAAGGAAGGACACCAAATGAAAGATTGT

GACG GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -18.720000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C

GAAGGACACCAAATGAAAGATTGTACTGAGAGG

GATTTTTT A ATCGGA

TGGCCTTC

GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA

TACTGAGAGGCAGGCTAATTTTTTTAGGGA

CCCT TCCGGTCT

AGGCCAGGGA

ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC

AGGCAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAAG GGAA

TCTTCA

GAATTT

=====
(2654) JN024114
=====

PK1: -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A

GAAAGGAAGGACACCAAATGAAAGATTGT

GACG GAGAGTC
TTTTTAGGG
GCTAAT
PK2: -18.720000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)
C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG

GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC
PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)
CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2655) JN024115
=====

PK1: -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)
A
GAAAGGAAGGACACCAAATGAAAGATTGT

GACG GAGAGTC
TTTTTAGGG
GCTAAT
PK2: -18.720000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)
C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG

GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC
PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT
ACAAGGGA AGGCCAGGGA
PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2656) JN024116
=====

PK1: -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -18.720000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2657) JN024117
=====

PK1: -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAGGGAGGACACCAAATGAAAGATTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -18.720000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GGAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2658) JN024118
=====

PK1: -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -18.720000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2659) JN024119
=====

PK1: -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -18.720000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2660) JN024120
=====

PK1: -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -18.720000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGGCAGGCTAATTTTTTAGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2661) JN024121
=====

PK1: -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -18.720000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT A ATCGGA


```

                                TGGCCTTC
          GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)
                                AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTCT
                                AGGCCAGGGA
          ACAAGGGA
PK4:  -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)
                                CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAAG   GGAA
                                TCTTCA
          GAATTT
=====
(2662) JN024122
=====
PK1:  -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                                GACG   GAGAGTC
                                TTTTTAGGG
          GCTAAT
PK2:  -18.720000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
                                GATTTTTT   A   ATCGGA
                                TGGCCTTC
          GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)
                                AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTCT
                                AGGCCAGGGA
          ACAAGGGA
PK4:  -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)
                                CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAAG   GGAA

```

```

                                TCTTCA
                                GAATTT
=====
(2663) JN024123
=====
PK1:  -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                                GACG   GAGAGTC
                                TTTTtaggg
                                GCTAAT

PK2:  -18.720000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
                                GATTTTTT A  ATCGGA
                                TGGCCTTC
                                GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)
                                AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTCT
                                AGGCCAGGGA
                                ACAAGGGA

PK4:  -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)
                                CCAC
AGGCAGGCTAATTTTTTAGGAAAATCTGGCCTTC
                                GGACCGGAAG   GGAA
                                TCTTCA
                                GAATTT

=====
(2664) JN024124
=====
PK1:  -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                                GACG   GAGAGTC
                                TTTTtaggg
                                GCTAAT

PK2:  -18.720000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG

```

GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2665) JN024125
=====

PK1: -12.955000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A
GAAAGGAAGGACACCAAATGAAAGATTGT

GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -18.720000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG

GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1511 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1545
(fs_start=1503)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

```

                GGACCGGAAG    GGAA
                                TCTTCA
          GAATTT

=====
(2666) JN024126
=====
PK1:  -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)
                                A
          GAAAGGAAGGACACCAAATGAAAGATTGT

                GACG    GAGAGTC
                                TTTTtaggg
          GCTAAT

PK2:  -18.720000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)
                                C
          GAAGGACACCAAATGAAAGATTGTACTGAGAGG

                GATTTTTT  A  ATCGGA
                                TGGCCTTC
          GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)
                                AAA
          TACTGAGAGGCAGGCTAATTTTTTAGGGA

                CCCT    TCCGGTCT
                                AGGCCAGGGA
          ACAAGGGA

PK4:  -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)
                                CCAC
          AGGCAGGCTAATTTTTTAGGAAAATCTGGCCTTC

                GGACCGGAAG    GGAA
                                TCTTCA
          GAATTT

=====
(2667) JN024127
=====
PK1:  -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)
                                A
          GAAAGGAAGGACACCAAATGAAAGATTGT

                GACG    GAGAGTC
                                TTTTtaggg
          GCTAAT

```

PK2: -18.720000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT A ATCGGA
TGGCCTCC
GGAAAATC

PK3: -25.770000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=7 l1=3 l2=10 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT CCGGTCT
GGCCAGGGA
CACAAAGGAA

PK4: -23.765000(kcal/mol): PK_start=1519 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1556
(fs_start=1504)

CCCCACA
AGGCAGGCTAATTTTTTAGGAAAATCTGGCCT
GGACCGGA AGGGA
TTCTTCA
GAATT

=====
(2668) JN024128
=====

PK1: -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -18.720000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGGCAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2669) JN024129
=====

PK1: -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -18.720000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAGAGGCAGGCTAATTTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGGCAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2670) JN024130
=====

PK1: -12.955000(kcal/mol): PK_start=1486 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1514
(fs_start=1506)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACG GAGAGTC

```

                TTTT TAGGG
      GCTAAT
PK2:  -18.720000(kcal/mol): PK_start=1491 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1527
(fs_start=1506)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
                GATTTTTT A  ATCGGA
                TGGCCTTC
      GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1514 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1548
(fs_start=1506)
                AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTCT
                AGGCCAGGGA
      ACAAGGGA
PK4:  -26.715000(kcal/mol): PK_start=1521 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1558
(fs_start=1506)
                CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                GGACCGGAAG   GGAA
                TCTTCA
      GAATTT

=====
(2671) JN024131
=====
PK1:  -12.955000(kcal/mol): PK_start=1485 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1513
(fs_start=1505)
                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                GACG   GAGAGTC
                TTTT TAGGG
      GCTAAT
PK2:  -18.720000(kcal/mol): PK_start=1490 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1526
(fs_start=1505)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
                GATTTTTT A  ATCGGA
                TGGCCTTC
      GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1513 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1547
(fs_start=1505)
                AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTCT

```

AGGCCAGGGA

ACAAAGGA

PK4: -23.945000(kcal/mol): PK_start=1520 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1557
(fs_start=1505)

CCCACA

AGGCAGGCTAATTTTTTTAGGGAAAATCTGGCCTT

GGACCGGAA GGAA

TCTTCA

GAATTC

=====
(2672) JN024132
=====

PK1: -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A

GAAAGGAAGGACACCAAATGAAAGATTGT

GACG GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -18.720000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C

GAAGGACACCAAATGAAAGATTGTACTGAGAGG

GATTTTTT A ATCGGA

TGGCCTTC

GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA

TACTGAGAGGCAGGCTAATTTTTTTAGGGA

CCCT TCCGGTCT

AGGCCAGGGA

ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC

AGGCAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAAG GGAA

TCTTCA

GAATTT

=====
(2673) JN024133
=====

PK1: -12.955000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A

GAAAGGAAGGACACCAAATGAAAGATTGT


```

          GACG      GAGAGTC
                TTTTtaggg
    GCTAAT
PK2:  -18.72000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
                GATTTTTT A  ATCGGA
                                TGGCCTTC
                GGAAAATC

PK3:  -27.27500(kcal/mol): PK_start=1511 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1545
(fs_start=1503)
                AAA
TACTGAGAGGCAGGCTAATTTTTAGGGA
                CCCT      TCCGGTCT
                                AGGCCAGGGA
                ACAAGGGA

PK4:  -26.71500(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)
                CCAC
AGGCAGGCTAATTTTTAGGAAAATCTGGCCTTC
                GGACCGGAAG      GGAA
                                TCTTCA
                GAATTT

=====
(2674) JN024134
=====
PK1:  -12.95500(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)
                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                GACG      GAGAGTC
                                TTTTtaggg
    GCTAAT

PK2:  -18.72000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
                GATTTTTT A  ATCGGA
                                TGGCCTTC
                GGAAAATC

PK3:  -27.27500(kcal/mol): PK_start=1511 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1545
(fs_start=1503)
                AAA
TACTGAGAGGCAGGCTAATTTTTAGGGA

```

CCCT TCCGGTCT
ACAAGGGA AGGCCAGGGA
PK4: -26.715000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2675) JN024135
=====

PK1: -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -18.720000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2676) JN024136
=====

PK1: -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512 (fs_start=1504)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -18.720000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525 (fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546 (fs_start=1504)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556 (fs_start=1504)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2677) JN024137
=====

PK1: -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512 (fs_start=1504)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -18.720000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525 (fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2678) JN024138
=====

PK1: -12.955000(kcal/mol): PK_start=1485 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1513
(fs_start=1505)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -17.720000(kcal/mol): PK_start=1490 sp=0 s1=8 s2=5 l1=1 l2=9 L3=2 PK_end=1525
(fs_start=1505)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT AA TCGGA
GGCCTTC
GGAAAATCC

PK3: -22.680000(kcal/mol): PK_start=1513 sp=0 s1=5 s2=4 l1=5 l2=9 L3=0 PK_end=1544
(fs_start=1505)

AATCC
TACTGAGAGGCAGGCTAATTTTTTAGGGAA
CCCTT CCGG
GGCCAG
ACAAGGGAA

PK4: -21.295000(kcal/mol): PK_start=1523 sp=10 s1=7 s2=4 l1=4 l2=9 L3=0 PK_end=1557
(fs_start=1505)

CCAC
CAGGCTAATTTTTTAGGGAAAATCCGGCCTTC
CCGGAAG GGAA
TCTTCA
AGGGAATTT

=====
(2679) JN024139
=====

PK1: -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -18.720000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGGCAGGCTAATTTTTTAGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2680) JN024140
=====

PK1: -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -16.040000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT A ATCGGA

TGGCTTTC

GGAAAATC

PK3: -24.785000(kcal/mol): PK_start=1512 sp=0 s1=5 s2=7 l1=2 l2=9 L3=0 PK_end=1546
(fs_start=1504)

AA

TACTGAGAGGCAGGCTAATTTTTTAGGGAA

CCCTT TCGGTCT

GGCCAGGGA

ACAAGGGAA

PK4: -24.035000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC

AGGCAGGCTAATTTTTTAGGGAAAATCTGGCTTTC

GGACCGGAAG GGAA

TCTTCA

GAATTT

=====
(2681) JN024141
=====

PK1: -14.985000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A

GAAAGGAAGGACACCAAATGAAAGACTGT

GACG GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -18.720000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C

GAAGGACACCAAATGAAAGACTGTACTGAGAGG

GATTTTTT A ATCGGA

TGGCCTTC

GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA

TACTGAGAGGCAGGCTAATTTTTTAGGGAA

CCCT TCCGGTCT

AGGCCAGGGA

ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC

AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAAG GGAA

```

                                TCTTCA
                                GAATTT
=====
(2682) JN024142
=====
PK1:  -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                                GACG   GAGAGTC
                                TTTT TAGGG
                                GCTAAT

PK2:  -18.720000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
                                GATTTTTT A  ATCGGA
                                TGGCCTTC
                                GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)
                                AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTCT
                                AGGCCAGGGA
                                ACAAGGGA

PK4:  -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)
                                CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAAG   GGAA
                                TCTTCA
                                GAATTT

=====
(2683) JN024143
=====
PK1:  -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                                GACG   GAGAGTC
                                TTTT TAGGG
                                GCTAAT

PK2:  -18.720000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG

```

GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2684) JN024144
=====

PK1: -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAGGAAGGACACCAAATGAAAGATTGT

GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -18.720000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG

GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC


```

                GGACCGGAAG    GGAA
                                TCTTCA
        GAATTT

=====
(2685) JN024145
=====
PK1:  -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)
                                A
        GAAAGGAAGGACACCAAATGAAAGATTGT

                GACG    GAGAGTC
                                TTTTtaggg
        GCTAAT

PK2:  -18.720000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)
                                C
        GAAGGACACCAAATGAAAGATTGTACTGAGAGG

                GATTTTTT  A  ATCGGA
                                TGGCCTTC
        GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)
                                AAA
        TACTGAGAGGCAGGCTAATTTTTTAGGGA

                CCCT    TCCGGTCT
                                AGGCCAGGGA
        ACAAGGGA

PK4:  -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)
                                CCAC
        AGGCAGGCTAATTTTTTAGGAAAATCTGGCCTTC

                GGACCGGAAG    GGAA
                                TCTTCA
        GAATTT

=====
(2686) JN024146
=====
PK1:  -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)
                                A
        GAAGGAAGGACACCAAATGAAAGATTGT

                GACG    GAGAGTC
                                TTTTtaggg
        GCTAAT

```

PK2: -18.72000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.27500(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.71500(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGGCAGGCTAATTTTTTAGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2687) JN024148
=====

PK1: -12.95500(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -18.72000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.27500(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2688) JN024149
=====

PK1: -12.955000(kcal/mol): PK_start=1485 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1513
(fs_start=1505)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -18.720000(kcal/mol): PK_start=1490 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1526
(fs_start=1505)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1513 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1547
(fs_start=1505)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1520 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1557
(fs_start=1505)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2689) JN024150
=====

PK1: -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACG GAGAGTC

TTTTTAGGG
GCTAAT
PK2: -18.720000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2690) JN024151
=====

PK1: -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -18.720000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT

AGGCCAGGGA

ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC

AGGCAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAAG GGAA

TCTTCA

GAATTT

=====
(2691) JN024152
=====

PK1: -12.955000(kcal/mol): PK_start=1485 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1513
(fs_start=1505)

A

GAAAGGAAGGACACCAAATGAAAGATTGT

GACG GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -18.720000(kcal/mol): PK_start=1490 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1526
(fs_start=1505)

C

GAAGGACACCAAATGAAAGATTGTACTGAGAGG

GATTTTTT A ATCGGA

TGGCCTTC

GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1513 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1547
(fs_start=1505)

AAA

TACTGAGAGGCAGGCTAATTTTTTTAGGGA

CCCT TCCGGTCT

AGGCCAGGGA

ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1520 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1557
(fs_start=1505)

CCAC

AGGCAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAAG GGAA

TCTTCA

GAATTT

=====
(2692) JN024153
=====

PK1: -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A

GAAAGGAAGGACACCAAATGAAAGATTGT

GACG GAGAGTC
TTTTTAGGG
GCTAAT
PK2: -18.720000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)
C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG

GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC
PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)
CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2693) JN024154
=====

PK1: -12.955000(kcal/mol): PK_start=1485 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1513
(fs_start=1505)
A
GAAAGGAAGGACACCAAATGAAAGATTGT

GACG GAGAGTC
TTTTTAGGG
GCTAAT
PK2: -18.720000(kcal/mol): PK_start=1490 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1526
(fs_start=1505)
C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG

GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC
PK3: -27.275000(kcal/mol): PK_start=1513 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1547
(fs_start=1505)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA
PK4: -26.715000(kcal/mol): PK_start=1520 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1557
(fs_start=1505)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2694) JN024155
=====

PK1: -12.955000(kcal/mol): PK_start=1485 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1513
(fs_start=1505)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -18.720000(kcal/mol): PK_start=1490 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1526
(fs_start=1505)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1513 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1547
(fs_start=1505)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1520 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1557
(fs_start=1505)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2695) JN024156
=====

PK1: -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -18.720000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2696) JN024157
=====

PK1: -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAAGAAGGACACCAAATGAAAGATTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -18.720000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2697) JN024158
=====

PK1: -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -18.720000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2698) JN024159
=====

PK1: -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -18.720000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGGCAGGCTAATTTTTTAGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2699) JN024160
=====

PK1: -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -18.720000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT A ATCGGA

```

                                TGGCCTTC
          GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)
                                AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTCT
                                AGGCCAGGGA
          ACAAGGGA
PK4:  -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)
                                CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAAG   GGAA
                                TCTTCA
          GAATTT
=====
(2700) JN024161
=====
PK1:  -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                                GACG   GAGAGTC
                                TTTTTAGGG
          GCTAAT
PK2:  -18.720000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
                                GATTTTTT   A   ATCGGA
                                TGGCCTTC
          GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)
                                AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTCT
                                AGGCCAGGGA
          ACAAGGGA
PK4:  -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)
                                CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAAG   GGAA

```

```

                                TCTTCA
                                GAATTT
=====
(2701) JN024162
=====
PK1:  -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                                GACG   GAGAGTC
                                TTTTtaggg
                                GCTAAT

PK2:  -18.720000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
                                GATTTTTT A  ATCGGA
                                TGGCCTTC
                                GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)
                                AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTCT
                                AGGCCAGGGA
                                ACAAGGGA

PK4:  -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)
                                CCAC
AGGCAGGCTAATTTTTTAGGAAAATCTGGCCTTC
                                GGACCGGAAG   GGAA
                                TCTTCA
                                GAATTT

=====
(2702) JN024163
=====
PK1:  -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                                GACG   GAGAGTC
                                TTTTtaggg
                                GCTAAT

PK2:  -18.720000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG

```

GATTTTTT A ATCGGA
 TGGCCTTC
 GGAAAATC
 PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
 (fs_start=1504)
 AAA
 TACTGAGAGGCAGGCTAATTTTTTAGGGA
 CCCT TCCGGTCT
 AGGCCAGGGA
 ACAAGGGA
 PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
 (fs_start=1504)
 CCAC
 AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
 GGACCGGAAG GGAA
 TCTTCA
 GAATTT
 =====
 (2703) JN024164
 =====
 PK1: -12.955000(kcal/mol): PK_start=1486 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1514
 (fs_start=1506)
 A
 GAAAGGAAGGACACCAAATGAAAGATTGT
 GACG GAGAGTC
 TTTTTAGGG
 GCTAAT
 PK2: -18.720000(kcal/mol): PK_start=1491 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1527
 (fs_start=1506)
 C
 GAAGGACACCAAATGAAAGATTGTACTGAGAGG
 GATTTTTT A ATCGGA
 TGGCCTTC
 GGAAAATC
 PK3: -27.275000(kcal/mol): PK_start=1514 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1548
 (fs_start=1506)
 AAA
 TACTGAGAGGCAGGCTAATTTTTTAGGGA
 CCCT TCCGGTCT
 AGGCCAGGGA
 ACAAGGGA
 PK4: -26.715000(kcal/mol): PK_start=1521 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1558
 (fs_start=1506)
 CCAC
 AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

```

                GGACCGGAAG    GGAA
                                TCTTCA
          GAATTT

=====
(2704) JN024165
=====
PK1:  -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT

                GACG    GAGAGTC
                                TTTTtaggg
          GCTAAT

PK2:  -18.720000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG

                GATTTTTT  A  ATCGGA
                                TGGCCTTC
          GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)
                                AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA

                CCCT    TCCGGTCT
                                AGGCCAGGGA
          ACAAGGGA

PK4:  -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)
                                CCAC
AGGCAGGCTAATTTTTTAGGAAAATCTGGCCTTC

                GGACCGGAAG    GGAA
                                TCTTCA
          GAATTT

=====
(2705) JN024166
=====
PK1:  -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT

                GACG    GAGAGTC
                                TTTTtaggg
          GCTAAT

```

PK2: -18.72000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.27500(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.71500(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGGCAGGCTAATTTTTTAGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2706) JN024167

=====
PK1: -12.95500(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -18.72000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.27500(kcal/mol): PK_start=1511 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1545
(fs_start=1503)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)

CCAC
AGGCAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2707) JN024168
=====

PK1: -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -18.720000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAGAGGCAGGCTAATTTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGGCAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2708) JN024169
=====

PK1: -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACG GAGAGTC

TTTTTAGGG
GCTAAT
PK2: -18.720000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2709) JN024170
=====

PK1: -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -18.720000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT

AGGCCAGGGA

ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC

AGGCAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAAG GGAA

TCTTCA

GAATTT

=====
(2710) JN024171
=====

PK1: -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A

GAAAGGAAGGACACCAAATGAAAGATTGT

GACG GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -18.720000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C

GAAGGACACCAAATGAAAGATTGTACTGAGAGG

GATTTTTT A ATCGGA

TGGCCTTC

GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA

TACTGAGAGGCAGGCTAATTTTTTTAGGGA

CCCT TCCGGTCT

AGGCCAGGGA

ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC

AGGCAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAAG GGAA

TCTTCA

GAATTT

=====
(2711) JN024172
=====

PK1: -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A

GAAAGGAAGGACACCAAATGAAAGATTGT

```

          GACG      GAGAGTC
                TTTT TAGGG
    GCTAAT
PK2:  -18.72000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
                GATTTTTT A  ATCGGA
                                TGGCCTTC
                GGAAAATC

PK3:  -27.27500(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)
                AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
                CCCT      TCCGGTCT
                                AGGCCAGGGA
                ACAAGGGA

PK4:  -26.71500(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)
                CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                GGACCGGAAG      GGAA
                                TCTTCA
                GAATTT

=====
(2712) JN024173
=====
PK1:  -12.95500(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)
                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                GACG      GAGAGTC
                                TTTT TAGGG
    GCTAAT

PK2:  -18.72000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
                GATTTTTT A  ATCGGA
                                TGGCCTTC
                GGAAAATC

PK3:  -27.27500(kcal/mol): PK_start=1511 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1545
(fs_start=1503)
                AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA

```

CCCT TCCGGTCT
ACAAGGGA AGGCCAGGGA
PK4: -26.715000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2713) JN024174
=====

PK1: -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -18.720000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2714) JN024175
=====

PK1: -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512 (fs_start=1504)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -18.720000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525 (fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546 (fs_start=1504)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556 (fs_start=1504)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2715) JN024176
=====

PK1: -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512 (fs_start=1504)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -18.720000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525 (fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2716) JN024177
=====

PK1: -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -18.720000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2717) JN024179
=====

PK1: -12.955000(kcal/mol): PK_start=1486 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1514
(fs_start=1506)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -18.720000(kcal/mol): PK_start=1491 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1527
(fs_start=1506)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1514 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1548
(fs_start=1506)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1521 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1558
(fs_start=1506)

CCAC
AGGCAGGCTAATTTTTTAGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2718) JN024180
=====

PK1: -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -18.720000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT A ATCGGA

```

                                TGGCCTTC
          GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)
                                AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTCT
                                AGGCCAGGGA
          ACAAGGGA

PK4:  -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)
                                CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAAG   GGAA
                                TCTTCA
          GAATTT

=====
(2719) JN024182
=====
PK1:  -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                                GACG   GAGAGTC
                                TTTTTAGGG
          GCTAAT

PK2:  -18.720000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
                                GATTTTTT   A   ATCGGA
                                TGGCCTTC
          GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)
                                AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTCT
                                AGGCCAGGGA
          ACAAGGGA

PK4:  -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)
                                CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAAG   GGAA

```



```

                                TCTTCA
                                GAATTT
=====
(2720) JN024183
=====
PK1:  -12.955000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)
                                A
GAAAGGAAGGACACCAAACGAAAGATTGT
                                GACG   GAGAGTC
                                TTTT TAGGG
                                GCTAAT

PK2:  -18.720000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)
                                C
GAAGGACACCAAACGAAAGATTGTACTGAGAGG
                                GATTTTTT A  ATCGGA
                                TGGCCTTC
                                GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1511 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1545
(fs_start=1503)
                                AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTCT
                                AGGCCAGGGA
                                ACAAGGGA

PK4:  -26.715000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)
                                CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAAG   GGAA
                                TCTTCA
                                GAATTT

=====
(2721) JN024184
=====
PK1:  -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                                GACG   GAGAGTC
                                TTTT TAGGG
                                GCTAAT

PK2:  -18.720000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG

```

GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2722) JN024185
=====

PK1: -12.955000(kcal/mol): PK_start=1486 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1514
(fs_start=1506)

A
GAAAGGAAGGACACCAAATGAAAGATTGT

GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -18.720000(kcal/mol): PK_start=1491 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1527
(fs_start=1506)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG

GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1514 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1548
(fs_start=1506)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1521 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1558
(fs_start=1506)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

```

                GGACCGGAAG    GGAA
                                TCTTCA
          GAATTT

=====
(2723) JN024186
=====
PK1:  -12.955000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT

                GACG    GAGAGTC
                                TTTTTAGGG
          GCTAAT

PK2:  -18.720000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG

                GATTTTTT  A  ATCGGA
                                TGGCCTTC
          GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1511 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1545
(fs_start=1503)
                                AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA

                CCCT    TCCGGTCT
                                AGGCCAGGGA
          ACAAGGGA

PK4:  -26.715000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)
                                CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

                GGACCGGAAG    GGAA
                                TCTTCA
          GAATTT

=====
(2724) JN024187
=====
PK1:  -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT

                GACG    GAGAGTC
                                TTTTTAGGG
          GCTAAT

```

PK2: -18.72000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.27500(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.71500(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1556
(fs_start=1504)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2725) JN024188
=====

PK1: -12.75500(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1511
(fs_start=1503)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACG GAGAGTC
TTTTTAGAG
GCTAAT

PK2: -18.72000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1524
(fs_start=1503)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT A ATCGGA
TGGCCTTC
AGAAAATC

PK3: -20.18000(kcal/mol): PK_start=1513 sp=0 s1=3 s2=7 l1=2 l2=11 l3=0 PK_end=1545
(fs_start=1503)

AA
CTGAGAGGCAGGCTAATTTTTTAGAGAA
CTT CCGGTCT
GGCCAGGGA
CCACAAGGGAA

PK4: -26.715000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)

CCAC
AGGCAGGCTAATTTTTTTAGAGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCG
GAATTT

=====
(2726) JN024189
=====

PK1: -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -18.720000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAGAGGCAGGCTAATTTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGGCAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2727) JN024190
=====

PK1: -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACG GAGAGTC

TTTTTAGGG
GCTAAT
PK2: -18.720000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2728) JN024191
=====

PK1: -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -18.720000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT

AGGCCAGGGA
ACAAGGGA
PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)
CCAC
AGGCAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2729) JN024192
=====

PK1: -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)
A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -18.720000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAGAGGCAGGCTAATTTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGGCAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2730) JN024193
=====

PK1: -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAGGAAGGACACCAAATGAAAGATTGT

```

          GACG      GAGAGTC
                TTTTATAGGG
    GCTAAT
PK2:  -18.720000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
                GATTTTTT A  ATCGGA
                                TGGCCTTC
                GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)
                AAA
TACTGAGAGGCAGGCTAATTTTTATAGGGA
                CCCT      TCCGGTCT
                                AGGCCAGGGA
                ACAAGGGA
PK4:  -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)
                CCAC
AGGCAGGCTAATTTTTATAGGAAAATCTGGCCTTC
                GGACCGGAAG      GGAA
                                TCTTCA
                GAATTT
=====
(2731) JN024194
=====
PK1:  -12.955000(kcal/mol): PK_start=1482 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1510
(fs_start=1502)
                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                GACG      GAGAGTC
                                TTTTATAGGG
    GCTAAT
PK2:  -18.720000(kcal/mol): PK_start=1487 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1523
(fs_start=1502)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
                GATTTTTT A  ATCGGA
                                TGGCCTTC
                GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1510 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1544
(fs_start=1502)
                AAA
TACTGAGAGGCAGGCTAATTTTTATAGGGA

```


CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA
PK4: -26.715000(kcal/mol): PK_start=1517 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1554
(fs_start=1502)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2732) JN024195
=====

PK1: -12.955000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -18.720000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1511 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1545
(fs_start=1503)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2733) JN024196
=====

PK1: -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -18.720000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2734) JN024197
=====

PK1: -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -18.720000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2735) JN024198
=====

PK1: -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -18.720000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2736) JN024199
=====

PK1: -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -18.720000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGGCAGGCTAATTTTTTAGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2737) JN024200
=====

PK1: -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -18.720000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT A ATCGGA

```

                                TGGCCTTC
          GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)
                                AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTCT
                                AGGCCAGGGA
          ACAAGGGA
PK4:  -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)
                                CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAAG   GGAA
                                TCTTCA
          GAATTT
=====
(2738) JN024201
=====
PK1:  -12.955000(kcal/mol): PK_start=1485 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1513
(fs_start=1505)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                                GACG   GAGAGTC
                                TTTTTAGGG
          GCTAAT
PK2:  -18.720000(kcal/mol): PK_start=1490 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1526
(fs_start=1505)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
                                GATTTTTT   A   ATCGGA
                                TGGCCTTC
          GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1513 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1547
(fs_start=1505)
                                AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTCT
                                AGGCCAGGGA
          ACAAGGGA
PK4:  -26.715000(kcal/mol): PK_start=1520 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1557
(fs_start=1505)
                                CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAAG   GGAA

```

```

                                TCTTCA
                                GAATTT
=====
(2739) JN024202
=====
PK1:  -12.955000(kcal/mol): PK_start=1485 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1513
(fs_start=1505)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                                GACG   GAGAGTC
                                TTTTtaggg
                                GCTAAT

PK2:  -18.720000(kcal/mol): PK_start=1490 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1526
(fs_start=1505)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
                                GATTTTTT A  ATCGGA
                                TGGCCTTC
                                GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1513 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1547
(fs_start=1505)
                                AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTCT
                                AGGCCAGGGA
                                ACAAGGGA

PK4:  -26.715000(kcal/mol): PK_start=1520 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1557
(fs_start=1505)
                                CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAAG   GGAA
                                TCTTCA
                                GAATTT

=====
(2740) JN024203
=====
PK1:  -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)
                                A
GAAGGGAAGGACACCAAATGAAAGATTGT
                                GACA   GAGAGTC
                                TTTTtaggg
                                GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA

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GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC
PK3: -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG

CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.445000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1555
(fs_start=1503)

TCCCACA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT

GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(2741) JN024204
=====

PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A
GAAGGGAAGGACACCAAATGAAAGATTGT

GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG

CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.445000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1555
(fs_start=1503)

TCCCACA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT

```

                GGACCGGA    AGGGA
                    TTCCTCA
            GAATT

=====
(2742) JN024205
=====
PK1:  -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)
                A
GAAGGGAAGGACACCAAATGAAAGATTGT

                GACA    GAGAGTC
                    TTTTATAGGG
            GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA

                GATTTTTT    A    ATCGGA
                    TGGCCTTC
            GGAAGATC

PK3:  -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)
                A
TACTGAGAGACAGGCTAATTTTTATAGGGAAG

                CCCTTC    CGGTCT
                    GCCAGGGA
            ACAAGGGAAG

PK4:  -26.445000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1555
(fs_start=1503)
                TCCCACA
AGACAGGCTAATTTTTATAGGGAAGATCTGGCCT

                GGACCGGA    AGGGA
                    TTCCTCA
            GAATT

=====
(2743) JN024206
=====
PK1:  -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)
                A
GAAGGGAAGGACACCAAATGAAAGATTGT

                GACA    GAGAGTC
                    TTTTATAGGG
            GCTAAT

```


PK2: -20.46000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.11000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.44500(kcal/mol): PK_start=1518 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1555
(fs_start=1503)

TCCCACA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(2744) JN024208

=====
PK1: -13.55500(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A
GAAGGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.46000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.11000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.445000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1555
(fs_start=1503)

TCCCACA
AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(2745) JN024209
=====

PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A
GAAGGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)

A
TACTGAGAGACAGGCTAATTTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.445000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1555
(fs_start=1503)

TCCCACA
AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(2746) JN024210
=====

PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A
GAAGGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC

```

          TTTT TAGGG
    GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)
          C
    GAAGGACACCAAATGAAAGATTGTACTGAGAGA
          GATTTTTT A  ATCGGA
          TGGCCTTC
    GGAAGATC
PK3:  -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)
          A
    TACTGAGAGACAGGCTAATTTTTTAGGGAAG
          CCCTTC  CGGTCT
          GCCAGGGA
    ACAAGGGAAG
PK4:  -26.445000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1555
(fs_start=1503)
          TCCCACA
    AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
          GGACCGGA  AGGGA
          TTCCTCA
    GAATT

=====
(2747) JN024211
=====
PK1:  -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)
          A
    GAAGGGAAGGACACCAAATGAAAGATTGT
          GACA  GAGAGTC
          TTTT TAGGG
    GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)
          C
    GAAGGACACCAAATGAAAGATTGTACTGAGAGA
          GATTTTTT A  ATCGGA
          TGGCCTTC
    GGAAGATC
PK3:  -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)
          A
    TACTGAGAGACAGGCTAATTTTTTAGGGAAG
          CCCTTC  CGGTCT

```

GCCAGGGA

ACAAGGGAAG

PK4: -26.445000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1555
(fs_start=1503)

TCCCACA

AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCT

GGACCGGA AGGGA

TTCCTCA

GAATT

=====
(2748) JN024212
=====

PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A

GAAGGGAAGGACACCAAATGAAAGATTGT

GACA GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)

C

GAAGGACACCAAATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)

A

TACTGAGAGACAGGCTAATTTTTTTAGGGAAG

CCCTTC CGGTCT

GCCAGGGA

ACAAGGGAAG

PK4: -26.445000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1555
(fs_start=1503)

TCCCACA

AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCT

GGACCGGA AGGGA

TTCCTCA

GAATT

=====
(2749) JN024213
=====

PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A

GAAGGGAAGGACACCAAATGAAAGATTGT

```

                GACA    GAGAGTC
                TTTT TAGGG
    GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT A  ATCGGA
                TGGCCTTC
    GGAAGATC
PK3:  -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)
                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                CCCTTC    CGGTCT
                GCCAGGGA
    ACAAGGGAAG
PK4:  -26.445000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1555
(fs_start=1503)
                TCCCACA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
                GGACCGGA    AGGGA
                TTCCTCA
    GAATT
=====
(2750) JN024214
=====
PK1:  -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)
                A
GAAGGGAAGGACACCAAATGAAAGATTGT
                GACA    GAGAGTC
                TTTT TAGGG
    GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT A  ATCGGA
                TGGCCTTC
    GGAAGATC
PK3:  -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)
                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG

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          CCCTTC   CGGTCT
                    GCCAGGGA
ACAAGGGAAG
PK4:  -26.445000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1555
(fs_start=1503)
                    TCCCACA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
                    GGACCGGA   AGGGA
                    TTCCTCA
          GAATT

```

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=====
(2751) JN024215
=====

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PK1:  -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)
                    A
GAAGGGAAGGACACCAAATGAAAGATTGT
                    GACA   GAGAGTC
                    TTTTTAGGG
          GCTAAT

```

```

PK2:  -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)
                    C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                    GATTTTTT   A   ATCGGA
                    TGGCCTTC
          GGAAGATC

```

```

PK3:  -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)
                    A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                    CCCTTC   CGGTCT
                    GCCAGGGA
          ACAAGGGAAG

```

```

PK4:  -26.445000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1555
(fs_start=1503)
                    TCCCACA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
                    GGACCGGA   AGGGA
                    TTCCTCA
          GAATT

```

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=====
(2752) JN024216
=====

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PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A
GAAGGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)

A
TACTGAGAGACAGGCTAATTTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.445000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1555
(fs_start=1503)

TCCCACA
AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(2753) JN024217
=====

PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A
GAAGGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1545
(fs_start=1503)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.445000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=5 l1=7 l2=5 l3=0 PK_end=1555
(fs_start=1503)

TCCCACA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(2754) JN024218
=====

PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1511
(fs_start=1503)

A
GAAGGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -19.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=5 l1=1 l2=9 l3=2 PK_end=1523
(fs_start=1503)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT AA TCGGA
GGCCTTC
GGAAGATCC

PK3: -22.680000(kcal/mol): PK_start=1511 sp=0 s1=5 s2=4 l1=5 l2=9 l3=0 PK_end=1542
(fs_start=1503)

GATCC
TACTGAGAGACAGGCTAATTTTTTAGGGAA
CCCTT CCGG
GGCCAG
ACAAGGGA

PK4: -21.025000(kcal/mol): PK_start=1521 sp=10 s1=5 s2=5 l1=7 l2=8 l3=0 PK_end=1555
(fs_start=1503)

TCCCACA
CAGGCTAATTTTTTAGGGAAGATCCGGCCT
CCGGA AGGGA
TTCCTCA
AGGGAATT

=====
(2755) JN024219
=====

PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1511
(fs_start=1503)

A
GAAGGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1524
(fs_start=1503)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1545
(fs_start=1503)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.445000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=5 l1=7 l2=5 l3=0 PK_end=1555
(fs_start=1503)

TCCCACA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(2756) JN024220
=====

PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1511
(fs_start=1503)

A
GAAGGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1524
(fs_start=1503)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA

```

                                TGGCCTTC
                                GGAAGATC
PK3:  -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)
                                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                                CCCTTC   CGGTCT
                                GCCAGGGA
                                ACAAGGGAAG

PK4:  -26.445000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1555
(fs_start=1503)
                                TCCCACA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
                                GGACCGGA   AGGGA
                                TTCCTCA
                                GAATT

=====
(2757) JN024221
=====
PK1:  -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)
                                A
GAAGGGAAGGACACCAAATGAAAGATTGT
                                GACA   GAGAGTC
                                TTTTTAGGG
                                GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                                GATTTTTT   A   ATCGGA
                                TGGCCTTC
                                GGAAGATC

PK3:  -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)
                                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                                CCCTTC   CGGTCT
                                GCCAGGGA
                                ACAAGGGAAG

PK4:  -26.445000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1555
(fs_start=1503)
                                TCCCACA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
                                GGACCGGA   AGGGA

```

```

                                TTCCTCA
                                GAATT

=====
(2758) JN024222
=====
PK1:  -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)
                                A
GAAGGGAAGGACACCAAATGAAAGATTGT
                                GACA    GAGAGTC
                                TTTTtaggg
                                GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                                GATTTTTT A  ATCGGA
                                TGGCCTTC
                                GGAAGATC

PK3:  -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)
                                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                                CCCTTC    CGGTCT
                                GCCAGGGA
                                ACAAGGGAAG

PK4:  -26.445000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1555
(fs_start=1503)
                                TCCCACA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
                                GGACCGGA    AGGGA
                                TTCCTCA
                                GAATT

=====
(2759) JN024223
=====
PK1:  -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)
                                A
GAAGGGAAGGACACCAAATGAAAGATTGT
                                GACA    GAGAGTC
                                TTTTtaggg
                                GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA

```

```

          GATTTTTT A ATCGGA
                    TGGCCTTC
      GGAAGATC
PK3:  -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)
          A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
          CCCTTC   CGGTCT
                    GCCAGGGA
      ACAAGGGAAG
PK4:  -26.445000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1555
(fs_start=1503)
                    TCCCACA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
          GGACCGGA   AGGGA
                    TTCCTCA
      GAATT
=====
(2760) JN024224
=====
PK1:  -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)
          A
GAAGGGAAGGACACCAAATGAAAGATTGT
          GACA   GAGAGTC
                    TTTTTAGGG
      GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)
          C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
          GATTTTTT A ATCGGA
                    TGGCCTTC
      GGAAGATC
PK3:  -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)
          A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
          CCCTTC   CGGTCT
                    GCCAGGGA
      ACAAGGGAAG
PK4:  -26.445000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1555
(fs_start=1503)
                    TCCCACA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT

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                GGACCGGA   AGGGA
                    TTCCTCA
GAATT
=====
(2761) JN024226
=====
PK1:  -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)
                    A
GAAGGGAAGGACACCAAATGAAAGATTGT
                GACA   GAGAGTC
                    TTTTATAGGG
GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)
                    C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT   A   ATCGGA
                    TGGCCTTC
GGAAGATC

PK3:  -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)
                    A
TACTGAGAGACAGGCTAATTTTTATAGGGAAG
                CCCTTC   CGGTCT
                    GCCAGGGA
ACAAGGGAAG

PK4:  -26.445000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1555
(fs_start=1503)
                TCCCACA
AGACAGGCTAATTTTTATAGGGAAGATCTGGCCT
                GGACCGGA   AGGGA
                    TTCCTCA
GAATT

=====
(2762) JN024227
=====
PK1:  -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)
                    A
GAAGGGAAGGACACCAAATGAAAGATTGT
                GACA   GAGAGTC
                    TTTTATAGGG
GCTAAT

```

PK2: -20.46000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.11000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.44500(kcal/mol): PK_start=1518 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1555
(fs_start=1503)

TCCCACA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(2763) JN024228
=====

PK1: -13.55500(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A
GAAGGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.46000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.11000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.445000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1555
(fs_start=1503)

TCCCACA
AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(2764) JN024229
=====

PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A
GAAGGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)

A
TACTGAGAGACAGGCTAATTTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.445000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1555
(fs_start=1503)

TCCCACA
AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(2765) JN024230
=====

PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A
GAAGGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC

```

                TTTT TAGGG
      GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT A  ATCGGA
                TGGCCTTC
      GGAAGATC

PK3:  -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)
                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                CCCTTC  CGGTCT
                GCCAGGGA
      ACAAGGGAAG

PK4:  -26.445000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1555
(fs_start=1503)
                TCCCACA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
                GGACCGGA  AGGGA
                TTCCTCA
      GAATT

=====
(2766) JN024231
=====
PK1:  -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)
                A
GAAGGGAAGGACACCAAATGAAAGATTGT
                GACA  GAGAGTC
                TTTT TAGGG
      GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT A  ATCGGA
                TGGCCTTC
      GGAAGATC

PK3:  -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)
                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                CCCTTC  CGGTCT

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GCCAGGGA

ACAAGGGAAG

PK4: -26.445000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1555
(fs_start=1503)

TCCCACA

AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCT

GGACCGGA AGGGA

TTCCTCA

GAATT

=====
(2767) JN024232
=====

PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A

GAAGGGAAGGACACCAAATGAAAGATTGT

GACA GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)

C

GAAGGACACCAAATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)

A

TACTGAGAGACAGGCTAATTTTTTTAGGGAAG

CCCTTC CGGTCT

GCCAGGGA

ACAAGGGAAG

PK4: -26.445000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1555
(fs_start=1503)

TCCCACA

AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCT

GGACCGGA AGGGA

TTCCTCA

GAATT

=====
(2768) JN024233
=====

PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A

GAAGGGAAGGACACCAAATGAAAGATTGT

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          GACA   GAGAGTC
                TTTTATAGGG
      GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT A  ATCGGA
                                TGGCCTTC
          GGAAGATC
PK3:  -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)
                A
TACTGAGAGACAGGCTAATTTTTATAGGGAAG
                CCCTTC   CGGTCT
                                GCCAGGGA
          ACAAGGGAAG
PK4:  -26.445000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1555
(fs_start=1503)
                TCCCACA
AGACAGGCTAATTTTTATAGGGAAGATCTGGCCT
                GGACCGGA   AGGGA
                                TTCCTCA
          GAATT
=====
(2769) JN024234
=====
PK1:  -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)
                A
GAAGGGAAGGACACCAAATGAAAGATTGT
                GACA   GAGAGTC
                                TTTTATAGGG
          GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT A  ATCGGA
                                TGGCCTTC
          GGAAGATC
PK3:  -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)
                A
TACTGAGAGACAGGCTAATTTTTATAGGGAAG

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          CCCTTC   CGGTCT
                    GCCAGGGA
ACAAGGGAAG
PK4:  -26.445000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1555
(fs_start=1503)
                    TCCCACA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
                    GGACCGGA   AGGGA
                    TTCCTCA
          GAATT

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=====
(2770) JN024235
=====

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PK1:  -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)
                    A
GAAGGGAAGGACACCAAATGAAAGATTGT
                    GACA   GAGAGTC
                    TTTTTAGGG
          GCTAAT

```

```

PK2:  -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)
                    C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                    GATTTTTT   A   ATCGGA
                    TGGCCTTC
          GGAAGATC

```

```

PK3:  -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)
                    A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                    CCCTTC   CGGTCT
                    GCCAGGGA
          ACAAGGGAAG

```

```

PK4:  -26.445000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1555
(fs_start=1503)
                    TCCCACA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
                    GGACCGGA   AGGGA
                    TTCCTCA
          GAATT

```

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=====
(2771) JN024236
=====

```

PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A
GAAGGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.445000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1555
(fs_start=1503)

TCCCACA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(2772) JN024237
=====

PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A
GAAGGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1545
(fs_start=1503)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.445000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=5 l1=7 l2=5 l3=0 PK_end=1555
(fs_start=1503)

TCCCACA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(2773) JN024238
=====

PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1511
(fs_start=1503)

A
GAAGGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1524
(fs_start=1503)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1545
(fs_start=1503)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.445000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=5 l1=7 l2=5 l3=0 PK_end=1555
(fs_start=1503)

TCCCACA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(2774) JN024239
=====

PK1: -13.555000(kcal/mol): PK_start=1458 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1486
(fs_start=1478)

A
GAGGGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1463 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1499
(fs_start=1478)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1486 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1520
(fs_start=1478)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.445000(kcal/mol): PK_start=1493 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1530
(fs_start=1478)

TCCCACA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(2775) JN024241
=====

PK1: -13.555000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAGGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA

```

                                TGGCCTTC
                                GGAAGATC
PK3:  -26.110000(kcal/mol): PK_start=1512 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1546
(fs_start=1504)
                                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                                CCCTTC   CGGTCT
                                GCCAGGGA
                                ACAAGGGAAG
PK4:  -26.445000(kcal/mol): PK_start=1519 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1556
(fs_start=1504)
                                TCCCACA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
                                GGACCGGA   AGGGA
                                TTCCTCA
                                GAATT

=====
(2776) JN024242
=====
PK1:  -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)
                                A
GAAGGGAAGGACACCAAATGAAAGATTGT
                                GACA   GAGAGTC
                                TTTTTAGGG
                                GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                                GATTTTTT   A   ATCGGA
                                TGGCCTTC
                                GGAAGATC
PK3:  -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)
                                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                                CCCTTC   CGGTCT
                                GCCAGGGA
                                ACAAGGGAAG
PK4:  -26.445000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1555
(fs_start=1503)
                                TCCCACA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
                                GGACCGGA   AGGGA

```

```

                                TTCCTCA
                                GAATT
=====
(2777) JN024243
=====
PK1:  -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)
                                A
GAAGGGAAGGACACCAAATGAAAGATTGT
                                GACA    GAGAGTC
                                TTTTtaggg
                                GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                                GATTTTTT A  ATCGGA
                                TGGCCTTC
                                GGAAGATC

PK3:  -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)
                                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                                CCCTTC    CGGTCT
                                GCCAGGGA
                                ACAAGGGAAG

PK4:  -26.445000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1555
(fs_start=1503)
                                TCCCACA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
                                GGACCGGA    AGGGA
                                TTCCTCA
                                GAATT

=====
(2778) JN024244
=====
PK1:  -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)
                                A
GAAGGGAAGGACACCAAATGAAAGATTGT
                                GACA    GAGAGTC
                                TTTTtaggg
                                GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA

```



```

          GATTTTTT A ATCGGA
                    TGGCCTTC
      GGAAGATC
PK3:  -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)
          A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
          CCCTTC   CGGTCT
                    GCCAGGGA
      ACAAGGGAAG
PK4:  -26.445000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1555
(fs_start=1503)
                    TCCCACA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
          GGACCGGA   AGGGA
                    TTCCTCA
      GAATT
=====
(2779) JN024245
=====
PK1:  -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)
          A
GAAGGGAAGGACACCAAATGAAAGATTGT
          GACA   GAGAGTC
                    TTTTTAGGG
      GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)
          C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
          GATTTTTT A ATCGGA
                    TGGCCTTC
      GGAAGATC
PK3:  -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)
          A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
          CCCTTC   CGGTCT
                    GCCAGGGA
      ACAAGGGAAG
PK4:  -26.445000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1555
(fs_start=1503)
                    TCCCACA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT

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                GGACCGGA    AGGGA
                    TTCCTCA
GAATT
=====
(2780) JN024246
=====
PK1:  -13.555000(kcal/mol): PK_start=1482 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1510
(fs_start=1502)
                    A
GAAGGGAAGGACACCAAATGAAAGATTGT
                GACA    GAGAGTC
                    TTTTATAGGG
GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1487 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1523
(fs_start=1502)
                    C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT  A  ATCGGA
                    TGGCCTTC
GGAAGATC

PK3:  -26.110000(kcal/mol): PK_start=1510 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1544
(fs_start=1502)
                    A
TACTGAGAGACAGGCTAATTTTTATAGGGAAG
                CCCTTC    CGGTCT
                    GCCAGGGA
ACAAGGGAAG

PK4:  -26.445000(kcal/mol): PK_start=1517 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1554
(fs_start=1502)
                TCCCACA
AGACAGGCTAATTTTTATAGGGAAGATCTGGCCT
                GGACCGGA    AGGGA
                    TTCCTCA
GAATT

=====
(2781) JN024247
=====
PK1:  -13.555000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)
                    A
GAAGGGAAGGACACCAAATGAAAGATTGT
                GACA    GAGAGTC
                    TTTTATAGGG
GCTAAT

```

PK2: -20.46000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.11000(kcal/mol): PK_start=1512 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1546
(fs_start=1504)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.44500(kcal/mol): PK_start=1519 sp=7 s1=8 s2=5 l1=7 l2=5 l3=0 PK_end=1556
(fs_start=1504)

TCCCACA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(2782) JN024248

=====
PK1: -13.55500(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1511
(fs_start=1503)

A
GAAGGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.46000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1524
(fs_start=1503)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.11000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1545
(fs_start=1503)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.445000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1555
(fs_start=1503)

TCCCACA
AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(2783) JN024249
=====

PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A
GAAGGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)

A
TACTGAGAGACAGGCTAATTTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.445000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1555
(fs_start=1503)

TCCCACA
AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(2784) JN024250
=====

PK1: -13.555000(kcal/mol): PK_start=1482 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1510
(fs_start=1502)

A
GAAGGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC

```

                TTTT TAGGG
      GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1487 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1523
(fs_start=1502)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT A  ATCGGA
                TGGCCTTC
      GGAAGATC

PK3:  -26.110000(kcal/mol): PK_start=1510 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1544
(fs_start=1502)
                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                CCCTTC  CGGTCT
                GCCAGGGA
      ACAAGGGAAG

PK4:  -26.445000(kcal/mol): PK_start=1517 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1554
(fs_start=1502)
                TCCCACA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
                GGACCGGA  AGGGA
                TTCCTCA
      GAATT

=====
(2785) JN024251
=====
PK1:  -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)
                A
GAAGGGAAGGACACCAAATGAAAGATTGT
                GACA  GAGAGTC
                TTTT TAGGG
      GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT A  ATCGGA
                TGGCCTTC
      GGAAGATC

PK3:  -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)
                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                CCCTTC  CGGTCT

```

GCCAGGGA

ACAAGGGAAG

PK4: -26.445000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1555
(fs_start=1503)

TCCCACA

AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCT

GGACCGGA AGGGA

TTCCTCA

GAATT

=====
(2786) JN024252
=====

PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A

GAAGGGAAGGACACCAAATGAAAGATTGT

GACA GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)

C

GAAGGACACCAAATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)

A

TACTGAGAGACAGGCTAATTTTTTTAGGGAAG

CCCTTC CGGTCT

GCCAGGGA

ACAAGGGAAG

PK4: -26.445000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1555
(fs_start=1503)

TCCCACA

AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCT

GGACCGGA AGGGA

TTCCTCA

GAATT

=====
(2787) JN024254
=====

PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A

GAAGGGAAGGACACCAAATGAAAGATTGT

```

          GACA   GAGAGTC
                TTTTATAGGG
    GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT A  ATCGGA
                                TGGCCTTC
                GGAAGATC

PK3:  -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)
                A
TACTGAGAGACAGGCTAATTTTTATAGGGAAG
                CCCTTC   CGGTCT
                                GCCAGGGA
                ACAAGGGAAG

PK4:  -26.445000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1555
(fs_start=1503)
                TCCCACA
AGACAGGCTAATTTTTATAGGGAAGATCTGGCCT
                GGACCGGA   AGGGA
                                TTCCTCA
                GAATT

=====
(2788) JN024255
=====
PK1:  -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)
                A
GAAGGGAAGGACACCAAATGAAAGATTGT
                GACA   GAGAGTC
                                TTTTATAGGG
    GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT A  ATCGGA
                                TGGCCTTC
                GGAAGATC

PK3:  -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)
                A
TACTGAGAGACAGGCTAATTTTTATAGGGAAG

```

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          CCCTTC   CGGTCT
                    GCCAGGGA
ACAAGGGAAG
PK4:  -26.445000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1555
(fs_start=1503)
                    TCCCACA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
                    GGACCGGA   AGGGA
                    TTCCTCA
          GAATT

```

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=====
(2789) JN024256
=====

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PK1:  -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)
                    A
GAAGGGAAGGACACCAAATGAAAGATTGT
                    GACA   GAGAGTC
                    TTTTTAGGG
          GCTAAT

```

```

PK2:  -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)
                    C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                    GATTTTTT   A   ATCGGA
                    TGGCCTTC
          GGAAGATC

```

```

PK3:  -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)
                    A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                    CCCTTC   CGGTCT
                    GCCAGGGA
          ACAAGGGAAG

```

```

PK4:  -26.445000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1555
(fs_start=1503)
                    TCCCACA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
                    GGACCGGA   AGGGA
                    TTCCTCA
          GAATT

```

```

=====
(2790) JN024257
=====

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PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A
GAAGGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.445000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1555
(fs_start=1503)

TCCCACA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(2791) JN024258
=====

PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A
GAAGGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1545
(fs_start=1503)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.445000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=5 l1=7 l2=5 l3=0 PK_end=1555
(fs_start=1503)

TCCCACA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(2792) JN024259
=====

PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1511
(fs_start=1503)

A
GAAGGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1524
(fs_start=1503)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1545
(fs_start=1503)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.445000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=5 l1=7 l2=5 l3=0 PK_end=1555
(fs_start=1503)

TCCCACA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(2793) JN024260
=====

PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A
GAAGGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.445000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1555
(fs_start=1503)

TCCCACA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(2794) JN024261
=====

PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A
GAAGGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA

```

                                TGGCCTTC
                                GGAAGATC
PK3:  -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)
                                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                                CCCTTC   CGGTCT
                                GCCAGGGA
                                ACAAGGGAAG

PK4:  -26.445000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1555
(fs_start=1503)
                                TCCCACA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
                                GGACCGGA   AGGGA
                                TTCCTCA
                                GAATT

=====
(2795) JN024262
=====
PK1:  -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)
                                A
GAAGGGAAGGACACCAAATGAAAGATTGT
                                GACA   GAGAGTC
                                TTTTTAGGG
                                GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                                GATTTTTT   A   ATCGGA
                                TGGCCTTC
                                GGAAGATC

PK3:  -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)
                                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                                CCCTTC   CGGTCT
                                GCCAGGGA
                                ACAAGGGAAG

PK4:  -26.445000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1555
(fs_start=1503)
                                TCCCACA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
                                GGACCGGA   AGGGA

```

```

                                TTCCTCA
                                GAATT
=====
(2796) JN024263
=====
PK1:  -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)
                                A
GAAGGGAAGGACACCAAATGAAAGATTGT
                                GACA    GAGAGTC
                                TTTTtaggg
                                GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                                GATTTTTT A  ATCGGA
                                TGGCCTTC
                                GGAAGATC

PK3:  -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)
                                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                                CCCTTC    CGGTCT
                                GCCAGGGA
                                ACAAGGGAAG

PK4:  -26.445000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1555
(fs_start=1503)
                                TCCCACA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
                                GGACCGGA    AGGGA
                                TTCCTCA
                                GAATT

=====
(2797) JN024264
=====
PK1:  -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)
                                A
GAAGGGAAGGACACCAAATGAAAGATTGT
                                GACA    GAGAGTC
                                TTTTtaggg
                                GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA

```

GATTTTTT A ATCGGA
 TGGCCTTC
 GGAAGATC
 PK3: -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
 (fs_start=1503)
 A
 TACTGAGAGACAGGCTAATTTTTTAGGGAAG
 CCCTTC CGGTCT
 GCCAGGGA
 ACAAGGGAAG
 PK4: -26.445000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1555
 (fs_start=1503)
 TCCCACA
 AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
 GGACCGGA AGGGA
 TTCCTCA
 GAATT
 =====
 (2798) JN024266
 =====
 PK1: -11.835000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
 (fs_start=1503)
 A
 GAAGGGAAGGACACCAAATGAAAGATTGT
 GGCA GAGAGTC
 TTTTTAGGG
 GCTAAT
 PK2: -20.490000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
 (fs_start=1503)
 C
 GAAGGACACCAAATGAAAGATTGTACTGAGAGA
 GATTTTTT A ATCGGG
 TGGCCTTC
 GGAAGATC
 PK3: -23.470000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
 (fs_start=1503)
 A
 TACTGAGAGACGGGCTAATTTTTTAGGGAAG
 CCCTTC CGGTCT
 GTCAGGGA
 ACAAGGGAAG
 PK4: -23.805000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1555
 (fs_start=1503)
 TCCCACA
 AGACGGGCTAATTTTTTAGGGAAGATCTGGCCT

```

                G G A C T G G A      A G G G A
                                T T C C T C A
          G A A T T
=====
(2799) JN024267
=====
PK1:  -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)
                                A
GAAGGGAAGGACACCAAATGAAAGATTGT
                G A C A      G A G A G T C
                                T T T T T A G G G
          G C T A A T

PK2:  -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                G A T T T T T T      A      A T C G G A
                                T G G C C T T C
          G G A A G A T C

PK3:  -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)
                                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                C C C T T C      C G G T C T
                                G C C A G G G A
          A C A A G G G A A G

PK4:  -26.445000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1555
(fs_start=1503)
                                T C C C A C A
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
                G G A C C G G A      A G G G A
                                T T C C T C A
          G A A T T

=====
(2800) JN024268
=====
PK1:  -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)
                                A
GAAGGGAAGGACACCAAATGAAAGATTGT
                G A C A      G A G A G T C
                                T T T T T A G G G
          G C T A A T

```

PK2: -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.445000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1555
(fs_start=1503)

TCCCACA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(2801) JN024269
=====

PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A
GAAGGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.445000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1555
(fs_start=1503)

```
TCCCACA
AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAATT
```

=====
(2802) JN024270
=====

PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

```
A
GAAGGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT
```

PK2: -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)

```
C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC
```

PK3: -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)

```
A
TACTGAGAGACAGGCTAATTTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG
```

PK4: -26.445000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1555
(fs_start=1503)

```
TCCCACA
AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAATT
```

=====
(2803) JN024271
=====

PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

```
A
GAAGGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
```

```

                TTTT TAGGG
      GCTAAT
PK2:  -20.46000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT A  ATCGGA
                TGGCCTTC
      GGAAGATC
PK3:  -26.11000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)
                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                CCCTTC  CGGTCT
                GCCAGGGA
      ACAAGGGAAG
PK4:  -26.44500(kcal/mol): PK_start=1518 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1555
(fs_start=1503)
                TCCCACA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
                GGACCGGA  AGGGA
                TTCCTCA
      GAATT

=====
(2804) JN024272
=====
PK1:  -13.55500(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)
                A
GAAGGGAAGGACACCAAATGAAAGATTGT
                GACA  GAGAGTC
                TTTT TAGGG
      GCTAAT
PK2:  -20.46000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT A  ATCGGA
                TGGCCTTC
      GGAAGATC
PK3:  -26.11000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)
                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                CCCTTC  CGGTCT

```

GCCAGGGA

ACAAGGGAAG

PK4: -26.445000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1555
(fs_start=1503)

TCCCACA

AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCT

GGACCGGA AGGGA

TTCCTCA

GAATT

=====
(2805) JN024273
=====

PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A

GAAGGGAAGGACACCAAATGAAAGATTGT

GACA GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)

C

GAAGGACACCAAATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)

A

TACTGAGAGACAGGCTAATTTTTTTAGGGAAG

CCCTTC CGGTCT

GCCAGGGA

ACAAGGGAAG

PK4: -26.445000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1555
(fs_start=1503)

TCCCACA

AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCT

GGACCGGA AGGGA

TTCCTCA

GAATT

=====
(2806) JN024274
=====

PK1: -13.065000(kcal/mol): PK_start=1468 sp=0 s1=3 s2=8 l1=5 l2=16 L3=0 PK_end=1510
(fs_start=1503)

CCAGA

GCTGTTGGAAATGTGGGAAGGAAGGACA

```

          TGT   TAGAAAGT
                ATTTTTTAGG
          ACCGAGAGACAGGCTA

PK2:  -17.180000(kcal/mol): PK_start=1490 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=1524
(fs_start=1503)
                C
AGGACACCAGATGAAAGATTGTACCGAGAGA
                TTTTTT  A  ATCGGA
                        TGGCCTTC
          AGGGAAGATC

PK3:  -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)
                A
TACCGAGAGACAGGCTAATTTTTTAGGGAAG
                CCCTTC  CGGTCT
                        GCCAGGGA
          ACAAGGGGAG

PK4:  -26.235000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)
                CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
                GGACCGGAGG  GGAA
                        TCTTCA
          GAATTT

PK4B:  -30.395000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1581
(fs_start=1503)
                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
                GGACCGGA  GGGG
                        CCCCAA
          GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2807) JN024275
=====

PK1:  -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)
                A
GGAAGGAAGGACACCAGATGAAAGATTGT
                GACA  GAGAGTC
                        TTTTTAGGG
          GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)
                C
GAAGGACACCAGATGAAAGATTGTACTGAGAGA

```

```

          GATTTTTT A ATCGGA
                                TGGCCTTC
      GGAAGATC
PK3:  -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)
          A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
          CCCTTC   CGGTCT
                                GCCAGGGA
      ACAAGGGGAG
PK4:  -26.235000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)
                                CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
          GGACCGGAGG   GGAA
                                TCTTCA
      GAATTT
PK4B:  -30.395000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1581
(fs_start=1503)
                                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
          GGACCGGA   GGGG
                                CCCCAA
      GAATTTTCTTCAGAGCAGACCAGAGCCAACAG
=====
(2808) JN024276
=====
PK1:  -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)
          A
GGAAGGAAGGACACCAGATGAAAGGTTGT
          GACA   GAGAGTC
                                TTTTTAGGG
      GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)
          C
GAAGGACACCAGATGAAAGGTTGTACTGAGAGA
          GATTTTTT A ATCGGA
                                TGGCCTTC
      GGAAGATC
PK3:  -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)
          A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG

```

```

          CCCTTC   CGGTCT
                GCCAGGGA
    ACAAGGGGAG

PK4:  -26.235000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)
                CCAC
AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCTTC
                GGACCGGAGG   GGAA
                                TCTTCA
                GAATTT

PK4B:  -30.395000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1581
(fs_start=1503)
                TCCCACAA
AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCT
                GGACCGGA   GGGG
                                CCCCAA
                GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2809) JN024277
=====
PK1:  -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)
                A
GGAAGGAAGGACACCAGATGAAAGATTGT
                GACA   GAGAGTC
                                TTTTTAGGG
                GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)
                C
GAAGGACACCAGATGAAAGATTGTACTGAGAGA
                GATTTTTT   A   ATCGGA
                                TGGCCTTC
                GGAAGATC

PK3:  -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)
                A
TACTGAGAGACAGGCTAATTTTTTTAGGGAAG
                CCCTTC   CGGTCT
                                GCCAGGGA
                ACAAGGGGAG

PK4:  -26.235000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)
                CCAC
AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCTTC

```

GGACCGGAGG GGAA
TCTTCA
GAATTT
PK4B: -30.395000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1581
(fs_start=1503)
TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CCCCAA
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2810) JN024278
=====

PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A
GGAAGGAAGGACACCAGATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)

C
GAAGGACACCAGATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1581
(fs_start=1503)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT

GGACCGGA GGGG
CCCCAA
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2811) JN024279
=====

PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A
GGAAGGAAGGACACCAGATGAAAGATTGT

GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)

C
GAAGGACACCAGATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG

CCCTTC CGGTCT
GCCAGGGA
ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC

GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1581
(fs_start=1503)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT

GGACCGGA GGGG
CCCCAA
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2812) JN024280
=====

PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A
GGAAGGAAGGACACCAGATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)

C
GAAGGACACCAGATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1581
(fs_start=1503)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CCCCAA
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2813) JN024281
=====

PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A
GGAAGGAAGGACACCAGATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)

C
GAAGGACACCAGATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1581
(fs_start=1503)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CCCCAA
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2814) JN024282
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PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A
GGAAGGAAGGACACCAGATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)

C
GAAGGACACCAGATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1545
(fs_start=1503)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1555
(fs_start=1503)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=1581
(fs_start=1503)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CCCCAA
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

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(2815) JN024284

=====
PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1511
(fs_start=1503)

A
GGAAGGAAGGACACCAGATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1524
(fs_start=1503)

C
GAAGGACACCAGATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1545
(fs_start=1503)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1581
(fs_start=1503)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CCCCAA
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

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(2816) JN024285
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PK1: -13.555000(kcal/mol): PK_start=1482 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1510
(fs_start=1502)

A
GGAAGGAAGGACACCAGATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1487 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1523
(fs_start=1502)

C
GAAGGACACCAGATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1510 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1544
(fs_start=1502)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1517 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1554
(fs_start=1502)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1517 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1580
(fs_start=1502)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CCCCAA
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2817) JN024286
=====

PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A
GGAAGGAAGGACACCAGATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)

C
GAAGGACACCAGATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1581
(fs_start=1503)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CCCCAA
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2818) JN024287
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PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A
GGAAGGAAGGACACCAGATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)

C
GAAGGACACCAGATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1581
(fs_start=1503)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CCCCAA
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2819) JN024288
=====

PK1: -13.555000(kcal/mol): PK_start=1482 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1510
(fs_start=1502)

A
GGAAGGAAGGACACCAGATGAAAGATTGT
GACA GAGAGTC

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          TTTTtaggg
      GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1487 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1523
(fs_start=1502)
          C
GAAGGACACCAGATGAAAGATTGTACTGAGAGA
          GATTTTTT A  ATCGGA
          TGGCCTTC
      GGAAGATC
PK3:  -26.110000(kcal/mol): PK_start=1510 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1544
(fs_start=1502)
          A
TACTGAGAGACAGGCTAATTTTTTtagggaag
          CCCTTC  CGGTCT
          GCCAGGGA
      ACAAGGGGAG
PK4:  -26.235000(kcal/mol): PK_start=1517 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1554
(fs_start=1502)
          CCAC
AGACAGGCTAATTTTTTtagggaagatctggccttc
          GGACCGGAGG  GGAA
          TCTTCA
      GAATTT
PK4B:  -30.395000(kcal/mol): PK_start=1517 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1580
(fs_start=1502)
          TCCCACAA
AGACAGGCTAATTTTTTtagggaagatctggcct
          GGACCGGA  GGGG
          CCCCAA
      GAATTTTCTTCAGAGCAGACCAGAGCCAACAG
=====
(2820) JN024289
=====
PK1:  -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)
          A
GGAAGGAAGGACACCAGATGAAAGATTGT
          GACA  GAGAGTC
          TTTTtaggg
      GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)
          C
GAAGGACACCAGATGAAAGATTGTACTGAGAGA
          GATTTTTT A  ATCGGA

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GGAAGATC TGGCCTTC
PK3: -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1545
(fs_start=1503)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1555
(fs_start=1503)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=1581
(fs_start=1503)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CCCCAA
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2821) JN024290
=====

PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1511
(fs_start=1503)

A
GGAAGGAAGGACACCAGATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1524
(fs_start=1503)

C
GAAGGACACCAGATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1545
(fs_start=1503)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT

GCCAGGGA

ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)

CCAC

AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCTTC

GGACCGGAGG GGAA

TCTTCA

GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1581
(fs_start=1503)

TCCCACAA

AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCT

GGACCGGA GGGG

CCCCAA

GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2822) JN024291
=====

PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A

GGAAGGAAGGACACCAGATGAAAGATTGT

GACA GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)

C

GAAGGACACCAGATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)

A

TACTGAGAGACAGGCTAATTTTTTTAGGGAAG

CCCTTC CGGTCT

GCCAGGGA

ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)

CCAC

AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCTTC

GGACCGGAGG GGAA

TCTTCA

GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1581
(fs_start=1503)

TCCCACAA

AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCT

GGACCGGA GGGG

CCCCAA

GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====

(2823) JN024292

=====

PK1: -13.555000(kcal/mol): PK_start=1482 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1510
(fs_start=1502)

A

GGAAGGAAGGACACCAGATGAAAGATTGT

GACA GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1487 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1523
(fs_start=1502)

C

GAAGGACACCAGATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1510 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1544
(fs_start=1502)

A

TACTGAGAGACAGGCTAATTTTTTTAGGGAAG

CCCTTC CGGTCT

GCCAGGGA

ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1517 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1554
(fs_start=1502)

CCAC

AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCTTC

GGACCGGAGG GGAA

TCTTCA

GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1517 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1580
(fs_start=1502)

TCCCACAA

AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCT

GGACCGGA GGGG

CCCCAA
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2824) JN024293
=====

PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A
GGAAGGAAGGACACCAGATGAAAGATTGT

GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)

C
GAAGGACACCAGATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG

CCCTTC CGGTCT
GCCAGGGA
ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC

GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1581
(fs_start=1503)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT

GGACCGGA GGGG
CCCCAA
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2825) JN024294
=====

PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A
GGAAAGAAGGACACCAGATGAAAGATTGT

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          GACA      GAGAGTC
                TTTTATAGGG
      GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)
                C
GAAGGACACCAGATGAAAGATTGTACTGAGAGA
                GATTTTTT  A  ATCGGA
                        TGGCCTTC
          GGAAGATC
PK3:  -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)
                A
TACTGAGAGACAGGCTAATTTTTATAGGGAAG
                CCCTTC      CGGTCT
                        GCCAGGGA
          ACAAGGGGAG
PK4:  -26.235000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)
                CCAC
AGACAGGCTAATTTTTATAGGGAAGATCTGGCCTTC
                GGACCGGAGG      GGAA
                        TCTTCA
          GAATTT
PK4B:  -30.395000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1581
(fs_start=1503)
                TCCCACAA
AGACAGGCTAATTTTTATAGGGAAGATCTGGCCT
                GGACCGGA      GGGG
                        CCCCAA
          GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2826) JN024296
=====
PK1:  -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)
                A
GGAAGGAAGGACACCAGATGAAAGATTGT
                GACA      GAGAGTC
                        TTTTATAGGG
          GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)
                C
GAAGGACACCAGATGAAAGATTGTACTGAGAGA

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          GATTTTTT A ATCGGA
                    TGGCCTTC
      GGAAGATC
PK3:  -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)
          A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
          CCCTTC   CGGTCT
                    GCCAGGGA
      ACAAGGGGAG
PK4:  -26.235000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)
                    CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
          GGACCGGAGG   GGAA
                    TCTTCA
      GAATTT
PK4B:  -30.395000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1581
(fs_start=1503)
                    TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
          GGACCGGA   GGGG
                    CCCCAA
      GAATTTTCTTCAGAGCAGACCAGAGCCAACAG
=====
(2827) JN024297
=====
PK1:  -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)
          A
GGAAGGAAGGACACCAGATGAAAGATTGT
          GACA   GAGAGTC
                    TTTTTAGGG
      GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)
          C
GAAGGACACCAGATGAAAGATTGTACTGAGAGA
          GATTTTTT A ATCGGA
                    TGGCCTTC
      GGAAGATC
PK3:  -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)
          A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG

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          CCCTTC   CGGTCT
                    GCCAGGGA
ACAAGGGGAG

PK4:  -26.235000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)
                    CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
                    GGACCGGAGG   GGAA
                                TCTTCA
                    GAATTT

PK4B:  -30.395000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1581
(fs_start=1503)
                    TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
                    GGACCGGA   GGGG
                                CCCCAA
                    GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2828) JN024298
=====
PK1:  -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)
                    A
GGAAGGAAGGACACCAGATGAAAGATTGT
                    GACA   GAGAGTC
                                TTTTTAGGG
                    GTTAAT

PK2:  -16.970000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)
                    C
GAAGGACACCAGATGAAAGATTGTACTGAGAGA
                    GATTTTTT   A   ATTGGA
                                TGGCCTTC
                    GGAAGATC

PK3:  -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)
                    A
TACTGAGAGACAGGTTAATTTTTTAGGGAAG
                    CCCTTC   CGGTCT
                                GCCAGGGA
                    ACAAGGGGAG

PK4:  -26.235000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)
                    CCAC
AGACAGGTTAATTTTTTAGGGAAGATCTGGCCTTC

```

GGACCGGAGG GGAA
TCTTCA
GAATTT
PK4B: -30.395000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1581
(fs_start=1503)
TCCCACAA
AGACAGGTTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CCCCAA
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2829) JN024299
=====

PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A
GGAAGGAAGGACACCAGATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)

C
GAAGGACACCAGATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1581
(fs_start=1503)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT

GGACCGGA GGGG
CCCCAA
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2830) JN024300
=====

PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A
GGAAGGAAGGACACCAGATGAAAGATTGT

GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)

C
GAAGGACACCAGATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG

CCCTTC CGGTCT
GCCAGGGA
ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC

GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1581
(fs_start=1503)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT

GGACCGGA GGGG
CCCCAA
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2831) JN024301
=====

PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A
GGAAGGAAGGACACCAGATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)

C
GAAGGACACCAGATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1581
(fs_start=1503)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CCCCAA
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2832) JN024302
=====

PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A
GGAAGGAAGGACACCAGATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)

C
GAAGGACACCAGATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1581
(fs_start=1503)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CCCCAA
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2833) JN024303
=====

PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A
GGAAGGAAGGACACCAGATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)

C
GAAGGACACCAGATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1545
(fs_start=1503)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1555
(fs_start=1503)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=1581
(fs_start=1503)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CCCCAA
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2834) JN024304
=====

PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1511
(fs_start=1503)

A
GGAAGGAAGGACACCAGATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1524
(fs_start=1503)

C
GAAGGACACCAGATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1545
(fs_start=1503)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1581
(fs_start=1503)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CCCCAA
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2835) JN024305
=====

PK1: -13.555000(kcal/mol): PK_start=1482 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1510
(fs_start=1502)

A
GGAAGGAAGGACACCAGATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1487 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1523
(fs_start=1502)

C
GAAGGACACCAGATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1510 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1544
(fs_start=1502)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1517 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1554
(fs_start=1502)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1517 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1580
(fs_start=1502)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CCCCAA
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2836) JN024306
=====

PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A
GGAAGGAAGGACACCAGATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)

C
GAAGGACACCAGATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1581
(fs_start=1503)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CCCCAA
GAATTTTCTTCAGAGCGGACCAGAGCCAACAG

=====
(2837) JN024307
=====

PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A
GGAAGGAAGGACACCAGATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)

C
GAAGGACACCAGATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1581
(fs_start=1503)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CCCCAA
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2838) JN024308
=====

PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A
GGAAGGAGGGACACCAGATGAAAGATTGT
GACA GAGAGTC

```

                TTTT TAGGG
      GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)
                C
GAGGGACACCAGATGAAAGATTGTACTGAGAGA
                GATTTTTT A  ATCGGA
                TGGCCTTC
      GGAAGATC
PK3:  -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)
                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                CCCTTC  CGGTCT
                GCCAGGGA
      ACAAGGGGAG
PK4:  -26.235000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)
                CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
                GGACCGGAGG  GGAA
                TCTTCA
      GAATTT
PK4B:  -30.395000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1581
(fs_start=1503)
                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
                GGACCGGA  GGGG
                CCCCAA
      GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2839) JN024309
=====
PK1:  -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)
                A
GGAAGGAAGGACACCAGATGAAAGATTGT
                GACA  GAGAGTC
                TTTT TAGGG
      GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)
                C
GAAGGACACCAGATGAAAGATTGTACTGAGAGA
                GATTTTTT A  ATCGGA

```

GGAAGATC TGGCCTTC
PK3: -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1545
(fs_start=1503)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1555
(fs_start=1503)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=1581
(fs_start=1503)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CCCCAA
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2840) JN024310
=====

PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1511
(fs_start=1503)

A
GGAAGGAAGGACACCAGATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1524
(fs_start=1503)

C
GAAGGACACCAGATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1545
(fs_start=1503)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT

GCCAGGGA

ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)

CCAC

AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC

GGACCGGAGG GGAA

TCTTCA

GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1581
(fs_start=1503)

TCCCACAA

AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT

GGACCGGA GGGG

CCCCAA

GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2841) JN024311
=====

PK1: -13.555000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A

GGAAGGAAGGACACCAGATGAAAGATTGT

GACA GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C

GAAGGACACCAGATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1512 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1546
(fs_start=1504)

A

TACTGAGAGACAGGCTAATTTTTTAGGGAAG

CCCTTC CGGTCT

GCCAGGGA

ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC

AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC

GGACCGGAGG GGAA

TCTTCA

GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1519 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1582
(fs_start=1504)

TCCCACAA

AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCT

GGACCGGA GGGG

CCCCAA

GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====

(2842) JN024312

=====

PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A

GGAAGGAAGGACACCAGATGAAAGATTGT

GACA GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)

C

GAAGGACACCAGATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)

A

TACTGAGAGACAGGCTAATTTTTTTAGGGAAG

CCCTTC CGGTCT

GCCAGGGA

ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)

CCAC

AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCTTC

GGACCGGAGG GGAA

TCTTCA

GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1581
(fs_start=1503)

TCCCACAA

AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCT

GGACCGGA GGGG

CCCCAA
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2843) JN024313
=====

PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A
GGAAGGAAGGACACCAGATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)

C
GAAGGACACCAGATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1581
(fs_start=1503)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CCCCAA
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2844) JN024314
=====

PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A
GGAAGGAAGGACACCAGATGAAAGATTGT

GACA GAGAGTC
TTTTTAGGG
GCTAAT
PK2: -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)

C
GAAGGACACCAGATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1581
(fs_start=1503)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CCCCAA
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2845) JN024315
=====

PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A
GGAAGGAAGGACACCAGATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)

C
GAAGGACACCAGATGAAAGATTGTACTGAGAGA

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          GATTTTTT A ATCGGA
                    TGGCCTTC
    GGAAGATC
PK3:  -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)
          A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
          CCCTTC   CGGTCT
                    GCCAGGGA
    ACAAGGGGAG
PK4:  -26.235000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)
                    CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
          GGACCGGAGG   GGAA
                    TCTTCA
    GAATTT
PK4B:  -30.395000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1581
(fs_start=1503)
                    TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
          GGACCGGA   GGGG
                    CCCCAA
    GAATTTTCTTCAGAGCAGACCAGAGCCAACCG
=====
(2846) JN024317
=====
PK1:  -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)
          A
GGAAGGAAGGACACCAGATGAAAGATTGT
          GACA   GAGAGTC
                    TTTTTAGGG
    GCTAAT
PK2:  -19.080000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=5 l1=2 l2=8 L3=1 PK_end=1523
(fs_start=1503)
                    CA
GAAGGACACCAGATGAAAGATTGTACTGAGAGA
          GATTTTTT A ATCGG
                    TGGCCCT
    GGAAGATC
PK3:  -24.730000(kcal/mol): PK_start=1511 sp=0 s1=4 s2=7 l1=3 l2=9 L3=1 PK_end=1544
(fs_start=1503)
          AGA
TACTGAGAGACAGGCTAATTTTTTAGGGA

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          CCCT C CCGTCT
                GGCCAGGGA
ACAAGGGGA
PK4:  -23.92000(kcal/mol): PK_start=1518 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=1556
(fs_start=1503)
                CTCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCC
                GGACCGG  AGGGG
                TCTTCAG
          GAATTT

PK4B:  -27.14000(kcal/mol): PK_start=1518 sp=7 s1=7 s2=4 l1=9 l2=32 L3=1 PK_end=1580
(fs_start=1503)
                CTCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCC
                GGACCGG  A  GGGG
                CCCCA
          GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2847) JN024318
=====
PK1:  -13.55500(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)
                A
GGAAGGAAGGACACCAGATGAAAGATTGT
                GACA  GAGAGTC
                TTTTTAGGG
          GCTAAT

PK2:  -20.46000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)
                C
GAAGGACACCAGATGAAAGATTGTACTGAGAGA
                GATTTTTT  A  ATCGGA
                TGGCCTTC
          GGAAGATC

PK3:  -26.11000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)
                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                CCCTTC  CCGTCT
                GCCAGGGA
          ACAAGGGGAG

PK4:  -26.23500(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)
                CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC

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GGACCGGAGG GGAA
TCTTCA
GAATTT
PK4B: -30.395000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1581
(fs_start=1503)
TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CCCCAA
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2848) JN024319
=====

PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A
GGAAGGAAGGACACCAGATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)

C
GAAGGACACCAGATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1581
(fs_start=1503)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT

GGACCGGA GGGG
CCCCAA
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2849) JN024320
=====

PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A
GGAAGGAAGGACACCAGATGAAAGATTGT

GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)

C
GAAGGACACCAGATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG

CCCTTC CGGTCT
GCCAGGGA
ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC

GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1581
(fs_start=1503)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT

GGACCGGA GGGG
CCCCAA
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2850) JN024321
=====

PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A
GGAAGGAAGGACACCAGATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)

C
GAAGGACACCAGATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)

A
TACTGAGAGACAGGCTAATTTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)

CCAC
AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1581
(fs_start=1503)

TCCCACAA
AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CCCCAA
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2851) JN024322
=====

PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A
GGAAGGAAGGACACCAGATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)

C
GAAGGACACCAGATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1581
(fs_start=1503)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CCCCAA
GAATTTTCTTCAGAGCAGACCAGGGCCAACAG

=====
(2852) JN024323
=====

PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A
GGAAGGAAGGGCACCAGATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)

C
GAAGGGCACCAGATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1545
(fs_start=1503)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1555
(fs_start=1503)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=1581
(fs_start=1503)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CCCCAA
GAATTTTCTTCAGAGCAGACCAGCCAACAG

=====
(2853) JN024324

=====
PK1: -10.390000(kcal/mol): PK_start=1472 sp=0 s1=3 s2=7 l1=1 l2=18 l3=0 PK_end=1510
(fs_start=1503)

A
TTGGAAATGTGGGAAGGAAGGACACCAG
GTT AGAAAGT
TTTTTTAGG
CACTGAGAGACAGGCTAA

PK2: -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1524
(fs_start=1503)

C
GAAGGACACCAGATGAAAGATTGCACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1545
(fs_start=1503)

A
CACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1581
(fs_start=1503)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CCCCAA
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2854) JN024325
=====

PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A
GGAAGGAAGGACACCAGATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)

C
GAAGGACACCAGATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1581
(fs_start=1503)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CCCCAA
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2855) JN024327
=====

PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A
GGAAGGAAGGACACCAGATGAAAAATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)

C
GAAGGACACCAGATGAAAAATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1581
(fs_start=1503)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CCCCAA
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2856) JN024328
=====

PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1511
(fs_start=1503)

A
GGAAGGAAGGACACCAGATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1524
(fs_start=1503)

C
GAAGGACACCAGATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1545
(fs_start=1503)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1555
(fs_start=1503)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=1581
(fs_start=1503)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CCCCAA
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2857) JN024329
=====

PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1511
(fs_start=1503)

A
GGAAGGAAGGACACCAGATGAAAGATTGT
GACA GAGAGTC

```

                TTTTtaggg
      GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)
                C
GAAGGACACCAGATGAAAGATTGTACTGAGAGA
                GATTTTTT A  ATCGGA
                TGGCCTTC
      GGAAGATC
PK3:  -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)
                A
TACTGAGAGACAGGCTAATTTTTTtagggaag
                CCCTTC  CGGTCT
                GCCAGGGA
      ACAAGGGGAG
PK4:  -26.235000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)
                CCAC
AGACAGGCTAATTTTTTtagggaagatctggccttc
                GGACCGGAGG  GGAA
                TCTTCA
      GAATTT
PK4B:  -30.395000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1581
(fs_start=1503)
                TCCCACAA
AGACAGGCTAATTTTTTtagggaagatctggcct
                GGACCGGA  GGGG
                CCCCAA
      GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2858) JN024330
=====
PK1:  -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)
                A
GGAAGGAAGGACACCAGATGAAAGATTGT
                GACA  GAGAGTC
                TTTTtaggg
      GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)
                C
GAAGGACACCAGATGAAAGATTGTACTGAGAGA
                GATTTTTT A  ATCGGA

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                                TGGCCTTC
                GGAAGATC
PK3:  -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1545
(fs_start=1503)
                                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                                CCCTTC    CGGTCT
                                GCCAGGGA
                ACAAGGGGAG
PK4:  -26.235000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1555
(fs_start=1503)
                                CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
                                GGACCGGAGG    GGAA
                                TCTTCA
                GAATTT
PK4B:  -30.395000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=1581
(fs_start=1503)
                                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
                                GGACCGGA    GGGG
                                CCCCAA
                GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2859) JN024331
=====
PK1:  -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1511
(fs_start=1503)
                                A
GGAAGGAAGGACACCAGATGAAAGATTGT
                                GACA    GAGAGTC
                                TTTTTAGGG
                GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1524
(fs_start=1503)
                                C
GAAGGACACCAGATGAAAGATTGTACTGAGAGA
                                GATTTTTT    A    ATCGGA
                                TGGCCTTC
                GGAAGATC
PK3:  -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1545
(fs_start=1503)
                                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                                CCCTTC    CGGTCT

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GCCAGGGA

ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)

CCAC

AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC

GGACCGGAGG GGAA

TCTTCA

GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1581
(fs_start=1503)

TCCCACAA

AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT

GGACCGGA GGGG

CCCCAA

GAATTTTCTTCAGAGCAGACCGGAGCCAACAG

=====
(2860) JN024332
=====

PK1: -10.390000(kcal/mol): PK_start=1472 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1510
(fs_start=1503)

A

TTGGAAATGTGGGAAGGAAGGACACCAG

GTT AGAAAGT

TTTTTTTAGG

CACTGAGAGACAGGCTAA

PK2: -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)

C

GAAGGACACCAGATGAAAGATTGCACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)

A

CACTGAGAGACAGGCTAATTTTTTAGGGAAG

CCCTTC CGGTCT

GCCAGGGA

ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)

CCAC

AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC

GGACCGGAGG GGAA

TCTTCA

GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1581
(fs_start=1503)

TCCCACAA

AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCT

GGACCGGA GGGG

CCCCAA

GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====

(2861) JN024333

=====

PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A

GGAAGGAAGGACACCAGATGAAAGATTGT

GACA GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)

C

GAAGGACACCAGATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)

A

TACTGAGAGACAGGCTAATTTTTTTAGGGAAG

CCCTTC CGGTCT

GCCAGGGA

ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)

CCAC

AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCTTC

GGACCGGAGG GGAA

TCTTCA

GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1581
(fs_start=1503)

TCCCACAA

AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCT

GGACCGGA GGGG

CCCCAA
GAATTTTCTTCAGAGCAGACCGGAGCCAACAG

=====
(2862) JN024334
=====

PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A
GGAAGGAAGGGCACCAGATGAAAGATTGT

GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)

C
GAAGGGCACCAGATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG

CCCTTC CGGTCT
GCCAGGGA
ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC

GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1581
(fs_start=1503)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT

GGACCGGA GGGG
CCCCAA
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2863) JN024335
=====

PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A
GGAAGGAAGGACACCAGATGAAAGATTGT

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          GACA    GAGAGTC
                TTTTATAGGG
    GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)
                C
GAAGGACACCAGATGAAAGATTGTACTGAGAGA
                GATTTTTT  A  ATCGGA
                        TGGCCTTC
    GGAAGATC
PK3:  -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)
                A
TACTGAGAGACAGGCTAATTTTTATAGGGAAG
                CCCTTC    CGGTCT
                        GCCAGGGA
    ACAAGGGGAG
PK4:  -30.395000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1581
(fs_start=1503)
                TCCCACAA
AGACAGGCTAATTTTTATAGGGAAGATCTGGCCT
                GGACCGGA    GGGG
                        CCCCAA
    GAATCTTCTCCAGAGCAGACCAGAGCCAACAG
=====
(2864) JN024336
=====
PK1:  -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)
                A
GGAAGGAAGGACACCAGATGAAAGATTGT
                GACA    GAGAGTC
                        TTTTATAGGG
    GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)
                C
GAAGGACACCAGATGAAAGATTGTACTGAGAGA
                GATTTTTT  A  ATCGGA
                        TGGCCTTC
    GGAAGATC
PK3:  -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)
                A
TACTGAGAGACAGGCTAATTTTTATAGGGAAG

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          CCCTTC   CGGTCT
                    GCCAGGGA
ACAAGGGGAG

PK4:  -26.235000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)
                    CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
                    GGACCGGAGG   GGAA
                                TCTTCA
                    GAATTT

PK4B:  -30.395000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1581
(fs_start=1503)
                    TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
                    GGACCGGA   GGGG
                                CCCCAA
                    GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2865) JN024337
=====
PK1:  -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)
                    A
GGAAGAAAGGACACCAGATGAAAGATTGT
                    GACA   GAGAGTC
                                TTTTTAGGG
                    GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)
                    C
AAAGGACACCAGATGAAAGATTGTACTGAGAGA
                    GATTTTTT   A   ATCGGA
                                TGGCCTTC
                    GGAAGATC

PK3:  -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)
                    A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                    CCCTTC   CGGTCT
                                GCCAGGGA
                    ACAAGGGGAG

PK4:  -26.235000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)
                    CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC

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GGACCGGAGG GGAA
TCTTCA
GAATTT
PK4B: -30.395000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1581
(fs_start=1503)
TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CCCCAA
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(2866) JN024338
=====

PK1: -13.555000(kcal/mol): PK_start=1482 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1510
(fs_start=1502)

A
GGAAGGAAGGACACCAGATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1487 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1523
(fs_start=1502)

C
GAAGGACACCAGATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -23.470000(kcal/mol): PK_start=1510 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1544
(fs_start=1502)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GTCAGGGA
ACAAGGGGAG

PK4: -23.595000(kcal/mol): PK_start=1517 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1554
(fs_start=1502)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACTGGAGG GGAA
TCTTCA
GAATTT

PK4B: -27.755000(kcal/mol): PK_start=1517 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1580
(fs_start=1502)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT

GGACTGGA GGGG
CCCCAA
GAATTTTCTTCAGAGCAGACCAGACCAACAG

=====
(2867) JN024339
=====

PK1: -13.595000(kcal/mol): PK_start=1494 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1522
(fs_start=1514)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1499 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1535
(fs_start=1514)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1522 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1556
(fs_start=1514)

A
TACTGAAAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1529 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1566
(fs_start=1514)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2868) JN024340
=====

PK1: -13.595000(kcal/mol): PK_start=1494 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1522
(fs_start=1514)

A
GAAAGGAAGGACACCAAATGAAGGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.50000(kcal/mol): PK_start=1499 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1535
(fs_start=1514)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.11000(kcal/mol): PK_start=1522 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1556
(fs_start=1514)

A
TACTGAAAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.71500(kcal/mol): PK_start=1529 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1566
(fs_start=1514)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2869) JN024341
=====

PK1: -13.59500(kcal/mol): PK_start=1494 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1522
(fs_start=1514)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.50000(kcal/mol): PK_start=1499 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1535
(fs_start=1514)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.11000(kcal/mol): PK_start=1522 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1556
(fs_start=1514)

A
TACTGAAAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1529 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1566
(fs_start=1514)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2870) JN024342
=====

PK1: -13.595000(kcal/mol): PK_start=1494 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1522
(fs_start=1514)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1499 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1535
(fs_start=1514)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1522 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1556
(fs_start=1514)

A
TACTGAAAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1529 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1566
(fs_start=1514)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2871) JN024343
=====

PK1: -13.595000(kcal/mol): PK_start=1494 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1522
(fs_start=1514)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC

```

                TTTT TAGGG
      GCTAAT
PK2:  -20.50000(kcal/mol): PK_start=1499 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1535
(fs_start=1514)
                C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
                GATTTTTT A  ATCGGA
                TGGCCTTC
      GGAAGATC
PK3:  -26.11000(kcal/mol): PK_start=1522 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1556
(fs_start=1514)
                A
TACTGAAAGACAGGCTAATTTTTTAGGGAAG
                CCCTTC  CGGTCT
                GCCAGGGA
      ACAAGGGAAG
PK4:  -26.71500(kcal/mol): PK_start=1529 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1566
(fs_start=1514)
                CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
                GGACCGGAAG  GGAA
                TCTTCA
      GAATTT

=====
(2872) JN024344
=====
PK1:  -13.59500(kcal/mol): PK_start=1494 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1522
(fs_start=1514)
                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                GACA  GAAAGTC
                TTTT TAGGG
      GCTAAT
PK2:  -20.50000(kcal/mol): PK_start=1499 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1535
(fs_start=1514)
                C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
                GATTTTTT A  ATCGGA
                TGGCCTTC
      GGAAGATC
PK3:  -26.11000(kcal/mol): PK_start=1522 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1556
(fs_start=1514)
                A
TACTGAAAGACAGGCTAATTTTTTAGGGAAG
                CCCTTC  CGGTCT

```

GCCAGGGA

ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1529 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1566
(fs_start=1514)

CCAC

AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCTTC

GGACCGGAAG GGAA

TCTTCA

GAATTT

=====
(2873) JN024345
=====

PK1: -13.595000(kcal/mol): PK_start=1491 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1519
(fs_start=1511)

A

GAAAGGAAGGACACCAAATGAAAGATTGT

GACA GAAAGTC

TTTTTAGGG

GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1496 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1532
(fs_start=1511)

C

GAAGGACACCAAATGAAAGATTGTACTGAAAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1519 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1553
(fs_start=1511)

A

TACTGAAAGACAGGCTAATTTTTTTAGGGAAG

CCCTTC CGGTCT

GCCAGGGA

ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1526 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1563
(fs_start=1511)

CCAC

AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCTTC

GGACCGGAAG GGAA

TCTTCA

GAATTT

=====
(2874) JN024346
=====

PK1: -13.595000(kcal/mol): PK_start=1492 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1520
(fs_start=1512)

A

GAAAGGAAGGACACCAAATGAAAGATTGT

```

                GACA    GAAAGTC
                TTTT TAGGG
    GCTAAT
PK2:  -20.50000(kcal/mol): PK_start=1497 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1533
(fs_start=1512)
                C
    GAAGGACACCAAATGAAAGATTGTACTGAAAGA
                GATTTTTT A  ATCGGA
                TGGCCTTC
    GGAAGATC
PK3:  -26.11000(kcal/mol): PK_start=1520 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1554
(fs_start=1512)
                A
    TACTGAAAGACAGGCTAATTTTTTAGGGAAG
                CCCTTC    CGGTCT
                GCCAGGGA
    ACAAGGGAAG
PK4:  -26.71500(kcal/mol): PK_start=1527 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1564
(fs_start=1512)
                CCAC
    AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
                GGACCGGAAG    GGAA
                TCTTCA
    GAATTT
=====
(2875) JN024347
=====
PK1:  -13.59500(kcal/mol): PK_start=1494 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1522
(fs_start=1514)
                A
    GAAAGGAAGGACACCAAATGAAAGATTGT
                GACA    GAAAGTC
                TTTT TAGGG
    GCTAAT
PK2:  -20.50000(kcal/mol): PK_start=1499 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1535
(fs_start=1514)
                C
    GAAGGACACCAAATGAAAGATTGTACTGAAAGA
                GATTTTTT A  ATCGGA
                TGGCCTTC
    GGAAGATC
PK3:  -26.11000(kcal/mol): PK_start=1522 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1556
(fs_start=1514)
                A
    TACTGAAAGACAGGCTAATTTTTTAGGGAAG

```

CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG
PK4: -26.715000(kcal/mol): PK_start=1529 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1566
(fs_start=1514)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2876) JN024348
=====

PK1: -13.595000(kcal/mol): PK_start=1494 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1522
(fs_start=1514)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1499 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1535
(fs_start=1514)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1522 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1556
(fs_start=1514)

A
TACTGAAAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1529 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1566
(fs_start=1514)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2877) JN024349
=====

PK1: -13.595000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAAGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGAA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
AAATTT

=====
(2878) JN024350
=====

PK1: -13.595000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAAGGAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GGAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGAA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
AAATTT

=====
(2879) JN024351
=====

PK1: -13.595000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAAGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGAA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
AAATTT

=====
(2880) JN024352
=====

PK1: -13.595000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAAGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGAA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
AAATTT

=====
(2881) JN024353
=====

PK1: -13.595000(kcal/mol): PK_start=1486 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1514
(fs_start=1506)

A
GAAAAGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1491 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1527
(fs_start=1506)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA


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                                TGGCCTTC
          GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1514 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1548
(fs_start=1506)
                                AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTCT
                                AGGCCAGGAA
          ACAAGGGA

PK4:  -26.715000(kcal/mol): PK_start=1521 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1558
(fs_start=1506)
                                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAAG   GGAA
                                TCTTCA
          AAATTT

=====
(2882) JN024354
=====
PK1:  -13.595000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)
                                A
GAAAAGAAGGACACCAAATGAAAGATTGT
                                GACA   GAAAGTC
                                TTTTTAGGG
          GCTAAT

PK2:  -20.500000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
                                GATTTTTT   A   ATCGGA
                                TGGCCTTC
          GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)
                                AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTCT
                                AGGCCAGGAA
          ACAAGGGA

PK4:  -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)
                                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAAG   GGAA

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                                TCTTCA
                                AAATTT
=====
(2883) JN024355
=====
PK1:  -13.595000(kcal/mol): PK_start=1485 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1513
(fs_start=1505)
                                A
GAAAAGAAGGACACCAAATGAAAGATTGT
                                GACA    GAAAGTC
                                TTTTtaggg
                                GCTAAT

PK2:  -20.500000(kcal/mol): PK_start=1490 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1526
(fs_start=1505)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
                                GATTTTTT A  ATCGGA
                                TGGCCTTC
                                GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1513 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1547
(fs_start=1505)
                                AAA
TACTGAAAGACAGGCTAATTTTTTtaggga
                                CCCT    TCCGGTCT
                                AGGCCAGGAA
                                ACAAGGGA

PK4:  -26.715000(kcal/mol): PK_start=1520 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1557
(fs_start=1505)
                                CCAC
AGACAGGCTAATTTTTTtaggGAAAATCTGGCCTTC
                                GGACCGGAAG    GGAA
                                TCTTCA
                                AAATTT

=====
(2884) JN024356
=====
PK1:  -13.595000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)
                                A
GAAAAGAAGGACACCAAATGAAAGATTGT
                                GACA    GAAAGTC
                                TTTTtaggg
                                GCTAAT

PK2:  -20.500000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA

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          GATTTTTT A ATCGGA
                    TGGCCTTC
          GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)
                    AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
                    CCCT   TCCGGTCT
                    AGGCCAGGAA
          ACAAGGGA

PK4:  -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)
                    CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                    GGACCGGAAG   GGAA
                    TCTTCA
          AAATTT

=====
(2885) JN024357
=====

PK1:  -13.595000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)
                    A
GAAAAGAAGGACACCAAATGAAAGATTGT
                    GACA   GAAAGTC
                    TTTTTAGGG
          GCTAAT

PK2:  -20.500000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)
                    C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
                    GATTTTTT A ATCGGA
                    TGGCCTTC
          GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)
                    AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
                    CCCT   TCCGGTCT
                    AGGCCAGGAA
          ACAAGGGA

PK4:  -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)
                    CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

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                GGACCGGAAG    GGAA
                                TCTTCA
        AAATTT

=====
(2886) JN024358
=====
PK1:  -13.595000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)
                A
GAAAAGAAGGACACCAAATGAAAGATTGT

                GACA    GAAAGTC
                                TTTTTAGGG
        GCTAAT

PK2:  -20.500000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)
                C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA

                GATTTTTT    A    ATCGGA
                                TGGCCTTC
        GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)
                AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA

                CCCT    TCCGGTCT
                                AGGCCAGGAA
        ACAAGGGA

PK4:  -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)
                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

                GGACCGGAAG    GGAA
                                TCTTCA
        AAATTT

=====
(2887) JN024359
=====
PK1:  -13.595000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)
                A
GAAAAGAAGGACACCAAATGAAAGATTGT

                GACA    GAAAGTC
                                TTTTTAGGG
        GCTAAT

```

PK2: -20.50000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGAA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
AAATTT

=====
(2888) JN024360
=====

PK1: -13.595000(kcal/mol): PK_start=1485 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1513
(fs_start=1505)

A
GAAAAGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1490 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1526
(fs_start=1505)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1513 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1547
(fs_start=1505)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGAA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1520 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1557
(fs_start=1505)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
AAATTT

=====
(2889) JN024361
=====

PK1: -13.595000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAAGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGAA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
AAATTT

=====
(2890) JN024362
=====

PK1: -13.595000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAAGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC

TTTTTAGGG
GCTAAT
PK2: -20.500000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGAA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
AAATTT

=====
(2891) JN024363
=====

PK1: -13.595000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAAGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT

AGGCCAGGAA

ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC

AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAAG GGAA

TCTTCA

AAATTT

=====
(2892) JN024364
=====

PK1: -15.625000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A

GAAAAGAAGGACACCAAATGAAAGACTGT

GACA GAAAGTC

TTTTTAGGG

GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C

GAAGGACACCAAATGAAAGACTGTACTGAAAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA

TACTGAAAGACAGGCTAATTTTTTTAGGGA

CCCT TCCGGTCT

AGGCCAGGAA

ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC

AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAAG GGAA

TCTTCA

AAATTT

=====
(2893) JN024365
=====

PK1: -13.595000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A

GAAAAGAAGGACACCAAATGAAAGATTGT

GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.50000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA

GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT
AGGCCAGGAA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAAG GGAA
TCTTCA
AAATTT

=====
(2894) JN024366
=====

PK1: -13.595000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAAGAAGGACACCAAATGAAAGATTGT

GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA

GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT
AGGCCAGGAA
ACAAGGGA
PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
AAATTT

=====
(2895) JN024367
=====

PK1: -13.595000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAAGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGAA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
AAATTT

=====
(2896) JN024368
=====

PK1: -13.595000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAAGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGAA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
AAATTT

=====
(2897) JN024369
=====

PK1: -13.595000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAAGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGAA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
AAATTT

=====
(2898) JN024370
=====

PK1: -13.595000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAAGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGAA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
AAATTT

=====
(2899) JN024371
=====

PK1: -13.595000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAAGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGAA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGACAGGCTAATTTTTTAGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
AAATTT

=====
(2900) JN024372
=====

PK1: -13.595000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAAGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA

```

                                TGGCCTTC
          GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)
                                AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTCT
                                AGGCCAGGAA
          ACAAGGGA
PK4:  -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)
                                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAAG   GGAA
                                TCTTCA
          AAATTT
=====
(2901) JN024373
=====
PK1:  -13.555000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)
                                A
GAAAAGAAGGACACCAAATGAAAGATTGT
                                GACA   GAGAGTC
                                TTTTTAGGG
          GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                                GATTTTTT   A   ATCGGA
                                TGGCCTTC
          GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)
                                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTCT
                                AGGCCAGGAA
          ACAAGGGA
PK4:  -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)
                                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAAG   GGAA

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                                TCTTCA
                                AAATTT
=====
(2902) JN024374
=====
PK1:  -13.595000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)
                                A
GAAAAGAAGGACACCAAATGAAAGATTGT
                                GACA    GAAAGTC
                                TTTTtaggg
                                GCTAAT

PK2:  -20.500000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
                                GATTTTTT A  ATCGGA
                                TGGCCTTC
                                GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)
                                AAA
TACTGAAAGACAGGCTAATTTTTTtaggga
                                CCCT    TCCGGTCT
                                AGGCCAGGAA
                                ACAAGGGA

PK4:  -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)
                                CCAC
AGACAGGCTAATTTTTTtaggGAAAATCTGGCCTTC
                                GGACCGGAAG    GGAA
                                TCTTCA
                                AAATTT

=====
(2903) JN024375
=====
PK1:  -13.595000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)
                                A
GAAAAGAAGGACACCAAATGAAAGATTGT
                                GACA    GAAAGTC
                                TTTTtaggg
                                GCTAAT

PK2:  -20.500000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA

```

GATTTTTT A ATCGGA
 TGGCCTTC
 GGAAAATC
 PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
 (fs_start=1504)
 AAA
 TACTGAAAGACAGGCTAATTTTTTAGGGA
 CCCT TCCGGTCT
 AGGCCAGGAA
 ACAAGGGA
 PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
 (fs_start=1504)
 CCAC
 AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
 GGACCGGAAG GGAA
 TCTTCA
 AAATTT
 =====
 (2904) JN024376
 =====
 PK1: -13.595000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
 (fs_start=1504)
 A
 GAAAAGAAGGACACCAAATGAAAGATTGT
 GACA GAAAGTC
 TTTTTAGGG
 GCTAAT
 PK2: -20.500000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
 (fs_start=1504)
 C
 GAAGGACACCAAATGAAAGATTGTACTGAAAGA
 GATTTTTT A ATCGGA
 TGGCCTTC
 GGAAAATC
 PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
 (fs_start=1504)
 AAA
 TACTGAAAGACAGGCTAATTTTTTAGGGA
 CCCT TCCGGTCT
 AGGCCAGGAA
 ACAAGGGA
 PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
 (fs_start=1504)
 CCAC
 AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC


```

                GGACCGGAAG    GGAA
                                TCTTCA
        AAATTT

=====
(2905) JN024377
=====
PK1:  -13.595000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)
                                A
GAAAAGAAGGACACCAAATGAAAGATTGT

                GACA    GAAAGTC
                                TTTTTAGGG
        GCTAAT

PK2:  -20.500000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA

                GATTTTTT    A    ATCGGA
                                TGGCCTTC
        GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)
                                AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA

                CCCT    TCCGGTCT
                                AGGCCAGGAA
        ACAAGGGA

PK4:  -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)
                                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

                GGACCGGAAG    GGAA
                                TCTTCA
        AAATTT

=====
(2906) JN024380
=====
PK1:  -13.595000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)
                                A
GAAAAGAAGGACACCAAATGAAAGATTGT

                GACA    GAAAGTC
                                TTTTTAGGG
        GCTAAT

```

PK2: -20.50000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGAA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
AAATTT

=====
(2907) JN024381
=====

PK1: -13.595000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAAGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGAA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=5 L3=0 PK_end=1555
(fs_start=1504)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
AATTT

=====
(2908) JN024382
=====

PK1: -13.595000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAAGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGAA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
AAATTT

=====
(2909) JN024383
=====

PK1: -13.595000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAAGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC

TTTTTAGGG

GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C

GAAGGACACCAAATGAAAGATTGTACTGAAAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA

TACTGAAAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT

AGGCCAGGAA

ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC

AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAAG GGAA

TCTTCA

AAATTT

=====
(2910) JN024384
=====

PK1: -13.595000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A

GAAAAGAAGGACACCAAATGAAAGATTGT

GACA GAAAGTC

TTTTTAGGG

GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C

GAAGGACACCAAATGAAAGATTGTACTGAAAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA

TACTGAAAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT

AGGCCAGGAA

ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC

AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAAG GGAA

TCTTCA

AAATTT

=====
(2911) JN024385
=====

PK1: -13.595000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A

GAAAAGAAGGACACCAAACGAAAGGTTGT

GACA GAAAGTC

TTTTTAGGG

GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C

GAAGGACACCAAACGAAAGGTTGTACTGAAAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA

TACTGAAAGACAGGCTAATTTTTTTAGGGA

CCCT TCCGGTCT

AGGCCAGGAA

ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC

AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAAG GGAA

TCTTCA

AAATTT

=====
(2912) JN024386
=====

PK1: -13.595000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A

GAAAAGAAGGACACCAAATGAAAGATTGT

```

          GACA    GAAAGTC
                TTTT TAGGG
    GCTAAT
PK2:  -20.50000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)
                C
    GAAGGACACCAAATGAAAGATTGTACTGAAAGA
                GATTTTTT A  ATCGGA
                                TGGCCTTC
                GGAAAATC

PK3:  -27.27500(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)
                AAA
    TACTGAAAGACAGGCTAATTTTTTAGGGA
                CCCT    TCCGGTCT
                                AGGCCAGGAA
                ACAAGGGA

PK4:  -26.71500(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)
                CCAC
    AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                GGACCGGAAG    GGAA
                                TCTTCA
                AAATTT

=====
(2913) JN024387
=====
PK1:  -10.76500(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)
                A
    GAAAAGAAGGACACCAAATGAAAGATTGT
                GACA    GAAAGTT
                                TTTT TAGGG
                GCTAAT

PK2:  -18.47000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)
                C
    GAAGGACACCAAATGAAAGATTGTATTGAAAGA
                GATTTTTT A  ATCGGA
                                TGGCCTTC
                GGAAAATC

PK3:  -27.27500(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)
                AAA
    TATTGAAAGACAGGCTAATTTTTTAGGGA

```

CCCT TCCGGTCT
AGGCCAGGAA
ACAAGGGA
PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
AAATTT

=====
(2914) JN024388
=====

PK1: -13.595000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAAGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGAA
ACAAAGGA

PK4: -24.115000(kcal/mol): PK_start=1519 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1556
(fs_start=1504)

TCCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA AGGAA
TTCTTCA
AAATT

=====
(2915) JN024389
=====

PK1: -13.595000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512 (fs_start=1504)

A
GAAAAGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525 (fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546 (fs_start=1504)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGAA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556 (fs_start=1504)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
AAATTT

=====
(2916) JN024390
=====

PK1: -13.595000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512 (fs_start=1504)

A
GAAAAGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525 (fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGAA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
AAATTT

=====
(2917) JN024391
=====

PK1: -13.595000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAAGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGAA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
AAATTT

=====
(2918) JN024392
=====

PK1: -13.595000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAAGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGAA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
AAATTT

=====
(2919) JN024393
=====

PK1: -13.595000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAAGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA

```

                                TGGCCTTC
          GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)
                                AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTCT
                                AGGCCAGGAA
          ACAAGGGA

PK4:  -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)
                                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAAG   GGAA
                                TCTTCA
          AAATTT

=====
(2920) JN024394
=====
PK1:  -13.595000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)
                                A
GAAAAGAAGGACACCAAATGAAAGATTGT
                                GACA   GAAAGTC
                                TTTTTAGGG
          GCTAAT

PK2:  -20.500000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
                                GATTTTTT   A   ATCGGA
                                TGGCCTTC
          GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)
                                AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTCT
                                AGGCCAGGAA
          ACAAGGGA

PK4:  -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)
                                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAAG   GGAA

```

```

                                TCTTCA
                                AAATTT
=====
(2921) JN024395
=====
PK1:  -13.595000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)
                                A
GAAAAGAAGGACACCAAATGAAAGATTGT
                                GACA    GAAAGTC
                                TTTTTAGGG
                                GCTAAT

PK2:  -20.500000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
                                GATTTTTT  A  ATCGGA
                                TGGCCTTC
                                GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)
                                AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
                                CCCT    TCCGGTCT
                                AGGCCAGGAA
                                ACAAGGGA

PK4:  -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)
                                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAAG    GGAA
                                TCTTCA
                                AAATTT

=====
(2922) JN024396
=====
PK1:  -13.595000(kcal/mol): PK_start=1485 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1513
(fs_start=1505)
                                A
GAAAAGAAGGACACCAAATGAAAGATTGT
                                GACA    GAAAGTC
                                TTTTTAGGG
                                GCTAAT

PK2:  -20.500000(kcal/mol): PK_start=1490 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1526
(fs_start=1505)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA

```

GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1513 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1547
(fs_start=1505)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT
AGGCCAGGAA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1520 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1557
(fs_start=1505)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAAG GGAA
TCTTCA
AAATTT

=====
(2923) JN024397
=====

PK1: -13.595000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAAGAAGGACACCAAATGAAAGATTGT

GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA

GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT
AGGCCAGGAA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

```

                GGACCGGAAG    GGAA
                                TCTTCA
        AAATTT

=====
(2924) JN024398
=====
PK1:  -13.595000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)
                                A
GAAAAGAAGGACACCAAATGAAAGATTGT

                GACA    GAAAGTC
                                TTTTTAGGG
        GCTAAT

PK2:  -20.500000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA

                GATTTTTT  A  ATCGGA
                                TGGCCTTC
        GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)
                                AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA

                CCCT    TCCGGTCT
                                AGGCCAGGAA
        ACAAGGGA

PK4:  -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)
                                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

                GGACCGGAAG    GGAA
                                TCTTCA
        AAATTT

=====
(2925) JN024399
=====
PK1:  -13.595000(kcal/mol): PK_start=1485 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1513
(fs_start=1505)
                                A
GAAAAGAAGGACACCAAATGAAAGATTGT

                GACA    GAAAGTC
                                TTTTTAGGG
        GCTAAT

```

PK2: -20.50000(kcal/mol): PK_start=1490 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1526
(fs_start=1505)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.27500(kcal/mol): PK_start=1513 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1547
(fs_start=1505)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGAA
ACAAGGGA

PK4: -26.71500(kcal/mol): PK_start=1520 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1557
(fs_start=1505)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
AAATTT

=====
(2926) JN024400

=====
PK1: -13.59500(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAAGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.50000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.27500(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGAA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
AAATTT

=====
(2927) JN024401
=====

PK1: -13.595000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAAGAAGGACACCAAATGAAAGGTTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGGTTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGAA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
AAATTT

=====
(2928) JN024402
=====

PK1: -13.595000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAAGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC

TTTTTAGGG
GCTAAT
PK2: -20.500000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGAA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
AAATTT

=====
(2929) JN024403
=====

PK1: -13.595000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAAGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT

AGGCCAGGAA

ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC

AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAAG GGAA

TCTTCA

AAATTT

=====
(2930) JN024404
=====

PK1: -13.595000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A

GAAAAGAAGGACACCAAATGAAAGATTGT

GACA GAAAGTC

TTTTTAGGG

GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C

GAAGGACACCAAATGAAAGATTGTACTGAAAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA

TACTGAAAGACAGGCTAATTTTTTTAGGGA

CCCT TCCGGTCT

AGGCCAGGAA

ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC

AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAAG GGAA

TCTTCA

AAATTT

=====
(2931) JN024405
=====

PK1: -13.595000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A

GAAAAGAAGGACACCAAATGAAAGATTGT

```

          GACA    GAAAGTC
          TTTT TAGGG
    GCTAAT
PK2:  -20.50000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)
          C
    GAAGGACACCAAATGAAAGATTGTACTGAAAGA
          GATTTTTT  A  ATCGGA
          TGGCCTTC
    GGAAAATC
PK3:  -27.27500(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)
          AAA
    TACTGAAAGACAGGCTAATTTTTTAGGGA
          CCCT    TCCGGTCT
          AGGCCAGGAA
    ACAAGGGA
PK4:  -26.71500(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)
          CCAC
    AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
          GGACCGGAAG    GGAA
          TCTTCA
    AAATTT
=====
(2932) JN024406
=====
PK1:  -13.59500(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)
          A
    GAAAAGAAGGACACCAAATGAAAGATTGT
          GACA    GAAAGTC
          TTTT TAGGG
    GCTAAT
PK2:  -20.50000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)
          C
    GAAGGACACCAAATGAAAGATTGTACTGAAAGA
          GATTTTTT  A  ATCGGA
          TGGCCTTC
    GGAAAATC
PK3:  -27.27500(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)
          AAA
    TACTGAAAGACAGGCTAATTTTTTAGGGA

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          CCCT   TCCGGTCT
                AGGCCAGGAA
ACAAGGGG
PK4:  -26.235000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)
                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                GGACCGGAGG   GGAA
                                TCTTCA
                AAATTT

PK4B:  -27.515000(kcal/mol): PK_start=1519 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1582
(fs_start=1504)
                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                GGACCGGA   GGGG
                                CTCCGC
                AAATTTTCTTCAGAGCAGGCCAGGCCATCAG

=====
(2933) JN024407
=====
PK1:  -13.595000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)
                A
GAAAAGAAGGACACCAAATGAAAGATTGT
                GACA   GAAAGTC
                                TTTTTAGGG
                GCTAAT

PK2:  -20.500000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)
                C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
                GATTTTTT   A   ATCGGA
                                TGGCCTTC
                GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)
                AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTCT
                                AGGCCAGGAA
                ACAAAGGA

PK4:  -24.115000(kcal/mol): PK_start=1519 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1556
(fs_start=1504)
                TCCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT

```

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                GGACCGGA    AGGAA
                    TTCTTCA
AAATT
=====
(2934) JN024408
=====
PK1:  -13.595000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)
                    A
GAAAAGAAGGACACCAAATGAAAGATTGT
                GACA    GAAAGTC
                    TTTTATAGGG
GCTAAT

PK2:  -20.500000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)
                    C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
                GATTTTTT  A  ATCGGA
                    TGGCCTTC
GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)
                    AAA
TACTGAAAGACAGGCTAATTTTTATAGGGA
                CCCT    TCCGGTCT
                    AGGCCAGGAA
ACAAGGGA

PK4:  -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)
                    CCAC
AGACAGGCTAATTTTTATAGGAAAATCTGGCCTTC
                GGACCGGAAG    GGAA
                    TCTTCA
AAATTT

=====
(2935) JN024409
=====
PK1:  -13.595000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)
                    A
GAAAAGAAGGACACCAAACGAAAGATTGT
                GACA    GAAAGTC
                    TTTTATAGGG
GCTAAT

```

PK2: -20.50000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAACGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.27500(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGAA
ACAAGGGG

PK4: -26.23500(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
AAATTT

PK4B: -27.51500(kcal/mol): PK_start=1519 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1582
(fs_start=1504)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CTCCGC
AAATTTTCTTCAGAGCAGGCCAGGCCATCAG

=====
(2936) JN024411
=====

PK1: -13.59500(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAAGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.50000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGAA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
AAATTT

=====
(2937) JN024412
=====

PK1: -13.595000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAAGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGAA
ACAAAGGA

PK4: -24.115000(kcal/mol): PK_start=1519 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1556
(fs_start=1504)

TCCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA AGGAA
TTCTTCA
AAATT

=====
(2938) JN024413
=====

PK1: -13.595000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAAGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGAA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
AAATTT

=====
(2939) JN024414
=====

PK1: -13.595000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAAGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA


```

                                TGGCCTTC
          GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)
                                AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTCT
                                AGGCCAGGAA
          ACAAGGGA

PK4:  -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)
                                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAAG   GGAA
                                TCTTCA
          AAATTT

=====
(2940) JN024415
=====
PK1:  -13.595000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)
                                A
GAAAAGAAGGACACCAAATGAAAGATTGT
                                GACA   GAAAGTC
                                TTTTTAGGG
          GCTAAT

PK2:  -20.500000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
                                GATTTTTT   A   ATCGGA
                                TGGCCTTC
          GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)
                                AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTCT
                                AGGCCAGGGA
          ACAAGGGA

PK4:  -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)
                                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAAG   GGAA

```

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                                TCTTCA
                                GAATTT

=====
(2941) JN024416
=====
PK1:  -13.595000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)
                                A
GAAAAGAAGGACACCAAATGAAAGATTGT
                                GACA    GAAAGTC
                                TTTTtaggg
                                GCTAAT

PK2:  -20.500000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
                                GATTTTTT A  ATCGGA
                                TGGCCTTC
                                GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)
                                AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
                                CCCT    TCCGGTCT
                                AGGCCAGGAA
                                ACAAGGGG

PK4:  -26.235000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)
                                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAGG    GGAA
                                TCTTCA
                                AAATTT

PK4B:  -27.515000(kcal/mol): PK_start=1519 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1582
(fs_start=1504)
                                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                                GGACCGGA    GGGG
                                CTCCGC
                                AAATTTTCTTCAGAGCAGGCCAGGCCATCAG

=====
(2942) JN024417
=====
PK1:  -13.595000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)
                                A
GAAAAGAAGGACACCAAATGAAAGATTGT

```

GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.50000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGAA
ACAAAGGA

PK4: -24.115000(kcal/mol): PK_start=1519 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1556
(fs_start=1504)

TCCCACA
AGACAGGCTAATTTTTTAGGAAAATCTGGCCT
GGACCGGA AGGAA
TTCTTCA
AAATT

=====
(2943) JN024418
=====

PK1: -13.595000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAAGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT
 AGGCCAGGAA
 ACAAGGGC

PK4: -26.655000(kcal/mol): PK_start=1519 sp=7 s1=8 s2=4 l1=8 l2=31 L3=0 PK_end=1581
 (fs_start=1504)

TCCCACAA
 AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT

GGACCGGA CGGG
 GCTCCG
 AAATTTTCTTCAGAGCAGGCCAGAGCCATCA

=====
 (2944) JN024419
 =====

PK1: -13.595000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
 (fs_start=1504)

A
 GAAAAGAAGGACACCAAATGAAAGATTGT

GACA GAAAGTC
 TTTTTAGGG
 GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
 (fs_start=1504)

C
 GAAGGACACCAAATGAAAGATTGTACTGAAAGA

GATTTTTT A ATCGGA
 TGGCCTTC
 GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
 (fs_start=1504)

AAA
 TACTGAAAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT
 AGGCCAGGAA
 ACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
 (fs_start=1504)

CCAC
 AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAGG GGAA
 TCTTCA
 AAATTT

PK4B: -27.515000(kcal/mol): PK_start=1519 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1582
 (fs_start=1504)

TCCCACAA
 AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT

GGACCGGA GGG
CTCCGC
AAATTTTCTTCAGAGCAGGCCAGCCATCAG

=====
(2945) JN024420
=====

PK1: -13.595000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAAGAAGGACACCAAATGAAAGATTGT

GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA

GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT
AGGCCAGGAA
ACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAGG GGAA
TCTTCA
AAATTT

PK4B: -27.515000(kcal/mol): PK_start=1519 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1582
(fs_start=1504)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT

GGACCGGA GGG
CTCCGC
AAATTTTCTTCAGAGCAGGCCAGCCATCAG

=====
(2946) JN024421
=====

PK1: -13.595000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAAGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGAA
ACAAAGGA

PK4: -24.115000(kcal/mol): PK_start=1519 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1556
(fs_start=1504)

TCCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA AGGAA
TTCTTCA
AAATT

=====
(2947) JN024422
=====

PK1: -13.205000(kcal/mol): PK_start=1486 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1513
(fs_start=1505)

A
AAAGGAAGGACACCAAATGAAAGAGTGT
ACA GAGAGTC
TTTTTAGGG
GGCTAAT

PK2: -20.460000(kcal/mol): PK_start=1490 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1526
(fs_start=1505)

C
GAAGGACACCAAATGAAAGAGTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1513 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1547
(fs_start=1505)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
CCAAGGGAAG

PK4: -24.995000(kcal/mol): PK_start=1520 sp=7 s1=8 s2=4 l1=8 l2=6 l3=0 PK_end=1557
(fs_start=1505)

TCCTCCAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGG
TCTCCA
GAATTT

=====
(2948) JN024423
=====

PK1: -13.205000(kcal/mol): PK_start=1486 sp=0 s1=3 s2=7 l1=1 l2=7 l3=0 PK_end=1513
(fs_start=1505)

A
AAAGGAAGGACACCAAATGAAAGAGTGT
ACA GAGAGTC
TTTTTAGGG
GGCTAAT

PK2: -20.460000(kcal/mol): PK_start=1490 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1526
(fs_start=1505)

C
GAAGGACACCAAATGAAAGAGTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1513 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1547
(fs_start=1505)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
CCAAGGGAAG

PK4: -24.995000(kcal/mol): PK_start=1520 sp=7 s1=8 s2=4 l1=8 l2=6 l3=0 PK_end=1557
(fs_start=1505)

TCCTCCAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGG
TCTCCA
GAATTT

=====
(2949) JN024424
=====

PK1: -13.205000(kcal/mol): PK_start=1486 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1513
(fs_start=1505)

A
AAAGGAAGGACACCAAATGAAAGAGTGT
ACA GAGAGTC
TTTTTAGGG
GGCTAAT

PK2: -20.460000(kcal/mol): PK_start=1490 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1526
(fs_start=1505)

C
GAAGGACACCAAATGAAAGAGTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1513 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1547
(fs_start=1505)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
CCAAGGGAAG

PK4: -24.995000(kcal/mol): PK_start=1520 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1557
(fs_start=1505)

TCCTCCAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGG
TCTCCA
GAATTT

=====
(2950) JN024425
=====

PK1: -13.205000(kcal/mol): PK_start=1486 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1513
(fs_start=1505)

A
AAAGGAAGGACACCAAATGAAAGAGTGT
ACA GAGAGTC
TTTTTAGGG
GGCTAAT

PK2: -20.460000(kcal/mol): PK_start=1490 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1526
(fs_start=1505)

C
GAAGGACACCAAATGAAAGAGTGTACTGAGAGA
GATTTTTT A ATCGGA

TGGCCTTC
GGAAGATC
PK3: -25.060000(kcal/mol): PK_start=1513 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1547
(fs_start=1505)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
CCAAGGGAAG

PK4: -24.995000(kcal/mol): PK_start=1520 sp=7 s1=8 s2=4 l1=8 l2=6 l3=0 PK_end=1557
(fs_start=1505)

TCCTCCAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGG
TCTCCA
GAATTT

=====
(2951) JN024426
=====

PK1: -13.205000(kcal/mol): PK_start=1486 sp=0 s1=3 s2=7 l1=1 l2=7 l3=0 PK_end=1513
(fs_start=1505)

A
AAAGGAAGGACACCAAATGAAAGAGTGT
ACA GAGAGTC
TTTTTAGGG
GGCTAAT

PK2: -20.460000(kcal/mol): PK_start=1490 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1526
(fs_start=1505)

C
GAAGGACACCAAATGAAAGAGTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1513 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1547
(fs_start=1505)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
CCAAGGGAAG

PK4: -24.995000(kcal/mol): PK_start=1520 sp=7 s1=8 s2=4 l1=8 l2=6 l3=0 PK_end=1557
(fs_start=1505)

TCCTCCAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGG

```

                                TCTCCA
                                GAATTT
=====
(2952) JN024427
=====
PK1:  -13.205000(kcal/mol): PK_start=1486 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1513
(fs_start=1505)
                                A
AAAGGAAGGACACCAAATGAAAGAGTGT
                                ACA   GAGAGTC
                                TTTTTAGGG
                                GGCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1490 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1526
(fs_start=1505)
                                C
GAAGGACACCAAATGAAAGAGTGTACTGAGAGA
                                GATTTTTT A  ATCGGA
                                TGGCCTTC
                                GGAAGATC

PK3:  -25.060000(kcal/mol): PK_start=1513 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1547
(fs_start=1505)
                                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                                TCCTTC   CGGTCT
                                GCCAGGGA
                                CCAAGGGAGG

PK4:  -26.680000(kcal/mol): PK_start=1520 sp=7 s1=7 s2=4 l1=10 l2=7 L3=0 PK_end=1558
(fs_start=1505)
                                TTCCTCCAAG
AGACAGGCTAATTTTTTAGGGAAGATCTGGCC
                                GGACCGG   GAGG
                                CTCCAG
                                GAATTTT

=====
(2953) JN024428
=====
PK1:  -13.205000(kcal/mol): PK_start=1486 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1513
(fs_start=1505)
                                A
AAAGGAAGGACACCAAATGAAAGAGTGT
                                ACA   GAGAGTC
                                TTTTTAGGG
                                GGCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1490 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1526
(fs_start=1505)
                                C
GAAGGACACCAAATGAAAGAGTGTACTGAGAGA

```

GATTTTTT A ATCGGA
 TGGCCTTC
 GGAAGATC
 PK3: -25.060000(kcal/mol): PK_start=1513 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1547
 (fs_start=1505)
 A
 TACTGAGAGACAGGCTAATTTTTTAGGGAAG
 TCCTTC CGGTCT
 GCCAGGGA
 CCAAGGGAAG
 PK4: -24.995000(kcal/mol): PK_start=1520 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1557
 (fs_start=1505)
 TCCTCCAA
 AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
 GGACCGGA AGGG
 TCTCCA
 GAATTT
 =====
 (2954) JN024429
 =====
 PK1: -13.205000(kcal/mol): PK_start=1488 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1515
 (fs_start=1507)
 A
 AAAGGAAGGACACCAAATGAAAGAGTGT
 ACA GAGAGTC
 TTTTTAGGG
 GGCTAAT
 PK2: -20.460000(kcal/mol): PK_start=1492 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1528
 (fs_start=1507)
 C
 GAAGGACACCAAATGAAAGAGTGTACTGAGAGA
 GATTTTTT A ATCGGA
 TGGCCTTC
 GGAAGATC
 PK3: -25.060000(kcal/mol): PK_start=1515 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1549
 (fs_start=1507)
 A
 TACTGAGAGACAGGCTAATTTTTTAGGGAAG
 TCCTTC CGGTCT
 GCCAGGGA
 CCAAGGGAAG
 PK4: -24.995000(kcal/mol): PK_start=1522 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1559
 (fs_start=1507)
 TCCTCCAA
 AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT

```

                GGACCGGA    AGGG
                                TCTCCA
        GAATTT

=====
(2955) JN024430
=====
PK1:  -13.205000(kcal/mol): PK_start=1486 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1513
(fs_start=1505)
                A
AAAGGAAGGACACCAAATGAAAGAGTGT

                ACA    GAGAGTC
                                TTTTTAGGG
        GGCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1490 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1526
(fs_start=1505)
                C
GAAGGACACCAAATGAAAGAGTGTACTGAGAGA

                GATTTTTT    A    ATCGGA
                                TGGCCTTC
        GGAAGATC

PK3:  -25.060000(kcal/mol): PK_start=1513 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1547
(fs_start=1505)
                A
TACTGAGAGACAGGCTAATTTTTAGGGAAG

                TCCTTC    CGGTCT
                                GCCAGGGA
        CCAAGGGAAG

PK4:  -24.995000(kcal/mol): PK_start=1520 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1557
(fs_start=1505)
                TCCTCAA
AGACAGGCTAATTTTTAGGGAAGATCTGGCCT

                GGACCGGA    AGGG
                                TCTCCA
        GAATTT

=====
(2956) JN024431
=====
PK1:  -13.205000(kcal/mol): PK_start=1486 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1513
(fs_start=1505)
                A
AAAGGAAGGACACCAAATGAAAGAGTGT

                ACA    GAGAGTC
                                TTTTTAGGG
        GGCTAAT

```

PK2: -20.460000(kcal/mol): PK_start=1490 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1526
(fs_start=1505)

C
GAAGGACACCAAATGAAAGAGTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1513 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1547
(fs_start=1505)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
CCAAGGGAAG

PK4: -24.995000(kcal/mol): PK_start=1520 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1557
(fs_start=1505)

TCCTCCAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGG
TCTCCA
GAATTT

=====
(2957) JN024432

=====
PK1: -13.205000(kcal/mol): PK_start=1486 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1513
(fs_start=1505)

A
AAAGGAAGGACACCAAATGAAAGAGTGT
ACA GAGAGTC
TTTTTAGGG
GGCTAAT

PK2: -20.460000(kcal/mol): PK_start=1490 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1526
(fs_start=1505)

C
GAAGGACACCAAATGAAAGAGTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1513 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1547
(fs_start=1505)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
CCAAGGGAAG

PK4: -24.995000(kcal/mol): PK_start=1520 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1557
(fs_start=1505)

```
TCCTCCAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
          GGACCGGA   AGGG
                    TCTCCA
          GAATTT
```

=====
(2958) JN024434
=====

PK1: -13.205000(kcal/mol): PK_start=1486 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1513
(fs_start=1505)

```
          A
AAAGGAAGGACACCAAATGAAAGAGTGT
          ACA   GAGAGTC
                    TTTTTAGGG
          GGCTAAT
```

PK2: -20.460000(kcal/mol): PK_start=1490 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1526
(fs_start=1505)

```
          C
GAAGGACACCAAATGAAAGAGTGTACTGAGAGA
          GATTTTTT A  ATCGGA
                    TGGCCTTC
          GGAAGATC
```

PK3: -25.060000(kcal/mol): PK_start=1513 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1547
(fs_start=1505)

```
          A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
          TCCTTC   CGGTCT
                    GCCAGGGA
          CCAAGGGAAG
```

PK4: -24.995000(kcal/mol): PK_start=1520 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1557
(fs_start=1505)

```
TCCTCCAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
          GGACCGGA   AGGG
                    TCTCCA
          GAATTT
```

=====
(2959) JN024435
=====

PK1: -13.205000(kcal/mol): PK_start=1486 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1513
(fs_start=1505)

```
          A
AAAGGAAGGACACCAAATGAAAGAGTGT
          ACA   GAGAGTC
```

TTTTTAGGG
GGCTAAT
PK2: -20.460000(kcal/mol): PK_start=1490 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1526
(fs_start=1505)

C
GAAGGACACCAAATGAAAGAGTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1513 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1547
(fs_start=1505)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
CCAAGGGAAG

PK4: -24.995000(kcal/mol): PK_start=1520 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1557
(fs_start=1505)

TCCTCCAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGG
TCTCCA
GAATTT

=====
(2960) JN024436
=====

PK1: -15.585000(kcal/mol): PK_start=1486 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1514
(fs_start=1506)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1491 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1527
(fs_start=1506)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1514 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1548
(fs_start=1506)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT

GCCAGGGA

CCAAGGGAAG

PK4: -24.995000(kcal/mol): PK_start=1521 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1558
(fs_start=1506)

TCCTCCAA

AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCT

GGACCGGA AGGG

TCTCCA

GAATTT

=====
(2961) JN024437
=====

PK1: -15.585000(kcal/mol): PK_start=1485 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1513
(fs_start=1505)

A

GAAAGGAAGGACACCAAATGAAAGACTGT

GACA GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1490 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1526
(fs_start=1505)

C

GAAGGACACCAAATGAAAGACTGTACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1513 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1547
(fs_start=1505)

A

TACTGAGAGACAGGCTAATTTTTTTAGGGAAG

TCCTTC CGGTCT

GCCAGGGA

CCAAGGGAAG

PK4: -24.995000(kcal/mol): PK_start=1520 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1557
(fs_start=1505)

TCCTCCAA

AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCT

GGACCGGA AGGG

TCTCCA

GAATTT

=====
(2962) JN024439
=====

PK1: -15.585000(kcal/mol): PK_start=1486 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1514
(fs_start=1506)

A

GAAAGGAAGGACACCAGATGAAAGACTGT


```

          GACA    GAGAGTC
                TTTTATAGGG
    GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1491 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1527
(fs_start=1506)
                C
GAAGGACACCAGATGAAAGACTGTACTGAGAGA
                GATTTTTT  A  ATCGGA
                                TGGCCTTC
                GGAAGATC

PK3:  -25.060000(kcal/mol): PK_start=1514 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1548
(fs_start=1506)
                A
TACTGAGAGACAGGCTAATTTTTATAGGGAAG
                TCCTTC    CGGTCT
                                GCCAGGGA
                CCAAGGGAAG

PK4:  -24.995000(kcal/mol): PK_start=1521 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1558
(fs_start=1506)
                TCCTCCAA
AGACAGGCTAATTTTTATAGGGAAGATCTGGCCT
                GGACCGGA    AGGG
                                TCTCCA
                GAATTT

=====
(2963) JN024440
=====
PK1:  -15.585000(kcal/mol): PK_start=1486 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1514
(fs_start=1506)
                A
GAAAGGAAGGACACCAAATGAAAGACTGT
                GACA    GAGAGTC
                TTTTATAGGG
    GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1491 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1527
(fs_start=1506)
                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
                GATTTTTT  A  ATCGGA
                                TGGCCTTC
                GGAAGATC

PK3:  -25.060000(kcal/mol): PK_start=1514 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1548
(fs_start=1506)
                A
TACTGAGAGACAGGCTAATTTTTATAGGGAAG

```

```

          TCCTTC   CGGTCT
                    GCCAGGGA
          CCAAGGGAAG

PK4:  -24.995000(kcal/mol): PK_start=1521 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1558
(fs_start=1506)
                    TCCTCCAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT

          GGACCGGA   AGGG
                    TCTCCA
          GAATTT

```

```

=====
(2964) JN024441
=====

```

```

PK1:  -15.585000(kcal/mol): PK_start=1486 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1514
(fs_start=1506)
                    A
GAAAGGAAGGACACCAAATGAAAGACTGT

          GACA   GAGAGTC
                    TTTTTAGGG
          GCTAAT

```

```

PK2:  -20.460000(kcal/mol): PK_start=1491 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1527
(fs_start=1506)
                    C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA

          GATTTTTT   A   ATCGGA
                    TGGCCTTC
          GGAAGATC

```

```

PK3:  -25.060000(kcal/mol): PK_start=1514 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1548
(fs_start=1506)
                    A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG

          TCCTTC   CGGTCT
                    GCCAGGGA
          CCAAGGGAAG

```

```

PK4:  -24.995000(kcal/mol): PK_start=1521 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1558
(fs_start=1506)
                    TCCTCCAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT

          GGACCGGA   AGGG
                    TCTCCA
          GAATTT

```

```

=====
(2965) JN024442
=====

```

PK1: -15.585000(kcal/mol): PK_start=1486 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1514
(fs_start=1506)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1491 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1527
(fs_start=1506)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1514 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1548
(fs_start=1506)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
CCAAGGGAAG

PK4: -24.995000(kcal/mol): PK_start=1521 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1558
(fs_start=1506)

TCCTCCAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGG
TCTCCA
GAATTT

=====
(2966) JN024443
=====

PK1: -15.585000(kcal/mol): PK_start=1485 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1513
(fs_start=1505)

A
GAAAGGAAGGACACCAAATGAAGGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1490 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1526
(fs_start=1505)

C
GAAGGACACCAAATGAAGGACTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1513 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1547
(fs_start=1505)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
CCAAGGGAAG

PK4: -24.995000(kcal/mol): PK_start=1520 sp=7 s1=8 s2=4 l1=8 l2=6 l3=0 PK_end=1557
(fs_start=1505)

TCCTCCAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGG
TCTCCA
GAATTT

=====
(2967) JN024444
=====

PK1: -15.585000(kcal/mol): PK_start=1486 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1514
(fs_start=1506)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1491 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1527
(fs_start=1506)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1514 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1548
(fs_start=1506)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
CCAAGGGAAG

PK4: -24.995000(kcal/mol): PK_start=1521 sp=7 s1=8 s2=4 l1=8 l2=6 l3=0 PK_end=1558
(fs_start=1506)

TCCTCCAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGG
TCTCCA
GAATTT

=====
(2968) JN024445
=====

PK1: -15.585000(kcal/mol): PK_start=1485 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1513
(fs_start=1505)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1490 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1526
(fs_start=1505)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1513 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1547
(fs_start=1505)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
CCAAGGGAAG

PK4: -24.995000(kcal/mol): PK_start=1520 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1557
(fs_start=1505)

TCCTCCAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGG
TCTCCA
GAATTT

=====
(2969) JN024446
=====

PK1: -15.585000(kcal/mol): PK_start=1485 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1513
(fs_start=1505)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1490 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1526
(fs_start=1505)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT A ATCGGA

TGGCCTTC

GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1513 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1547
(fs_start=1505)

A

TACTGAGAGACAGGCTAATTTTTTAGGGAAG

TCCTTC CGGTCT

GCCAGGGA

CCAAGGGAAG

PK4: -24.995000(kcal/mol): PK_start=1520 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1557
(fs_start=1505)

TCCTCCAA

AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT

GGACCGGA AGGG

TCTCCA

GAATTT

=====
(2970) JN024447
=====

PK1: -15.585000(kcal/mol): PK_start=1486 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1514
(fs_start=1506)

A

GAAAGGAAGGACACCAAATGAGAGACTGT

GACA GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1491 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1527
(fs_start=1506)

C

GAAGGACACCAAATGAGAGACTGTACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1514 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1548
(fs_start=1506)

A

TACTGAGAGACAGGCTAATTTTTTAGGGAAG

TCCTTC CGGTCT

GCCAGGGA

CCAAGGGAAG

PK4: -24.995000(kcal/mol): PK_start=1521 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1558
(fs_start=1506)

TCCTCCAA

AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT

GGACCGGA AGGG

```

                                TCTCCA
                                GAATTT
=====
(2971) JN024448
=====
PK1:  -15.585000(kcal/mol): PK_start=1486 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1514
(fs_start=1506)
                                A
GAAAGGAAGGACACCAAATGAAAGACTGT
                                GACA    GAGAGTC
                                TTTTtaggg
                                GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1491 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1527
(fs_start=1506)
                                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
                                GATTTTTT A  ATCGGA
                                TGGCCTTC
                                GGAAGATC

PK3:  -25.060000(kcal/mol): PK_start=1514 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1548
(fs_start=1506)
                                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                                TCCTTC    CGGTCT
                                GCCAGGGA
                                CCAAGGGAAG

PK4:  -24.995000(kcal/mol): PK_start=1521 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1558
(fs_start=1506)
                                TCCTCAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
                                GGACCGGA    AGGG
                                TCTCCA
                                GAATTT

=====
(2972) JN024449
=====
PK1:  -15.585000(kcal/mol): PK_start=1486 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1514
(fs_start=1506)
                                A
GAAAGGAAGGACACCAAATGAAAGACTGT
                                GACA    GAGAGTC
                                TTTTtaggg
                                GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1491 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1527
(fs_start=1506)
                                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA

```

GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1514 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1548
(fs_start=1506)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
CCAAGGGAAG

PK4: -24.995000(kcal/mol): PK_start=1521 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1558
(fs_start=1506)

TCCTCCAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGG
TCTCCA
GAATTT

=====
(2973) JN024450
=====

PK1: -13.595000(kcal/mol): PK_start=1494 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1522
(fs_start=1514)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAGT

PK2: -23.700000(kcal/mol): PK_start=1499 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1536
(fs_start=1514)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT GATCGGA
CTGGCCTTC
GGAAGAT

PK3: -26.110000(kcal/mol): PK_start=1522 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1556
(fs_start=1514)

A
TACTGAAAGACAGGCTAGTTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1529 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1566
(fs_start=1514)

CCAC
AGACAGGCTAGTTTTTTAGGGAAGATCTGGCCTTC


```

                GGACCGGAAG    GGAA
                                TCTTCA
          GAATTT

=====
(2974) JN024451
=====
PK1:  -13.595000(kcal/mol): PK_start=1494 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1522
(fs_start=1514)
                A
GAAAGGAAGGACACCAAATGAAAGATTGT

                GACA    GAAAGTC
                                TTTTTAGGG
          GCTAAT

PK2:  -20.500000(kcal/mol): PK_start=1499 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1535
(fs_start=1514)
                C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA

                GATTTTTT  A  ATCGGA
                                TGGCCTTC
          GGAAGATC

PK3:  -26.110000(kcal/mol): PK_start=1522 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1556
(fs_start=1514)
                A
TACTGAAAGACAGGCTAATTTTTTAGGGAAG

                CCCTTC    CGGTCT
                                GCCAGGGA
          ACAAGGGAAG

PK4:  -26.715000(kcal/mol): PK_start=1529 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1566
(fs_start=1514)
                CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC

                GGACCGGAAG    GGAA
                                TCTTCA
          GAATTT

=====
(2975) JN024452
=====
PK1:  -13.595000(kcal/mol): PK_start=1494 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1522
(fs_start=1514)
                A
GAAAGGAAGGACACCAAATGAAAGATTGT

                GACA    GAAAGTC
                                TTTTTAGGG
          GCTAAT

```

PK2: -20.50000(kcal/mol): PK_start=1499 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1535
(fs_start=1514)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.11000(kcal/mol): PK_start=1522 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1556
(fs_start=1514)

A
TACTGAAAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.71500(kcal/mol): PK_start=1529 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1566
(fs_start=1514)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2976) JN024453
=====

PK1: -13.59500(kcal/mol): PK_start=1494 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1522
(fs_start=1514)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.50000(kcal/mol): PK_start=1499 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1535
(fs_start=1514)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.11000(kcal/mol): PK_start=1522 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1556
(fs_start=1514)

A
TACTGAAAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1529 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1566
(fs_start=1514)

```

                                CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
                                GGACCGGAAG   GGAA
                                TCTTCA
                                GAATTT
```

=====
(2977) JN024454
=====

PK1: -13.595000(kcal/mol): PK_start=1494 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1522
(fs_start=1514)

```

                                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                                GACA   GAAAGTC
                                TTTT TAGGG
                                GTAAAT
```

PK2: -6.275000(kcal/mol): PK_start=1511 sp=0 s1=3 s2=4 l1=1 l2=3 L3=0 PK_end=1528
(fs_start=1514)

```

                                A
ATGAAAGATTGTTACTGAAAGACAGGTAA
                                ATT   TTTT
                                AAGATC
                                GGG
```

PK3: -26.110000(kcal/mol): PK_start=1522 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1556
(fs_start=1514)

```

                                A
TACTGAAAGACAGGTAAATTTTTTAGGGAAG
                                CCCTTC   CGGTCT
                                GCCAGGGA
                                ACAAGGGAAG
```

PK4: -26.715000(kcal/mol): PK_start=1529 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1566
(fs_start=1514)

```

                                CCAC
AGACAGGTAAATTTTTTAGGGAAGATCTGGCCTTC
                                GGACCGGAAG   GGAA
                                TCTTCA
                                GAATTT
```

=====
(2978) JN024455
=====

PK1: -13.595000(kcal/mol): PK_start=1495 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1523
(fs_start=1515)

```

                                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                                GACA   GAAAGTC
```

TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1500 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1536
(fs_start=1515)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA

GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1523 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1557
(fs_start=1515)

A
TACTGAAAGACAGGCTAATTTTTTAGGGAAG

CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1530 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1567
(fs_start=1515)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC

GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(2979) JN024456
=====

PK1: -13.595000(kcal/mol): PK_start=1494 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1522
(fs_start=1514)

A
GAAAGGAAGGACACCAAATGAAAGATTGT

GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1499 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1535
(fs_start=1514)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA

GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1522 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1556
(fs_start=1514)

A
TACTGAAAGACAGGCTAATTTTTTAGGGAAG

CCCTTC CGGTCT

GCCAGGGA

ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1529 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1566
(fs_start=1514)

CCAC

AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCTTC

GGACCGGAAG GGAA

TCTTCA

GAATTT

=====
(2980) JN024457
=====

PK1: -13.595000(kcal/mol): PK_start=1494 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1522
(fs_start=1514)

A

GAAAGGAAGGACACCAAATGAAAGATTGT

GACA GAAAGTC

TTTTTAGGG

GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1499 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1535
(fs_start=1514)

C

GAAGGACACCAAATGAAAGATTGTACTGAAAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1522 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1556
(fs_start=1514)

A

TACTGAAAGACAGGCTAATTTTTTTAGGGAAG

CCCTTC CGGTCT

GCCAGGGA

ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1529 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1566
(fs_start=1514)

CCAC

AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCTTC

GGACCGGAAG GGAA

TCTTCA

GAATTT

=====
(2981) JN024458
=====

PK1: -13.595000(kcal/mol): PK_start=1494 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1522
(fs_start=1514)

A

GAAAGGAAGGACACCAAATGAAAGATTGT

```

          GACA   GAAAGTC
                TTTTATAGGG
      GCTAAT

PK2:  -20.500000(kcal/mol): PK_start=1499 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1535
(fs_start=1514)
                C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
                GATTTTTT  A  ATCGGA
                                TGGCCTTC
          GGAAGATC

PK3:  -26.110000(kcal/mol): PK_start=1522 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1556
(fs_start=1514)
                A
TACTGAAAGACAGGCTAATTTTTATAGGGAAG
                CCCTTC   CGGTCT
                                GCCAGGGA
          ACAAGGGAAG

PK4:  -26.715000(kcal/mol): PK_start=1529 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1566
(fs_start=1514)
                CCAC
AGACAGGCTAATTTTTATAGGGAAGATCTGGCCTTC
                GGACCGGAAG   GGAA
                                TCTTCA
          GAATTT

=====
(2982) JN024459
=====
PK1:  -13.595000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)
                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                GACA   GAAAGTC
                                TTTTATAGGG
          GCTAAT

PK2:  -20.500000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)
                C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
                GATTTTTT  A  ATCGGA
                                TGGCCTTC
          GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)
                AAA
TACTGAAAGACAGGCTAATTTTTATAGGGA

```

CCCT TCCGGTCT
AGGCCAGGAA
ACAAGGGA
PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
AAATTT

=====
(2983) JN024460
=====

PK1: -13.595000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1511 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1545
(fs_start=1503)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGAA
GCAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)

CCGC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
AAATTT

=====
(2984) JN024461
=====

PK1: -13.595000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511 (fs_start=1503)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524 (fs_start=1503)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -26.775000(kcal/mol): PK_start=1509 sp=0 s1=5 s2=8 l1=4 l2=7 L3=0 PK_end=1545 (fs_start=1503)

AAAA
TGTACTGAAAGACAGGCTAATTTTTTAGGG
ATCCT TCCGGTCT
AGGCCAGGAA
CAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555 (fs_start=1503)

CTAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
AAATTT

=====
(2985) JN024462
=====

PK1: -13.595000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512 (fs_start=1504)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525 (fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGAA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
AAATTT

=====
(2986) JN024463
=====

PK1: -13.595000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A
GAAAAGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1511 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1545
(fs_start=1503)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGAA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
AAATTT

=====
(2987) JN024464
=====

PK1: -13.595000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGAA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
AAATTT

=====
(2988) JN024465
=====

PK1: -13.595000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA

```

                                TGGCCTTC
          GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)
                                AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTCT
                                AGGCCAGGAA
          ACAAGGGA
PK4:  -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)
                                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAAG   GGAA
                                TCTTCA
          AAATTT
=====
(2989) JN024466
=====
PK1:  -13.595000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                                GACA   GAAAGTC
                                TTTTTAGGG
          GCTAAT
PK2:  -20.500000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
                                GATTTTTT   A   ATCGGA
                                TGGCCTTC
          GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)
                                AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTCT
                                AGGCCAGGAA
          ACAAGGGA
PK4:  -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)
                                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAAG   GGAA

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                                TCTTCA
                                AAATTT
=====
(2990) JN024467
=====
PK1:  -13.595000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                                GACA    GAAAGTC
                                TTTTTAGGG
                                GCTAAT

PK2:  -20.500000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
                                GATTTTTT  A  ATCGGA
                                TGGCCTTC
                                GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)
                                AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
                                CCCT    TCCGGTCT
                                AGGCCAGGAA
                                ACAAGGGA

PK4:  -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)
                                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAAG    GGAA
                                TCTTCA
                                AAATTT

=====
(2991) JN024468
=====
PK1:  -13.595000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)
                                A
GAAGGGAAGGACACCAAATGAAAGATTGT
                                GACA    GAAAGTC
                                TTTTTAGGG
                                GCTAAT

PK2:  -20.500000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA

```

GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -26.775000(kcal/mol): PK_start=1510 sp=0 s1=5 s2=8 l1=4 l2=7 L3=0 PK_end=1546
(fs_start=1504)

AAAA
TGTACTGAAAGACAGGCTAATTTTTTAGGG

ATCCT TCCGGTCT
AGGCCAGGAA
CAAGGGA

PK4: -26.445000(kcal/mol): PK_start=1519 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1556
(fs_start=1504)

TCCTACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT

GGACCGGA AGGGA
TTCCTCA
AAATT

=====
(2992) JN024469
=====

PK1: -15.585000(kcal/mol): PK_start=1485 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1513
(fs_start=1505)

A
GAAAGGAAGGACACCAAATGAAAGACTGT

GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1490 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1526
(fs_start=1505)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA

GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1513 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1547
(fs_start=1505)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG

TCCTTC CGGTCT
GCCAGGGA
CCAAGGGAAG

PK4: -24.995000(kcal/mol): PK_start=1520 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1557
(fs_start=1505)

TCCTCAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT

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                GGACCGGA    AGGG
                                TCTCCA
        GAATTT

=====
(2993) JN024470
=====
PK1:  -15.585000(kcal/mol): PK_start=1486 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1514
(fs_start=1506)
                                A
GAAAGGAAGGACACCAAATGAAAGACTGT

                GACA    GAGAGTC
                                TTTTATAGGG
        GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1491 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1527
(fs_start=1506)
                                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA

                GATTTTTT    A    ATCGGA
                                TGGCCTTC
        GGAAGATC

PK3:  -25.060000(kcal/mol): PK_start=1514 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1548
(fs_start=1506)
                                A
TACTGAGAGACAGGCTAATTTTTATAGGGAAG

                TCCTTC    CGGTCT
                                GCCAGGGA
        CCAAGGGAAG

PK4:  -24.995000(kcal/mol): PK_start=1521 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1558
(fs_start=1506)
                                TCCTCAA
AGACAGGCTAATTTTTATAGGGAAGATCTGGCCT

                GGACCGGA    AGGG
                                TCTCCA
        GAATTT

=====
(2994) JN024471
=====
PK1:  -15.585000(kcal/mol): PK_start=1485 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1513
(fs_start=1505)
                                A
GAAAGGAAGGACACCAAATGAAAGACTGT

                GACA    GAGAGTC
                                TTTTATAGGG
        GCTAAT

```

PK2: -20.460000(kcal/mol): PK_start=1490 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1526
(fs_start=1505)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1513 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1547
(fs_start=1505)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
CCAAGGGAAG

PK4: -24.995000(kcal/mol): PK_start=1520 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1557
(fs_start=1505)

TCCTCCAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGG
TCTCCA
GAATTT

=====
(2995) JN024472

=====
PK1: -15.585000(kcal/mol): PK_start=1485 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1513
(fs_start=1505)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1490 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1526
(fs_start=1505)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1513 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1547
(fs_start=1505)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
CCAAGGGAAG

PK4: -24.995000(kcal/mol): PK_start=1520 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1557
(fs_start=1505)

TCCTCCAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGG
TCTCCA
GAATTT

=====
(2996) JN024474
=====

PK1: -15.585000(kcal/mol): PK_start=1485 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1513
(fs_start=1505)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1490 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1526
(fs_start=1505)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1513 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1547
(fs_start=1505)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
CCAAGGGAAG

PK4: -24.995000(kcal/mol): PK_start=1520 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1557
(fs_start=1505)

TCCTCCAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGG
TCTCCA
GAATTT

=====
(2997) JN024475
=====

PK1: -15.585000(kcal/mol): PK_start=1485 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1513
(fs_start=1505)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC


```

                TTTT TAGGG
      GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1490 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1526
(fs_start=1505)
                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
                GATTTTTT A  ATCGGA
                TGGCCTTC
      GGAAGATC
PK3:  -25.060000(kcal/mol): PK_start=1513 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1547
(fs_start=1505)
                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                TCCTTC  CGGTCT
                GCCAGGGA
      CCAAGGGAAG
PK4:  -24.995000(kcal/mol): PK_start=1520 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1557
(fs_start=1505)
                TCCTCCAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
                GGACCGGA  AGGG
                TCTCCA
      GAATTT

=====
(2998) JN024476
=====
PK1:  -15.585000(kcal/mol): PK_start=1485 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1513
(fs_start=1505)
                A
GAAAGGAAGGACACCAAATGAAAGACTGT
                GACA  GAGAGTC
                TTTT TAGGG
      GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1490 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1526
(fs_start=1505)
                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
                GATTTTTT A  ATCGGA
                TGGCCTTC
      GGAAGATC
PK3:  -25.060000(kcal/mol): PK_start=1513 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1547
(fs_start=1505)
                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                TCCTTC  CGGTCT

```

GCCAGGGA

CCAAGGGAAG

PK4: -24.995000(kcal/mol): PK_start=1520 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1557
(fs_start=1505)

TCCTCCAA

AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCT

GGACCGGA AGGG

TCTCCA

GAATTT

=====
(2999) JN024477
=====

PK1: -15.585000(kcal/mol): PK_start=1486 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1514
(fs_start=1506)

A

GAAAGGAAGGACACCAAATGAAAGACTGT

GACA GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1491 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1527
(fs_start=1506)

C

GAAGGACACCAAATGAAAGACTGTACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1514 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1548
(fs_start=1506)

A

TACTGAGAGACAGGCTAATTTTTTTAGGGAAG

TCCTTC CGGTCT

GCCAGGGA

CCAAGGGAAG

PK4: -24.995000(kcal/mol): PK_start=1521 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1558
(fs_start=1506)

TCCTCCAA

AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCT

GGACCGGA AGGG

TCTCCA

GAATTT

=====
(3000) JN024479
=====

PK1: -15.585000(kcal/mol): PK_start=1485 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1513
(fs_start=1505)

A

GAAAGGAAGGACACCAAATGAAAGACTGT

GACA GAGAGTC
TTTTTAGGG
GCTAAT
PK2: -20.460000(kcal/mol): PK_start=1490 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1526
(fs_start=1505)
C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA

GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1513 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1547
(fs_start=1505)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
CCAAGGGAAG

PK4: -24.995000(kcal/mol): PK_start=1520 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1557
(fs_start=1505)

TCCTCCAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGG
TCTCCA
GAATTT

=====
(3001) JN024481
=====

PK1: -15.585000(kcal/mol): PK_start=1485 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1513
(fs_start=1505)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1490 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1526
(fs_start=1505)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1513 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1547
(fs_start=1505)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG

TCCTTC CGGTCT
GCCAGGGA
CCAAGGGAAG
PK4: -24.995000(kcal/mol): PK_start=1520 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1557
(fs_start=1505)

TCCTCCAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGG
TCTCCA
GAATTT

=====
(3002) JN024482
=====

PK1: -15.585000(kcal/mol): PK_start=1486 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1514
(fs_start=1506)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1491 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1527
(fs_start=1506)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1514 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1548
(fs_start=1506)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
CCAAGGGAAG

PK4: -24.995000(kcal/mol): PK_start=1521 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1558
(fs_start=1506)

TCCTCCAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGG
TCTCCA
GAATTT

=====
(3003) JN024483
=====

PK1: -15.585000(kcal/mol): PK_start=1486 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1514
(fs_start=1506)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1491 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1527
(fs_start=1506)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -24.390000(kcal/mol): PK_start=1514 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1548
(fs_start=1506)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCGGGA
CCAAGGGAAG

PK4: -24.325000(kcal/mol): PK_start=1521 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1558
(fs_start=1506)

TCCTCCAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGGCCGGA AGGG
TCTCCA
GAATTT

=====
(3004) JN024484
=====

PK1: -15.585000(kcal/mol): PK_start=1486 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1514
(fs_start=1506)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1491 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1527
(fs_start=1506)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1514 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1548
(fs_start=1506)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
CCAAGGGAAG

PK4: -24.995000(kcal/mol): PK_start=1521 sp=7 s1=8 s2=4 l1=8 l2=6 l3=0 PK_end=1558
(fs_start=1506)

TCCTCCAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGG
TCTCCA
GAATTT

=====
(3005) JN024485
=====

PK1: -15.585000(kcal/mol): PK_start=1486 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1514
(fs_start=1506)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1491 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1527
(fs_start=1506)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1514 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1548
(fs_start=1506)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
CCAAGGGAAG

PK4: -24.995000(kcal/mol): PK_start=1521 sp=7 s1=8 s2=4 l1=8 l2=6 l3=0 PK_end=1558
(fs_start=1506)

TCCTCCAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGG
TCTCCA
GAATTT

=====
(3006) JN024487
=====

PK1: -15.585000(kcal/mol): PK_start=1486 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1514
(fs_start=1506)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1491 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1527
(fs_start=1506)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1514 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1548
(fs_start=1506)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
CCAAGGGAAG

PK4: -24.995000(kcal/mol): PK_start=1521 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1558
(fs_start=1506)

TCCTCCAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGG
TCTCCA
GAATTT

=====
(3007) JN024488
=====

PK1: -15.585000(kcal/mol): PK_start=1486 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1514
(fs_start=1506)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1491 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1527
(fs_start=1506)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT A ATCGGA

TGGCCTTC
GGAAGATC
PK3: -25.060000(kcal/mol): PK_start=1514 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1548
(fs_start=1506)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
CCAAGGGAAG

PK4: -24.995000(kcal/mol): PK_start=1521 sp=7 s1=8 s2=4 l1=8 l2=6 l3=0 PK_end=1558
(fs_start=1506)

TCCTCCAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGG
TCTCCA
GAATTT

=====
(3008) JN024489
=====

PK1: -15.585000(kcal/mol): PK_start=1485 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1513
(fs_start=1505)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1490 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1526
(fs_start=1505)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1513 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1547
(fs_start=1505)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
CCAAGGGAAG

PK4: -24.995000(kcal/mol): PK_start=1520 sp=7 s1=8 s2=4 l1=8 l2=6 l3=0 PK_end=1557
(fs_start=1505)

TCCTCCAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGG


```

                                TCTCCA
                                GAATTT
=====
(3009) JN024490
=====
PK1:  -15.585000(kcal/mol): PK_start=1486 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1514
(fs_start=1506)
                                A
GAAAGGAAGGACACCAAATGAAAGACTGT
                                GACA   GAGAGTC
                                TTTTtaggg
                                GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1491 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1527
(fs_start=1506)
                                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
                                GATTTTTT A  ATCGGA
                                TGGCCTTC
                                GGAAGATC

PK3:  -25.060000(kcal/mol): PK_start=1514 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1548
(fs_start=1506)
                                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                                TCCTTC   CGGTCT
                                GCCAGGGA
                                CCAAGGGAAG

PK4:  -24.995000(kcal/mol): PK_start=1521 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1558
(fs_start=1506)
                                TCCTCAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
                                GGACCGGA   AGGG
                                TCTCCA
                                GAATTT

=====
(3010) JN024491
=====
PK1:  -15.585000(kcal/mol): PK_start=1486 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1514
(fs_start=1506)
                                A
GAAAGGAAGGACACCAAATGAAAGACTGT
                                GACA   GAGAGTC
                                TTTTtaggg
                                GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1491 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1527
(fs_start=1506)
                                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA

```

GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1514 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1548
(fs_start=1506)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
CCAAGGGAAG

PK4: -24.995000(kcal/mol): PK_start=1521 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1558
(fs_start=1506)

TCCTCCAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGG
TCTCCA
GAATTT

=====
(3011) JN024492
=====

PK1: -15.585000(kcal/mol): PK_start=1485 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1513
(fs_start=1505)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1490 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1526
(fs_start=1505)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1513 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1547
(fs_start=1505)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
CCAAGGGAAG

PK4: -24.995000(kcal/mol): PK_start=1520 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1557
(fs_start=1505)

TCCTCCAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT

```

                GGACCGGA    AGGG
                                TCTCCA
        GAATTT

=====
(3012) JN024493
=====
PK1:  -12.955000(kcal/mol): PK_start=1482 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1510
(fs_start=1502)
                                A
        GAAAGGAAGGACACCAAATGAAAGATTGT

                GACG    GAGAGTC
                                TTTTtaggg
        GCTAAT

PK2:  -18.720000(kcal/mol): PK_start=1487 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1523
(fs_start=1502)
                                C
        GAAGGACACCAAATGAAAGATTGTACTGAGAGG

                GATTTTTT  A  ATCGGA
                                TGGCCTTC
        GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1510 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1544
(fs_start=1502)
                                AAA
        TACTGAGAGGCAGGCTAATTTTTTAGGGA

                CCCT    TCCGGTCT
                                AGGCCAGGGA
        ACAAGGGA

PK4:  -26.715000(kcal/mol): PK_start=1517 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1554
(fs_start=1502)
                                CCAC
        AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

                GGACCGGAAG    GGAA
                                TCTTCA
        GAATTT

=====
(3013) JN024494
=====
PK1:  -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)
                                A
        GAAAGGAAGGACACCAAATGAAAGATTGT

                GACG    GAGAGTC
                                TTTTtaggg
        GCTAAT

```

PK2: -18.72000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.27500(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.71500(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(3014) JN024495

=====
PK1: -12.95500(kcal/mol): PK_start=1485 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1513
(fs_start=1505)

A
GAAAGGAAGGACACCTAATGAAAGATTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -18.72000(kcal/mol): PK_start=1490 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1526
(fs_start=1505)

C
GAAGGACACCTAATGAAAGATTGTACTGAGAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.27500(kcal/mol): PK_start=1513 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1547
(fs_start=1505)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1520 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1557
(fs_start=1505)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(3015) JN024496
=====

PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A
GAAGGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.445000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1555
(fs_start=1503)

TCCCACA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(3016) JN024497
=====

PK1: -11.835000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A
GAAGGGAAGGACACCAAATGAAAGATTGT
GGCA GAGAGTC

```

                TTTT TAGGG
      GCTAAT
PK2:  -20.490000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT A ATCGGG
                TGGCCTTC
      GGAAGATC
PK3:  -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)
                A
TACTGAGAGACGGGCTAATTTTTTAGGGAAG
                CCCTTC  CGGTCT
                GCCAGGGA
      ACAAGGGAAG
PK4:  -26.445000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1555
(fs_start=1503)
                TCCCACA
AGACGGGCTAATTTTTTAGGGAAGATCTGGCCT
                GGACCGGA  AGGGA
                TTCCTCA
      GAATT

=====
(3017) JN024498
=====
PK1:  -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)
                A
GGAAGGAAGGACACCAGATGAAAGATTGT
                GACA  GAGAGTC
                TTTT TAGGG
      GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)
                C
GAAGGACACCAGATGAAAGATTGTACTGAGAGA
                GATTTTTT A ATCGGA
                TGGCCTTC
      GGAAGATC
PK3:  -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)
                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                CCCTTC  CGGTCT

```

GCCAGGGA

ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)

CCAC

AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC

GGACCGGAGG GGAA

TCTTCA

GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1581
(fs_start=1503)

TCCCACAA

AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT

GGACCGGA GGGG

CCCCAA

GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(3018) JN024499
=====

PK1: -13.555000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A

GGAAGGAAGGACACCAGATGAAAGATTGT

GACA GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C

GAAGGACACCAGATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1512 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1546
(fs_start=1504)

A

TACTGAGAGACAGGCTAATTTTTTAGGGAAG

CCCTTC CGGTCT

GCCAGGGA

ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC

AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC

GGACCGGAGG GGAA

TCTTCA

GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1519 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1582
(fs_start=1504)

TCCCACAA

AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT

GGACCGGA GGGG

CCCCAA

GAATTTTCTTCAGAGCAGACCGGAGCCAACAG

=====

(3019) JN024500

=====

PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A

GGAAGGAAGGACACCAGATGAAAGATTGT

GACA GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)

C

GAAGGACACCAGATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)

A

TACTGAGAGACAGGCTAATTTTTTAGGGAAG

CCCTTC CGGTCT

GCCAGGGA

ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)

CCAC

AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC

GGACCGGAGG GGAA

TCTTCA

GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1581
(fs_start=1503)

TCCCACAA

AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT

GGACCGGA GGGG

CCCCAA
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(3020) JN024501
=====

PK1: -13.205000(kcal/mol): PK_start=1486 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1513
(fs_start=1505)

A
AAAGGAAGGACACCAAATGAAAGAGTGT
ACA GAGAGTC
TTTTTAGGG
GGCTAAT

PK2: -20.460000(kcal/mol): PK_start=1490 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1526
(fs_start=1505)

C
GAAGGACACCAAATGAAAGAGTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1513 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1547
(fs_start=1505)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
CCAAGGGAAG

PK4: -24.995000(kcal/mol): PK_start=1520 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1557
(fs_start=1505)

TCCTCCAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGG
TCTCCA
GAATTT

=====
(3021) JN024502
=====

PK1: -13.205000(kcal/mol): PK_start=1486 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1513
(fs_start=1505)

A
AAAGGAAGGACACCAAATGAAAGAGTGT
ACA GAGAGTC
TTTTTAGGG
GGCTAAT

PK2: -20.460000(kcal/mol): PK_start=1490 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1526
(fs_start=1505)

C
GAAGGACACCAAATGAAAGAGTGTACTGAGAGA

GATTTTTT A ATCGGA
 TGGCCTTC
 GGAAGATC
 PK3: -25.060000(kcal/mol): PK_start=1513 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1547
 (fs_start=1505)
 A
 TACTGAGAGACAGGCTAATTTTTTAGGGAAG
 TCCTTC CGGTCT
 GCCAGGGA
 CCAAGGGAAG
 PK4: -24.995000(kcal/mol): PK_start=1520 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1557
 (fs_start=1505)
 TCCTCCAA
 AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
 GGACCGGA AGGG
 TCTCCA
 GAATTT
 =====
 (3022) JN024503
 =====
 PK1: -13.205000(kcal/mol): PK_start=1486 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1513
 (fs_start=1505)
 A
 AAAGGAAGGACACCAAATGAAAGAGTGT
 ACA GAGAGTC
 TTTTTAGGG
 GGCTAAT
 PK2: -20.460000(kcal/mol): PK_start=1490 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1526
 (fs_start=1505)
 C
 GAAGGACACCAAATGAAAGAGTGTACTGAGAGA
 GATTTTTT A ATCGGA
 TGGCCTTC
 GGAAGATC
 PK3: -25.060000(kcal/mol): PK_start=1513 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1547
 (fs_start=1505)
 A
 TACTGAGAGACAGGCTAATTTTTTAGGGAAG
 TCCTTC CGGTCT
 GCCAGGGA
 CCAAGGGAAG
 PK4: -24.995000(kcal/mol): PK_start=1520 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1557
 (fs_start=1505)
 TCCTCCAA
 AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT

```

                GGACCGGA    AGGG
                                TCTCCA
        GAATTT
=====
(3023) JN024504
=====
PK1:  -13.205000(kcal/mol): PK_start=1486 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1513
(fs_start=1505)
                A
AAAGGAAGGACACCAAATGAAAGAGTGT
                ACA    GAGAGTC
                                TTTTTAGGG
        GGCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1490 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1526
(fs_start=1505)
                C
GAAGGACACCAAATGAAAGAGTGTACTGAGAGA
                GATTTTTT    A    ATCGGA
                                TGGCCTTC
        GGAAGATC

PK3:  -25.060000(kcal/mol): PK_start=1513 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1547
(fs_start=1505)
                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                TCCTTC    CGGTCT
                                GCCAGGGA
        CCAAGGGAAG

PK4:  -24.995000(kcal/mol): PK_start=1520 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1557
(fs_start=1505)
                TCCTCAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
                GGACCGGA    AGGG
                                TCTCCA
        GAATTT
=====
(3024) JN024505
=====
PK1:  -13.205000(kcal/mol): PK_start=1486 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1513
(fs_start=1505)
                A
AAAGGAAGGACACCAAATGAAAGAGTGT
                ACA    GAGAGTC
                                TTTTTAGGG
        GGCTAAT

```

PK2: -20.460000(kcal/mol): PK_start=1490 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1526
(fs_start=1505)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1513 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1547
(fs_start=1505)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
CCAAGGGAAG

PK4: -24.995000(kcal/mol): PK_start=1520 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1557
(fs_start=1505)

TCCTCCAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGG
TCTCCA
GAATTT

=====
(3025) JN024506
=====

PK1: -15.585000(kcal/mol): PK_start=1487 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1515
(fs_start=1507)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1492 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1528
(fs_start=1507)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1515 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1549
(fs_start=1507)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
CCAAGGGAAG

PK4: -24.995000(kcal/mol): PK_start=1522 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1559
(fs_start=1507)

```
TCCTCCAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGG
TCTCCA
GAATTT
```

=====
(3026) JN024507
=====

PK1: -15.585000(kcal/mol): PK_start=1485 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1513
(fs_start=1505)

```
A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT
```

PK2: -20.460000(kcal/mol): PK_start=1490 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1526
(fs_start=1505)

```
C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC
```

PK3: -25.060000(kcal/mol): PK_start=1513 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1547
(fs_start=1505)

```
A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
CCAAGGGAAG
```

PK4: -24.995000(kcal/mol): PK_start=1520 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1557
(fs_start=1505)

```
TCCTCCAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGG
TCTCCA
GAATTT
```

=====
(3027) JN024508
=====

PK1: -13.205000(kcal/mol): PK_start=1487 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1514
(fs_start=1506)

```
A
AAAGGAAGGACACCAAATGAAAGAGTGT
ACA GAGAGTC
```

```

                TTTTtaggg
      GGCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1491 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1527
(fs_start=1506)
                C
GAAGGACACCAAATGAAAGAGTGTACTGAGAGA
                GATTTTTT A  ATCGGA
                TGGCCTTC
      GGAAGATC
PK3:  -25.060000(kcal/mol): PK_start=1514 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1548
(fs_start=1506)
                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                TCCTTC  CGGTCT
                GCCAGGGA
      CCAAGGGAAG
PK4:  -24.995000(kcal/mol): PK_start=1521 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1558
(fs_start=1506)
                TCCTCCAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
                GGACCGGA  AGGG
                TCTCCA
      GAATTT

=====
(3028) JN024509
=====
PK1:  -15.585000(kcal/mol): PK_start=1486 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1514
(fs_start=1506)
                A
GAAAGGAAGGACACCAAATGAAAGACTGT
                GACA  GAGAGTC
                TTTTtaggg
      GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1491 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1527
(fs_start=1506)
                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
                GATTTTTT A  ATCGGA
                TGGCCTTC
      GGAAGATC
PK3:  -25.060000(kcal/mol): PK_start=1514 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1548
(fs_start=1506)
                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                TCCTTC  CGGTCT

```

GCCAGGGA

CCAAGGGAAG

PK4: -24.995000(kcal/mol): PK_start=1521 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1558
(fs_start=1506)

TCCTCCAA

AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCT

GGACCGGA AGGG

TCTCCA

GAATTT

=====
(3029) JN024510
=====

PK1: -15.585000(kcal/mol): PK_start=1485 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1513
(fs_start=1505)

A

GAAAGGAAGGACACCAAATGAAAGACTGT

GACA GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1490 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1526
(fs_start=1505)

C

GAAGGACACCAAATGAAAGACTGTACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1513 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1547
(fs_start=1505)

A

TACTGAGAGACAGGCTAATTTTTTTAGGGAAG

TCCTTC CGGTCT

GCCAGGGA

CCAAGGGAAG

PK4: -24.995000(kcal/mol): PK_start=1520 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1557
(fs_start=1505)

TCCTCCAA

AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCT

GGACCGGA AGGG

TCTCCA

GAATTT

=====
(3030) JN024511
=====

PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A

GAAGGGAAGGACACCAAATGAAAGATTGT

```

          GACA    GAGAGTC
                TTTTATAGGG
    GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT A  ATCGGA
                        TGGCCTTC
    GGAAGATC
PK3:  -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)
                A
TACTGAGAGACAGGCTAATTTTTATAGGGAAG
                CCCTTC    CGGTCT
                        GCCAGGGA
    ACAAGGGAAG
PK4:  -26.445000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1555
(fs_start=1503)
                TCCCACA
AGACAGGCTAATTTTTATAGGGAAGATCTGGCCT
                GGACCGGA    AGGGA
                        TTCCTCA
    GAATT
=====
(3031) JN024512
=====
PK1:  -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)
                A
GAAGGGAAGGACACCAAATGAAAGATTGT
                GACA    GAGAGTC
                        TTTTATAGGG
    GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT A  ATCGGA
                        TGGCCTTC
    GGAAGATC
PK3:  -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)
                A
TACTGAGAGACAGGCTAATTTTTATAGGGAAG

```



```

          CCCTTC   CGGTCT
                    GCCAGGGA
ACAAGGGAAG
PK4:  -26.445000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1555
(fs_start=1503)
                    TCCCACA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
                    GGACCGGA   AGGGA
                    TTCCTCA
          GAATT

```

```

=====
(3032) JN024513
=====

```

```

PK1:  -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)
                    A
GAAGGGAAGGACACCAAATGAAAGATTGT
                    GACA   GAGAGTC
                    TTTTTAGGG
          GCTAAT

```

```

PK2:  -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)
                    C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                    GATTTTTT   A   ATCGGA
                    TGGCCTTC
          GGAAGATC

```

```

PK3:  -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)
                    A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                    CCCTTC   CGGTCT
                    GCCAGGGA
          ACAAGGGAAG

```

```

PK4:  -26.445000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1555
(fs_start=1503)
                    TCCCACA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
                    GGACCGGA   AGGGA
                    TTCCTCA
          GAATT

```

```

=====
(3033) JN024514
=====

```

PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A
GAAGGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGA
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GAAAGATC

PK3: -17.340000(kcal/mol): PK_start=1514 sp=0 s1=3 s2=6 l1=1 l2=13 L3=0 PK_end=1545
(fs_start=1503)

A
TGAGAGACAGGCTAATTTTTTAGGAAAG
TTC CGGTCT
GCCAGGGA
CCCACAAGGGAAG

PK4: -26.445000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1555
(fs_start=1503)

TCCCACA
AGACAGGCTAATTTTTTAGGAAAGATCTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(3034) JN024515
=====

PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A
GAAGGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1545
(fs_start=1503)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
 CCCTTC CGGTCT
 GCCAGGGA
 ACAAGGGAAG

PK4: -26.445000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=5 l1=7 l2=5 l3=0 PK_end=1555
(fs_start=1503)

TCCCACA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
 GGACCGGA AGGGA
 TTCCTCA
 GAATT

=====
(3035) JN024516
=====

PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1511
(fs_start=1503)

A
GAAGGGAAGGACACCAAATGAAAGATTGT
 GACA GAGAGTC
 TTTTTAGGG
 GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1524
(fs_start=1503)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
 GATTTTTT A ATCGGA
 TGGCCTTC
 GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1545
(fs_start=1503)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
 CCCTTC CGGTCT
 GCCAGGGA
 ACAAGGGAAG

PK4: -26.445000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=5 l1=7 l2=5 l3=0 PK_end=1555
(fs_start=1503)

TCCCACA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
 GGACCGGA AGGGA
 TTCCTCA
 GAATT

=====
(3036) JN024517
=====

PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A
GAAGGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.445000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1555
(fs_start=1503)

TCCCACA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(3037) JN024518
=====

PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A
GAAGGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA

```

                                TGGCCTTC
                                GGAAGATC
PK3:  -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)
                                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                                CCCTTC   CGGTCT
                                GCCAGGGA
                                ACAAGGGAAG

PK4:  -26.445000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1555
(fs_start=1503)
                                TCCCACA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
                                GGACCGGA   AGGGA
                                TTCCTCA
                                GAATT

=====
(3038) JN024519
=====
PK1:  -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)
                                A
GAAGGGAAGGACACCAAATGAAAGATTGT
                                GACA   GAGAGTC
                                TTTTTAGGG
                                GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                                GATTTTTT   A   ATCGGA
                                TGGCCTTC
                                GGAAGATC

PK3:  -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)
                                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                                CCCTTC   CGGTCT
                                GCCAGGGA
                                ACAAGGGAAG

PK4:  -26.445000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1555
(fs_start=1503)
                                TCCCACA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
                                GGACCGGA   AGGGA

```

```

                                TTCCTCA
                                GAATT

=====
(3039) JN024520
=====
PK1:  -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)
                                A
GAAGGGAAGGACACCAAATGAAAGATTGT
                                GACA    GAGAGTC
                                TTTTtaggg
                                GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                                GATTTTTT A  ATCGGA
                                TGGCCTTC
                                GGAAGATC

PK3:  -26.110000(kcal/mol): PK_start=1511 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1545
(fs_start=1503)
                                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                                CCCTTC    CGGTCT
                                GCCAGGGA
                                ACAAGGGAAG

PK4:  -26.445000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1555
(fs_start=1503)
                                TCCCACA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
                                GGACCGGA    AGGGA
                                TTCCTCA
                                GAATT

=====
(3040) JN024521
=====
PK1:  -13.555000(kcal/mol): PK_start=1482 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1510
(fs_start=1502)
                                A
GAAGGGAAGGACACCAAATGAAAGATTGT
                                GACA    GAGAGTC
                                TTTTtaggg
                                GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1487 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1523
(fs_start=1502)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA

```

GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1510 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1544
(fs_start=1502)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.445000(kcal/mol): PK_start=1517 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1554
(fs_start=1502)

TCCCACA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(3041) JN024522
=====

PK1: -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -18.720000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGGCAGGCTAATTTTTTAGGAAAATCTGGCCTTC

```

                GGACCGGAAG    GGAA
                                TCTTCA
          GAATTT

=====
(3042) JN024523
=====
PK1:  -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                GACG    GAGAGTC
                                TTTTtaggg
          GCTAAT

PK2:  -18.720000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
                GATTTTTT  A  ATCGGA
                                TGGCCTTC
          GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)
                                AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
                CCCT    TCCGGTCT
                                AGGCCAGGGA
          ACAAGGGA

PK4:  -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)
                                CCAC
AGGCAGGCTAATTTTTTAGGAAAATCTGGCCTTC
                GGACCGGAAG    GGAA
                                TCTTCA
          GAATTT

=====
(3043) JN024524
=====
PK1:  -12.955000(kcal/mol): PK_start=1482 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1510
(fs_start=1502)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                GACG    GAGAGTC
                                TTTTtaggg
          GCTAAT

```


PK2: -18.72000(kcal/mol): PK_start=1487 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1523
(fs_start=1502)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.27500(kcal/mol): PK_start=1510 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1544
(fs_start=1502)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.71500(kcal/mol): PK_start=1517 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1554
(fs_start=1502)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(3044) JN024525
=====

PK1: -12.95500(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -18.72000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.27500(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(3045) JN024526
=====

PK1: -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -18.720000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(3046) JN024527
=====

PK1: -12.955000(kcal/mol): PK_start=1485 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1513
(fs_start=1505)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACG GAGAGTC

```

                TTTT TAGGG
      GCTAAT
PK2:  -18.72000(kcal/mol): PK_start=1490 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1526
(fs_start=1505)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
                GATTTTTT A  ATCGGA
                TGGCCTTC
      GGAAAATC
PK3:  -27.27500(kcal/mol): PK_start=1513 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1547
(fs_start=1505)
                AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTCT
                AGGCCAGGGA
      ACAAGGGA
PK4:  -26.71500(kcal/mol): PK_start=1520 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1557
(fs_start=1505)
                CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                GGACCGGAAG   GGAA
                TCTTCA
      GAATTT

=====
(3047) JN024528
=====
PK1:  -12.95500(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)
                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                GACG   GAGAGTC
                TTTT TAGGG
      GCTAAT
PK2:  -18.72000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
                GATTTTTT A  ATCGGA
                TGGCCTTC
      GGAAAATC
PK3:  -27.27500(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)
                AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTCT

```

AGGCCAGGGA

ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC

AGGCAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAAG GGAA

TCTTCA

GAATTT

=====
(3048) JN024529
=====

PK1: -12.955000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A

GAAAGGAAGGACACCAAATGAAAGATTGT

GACG GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -18.720000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)

C

GAAGGACACCAAATGAAAGATTGTACTGAGAGG

GATTTTTT A ATCGGA

TGGCCTTC

GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1511 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1545
(fs_start=1503)

AAA

TACTGAGAGGCAGGCTAATTTTTTTAGGGA

CCCT TCCGGTCT

AGGCCAGGGA

ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)

CCAC

AGGCAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAAG GGAA

TCTTCA

GAATTT

=====
(3049) JN024530
=====

PK1: -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A

GAAAGGAAGGACACCAAATGAAAGATTGT

GACG GAGAGTC
TTTTTAGGG
GCTAAT
PK2: -16.08000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)
C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG

GATTTTTT A ATCGGA
TGGTCTTC
GGAAAATC
PK3: -24.635000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCTGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -24.075000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)
CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGTCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(3050) JN024531
=====

PK1: -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)
A
GAAAGGAAGGACACCAAATGAAAGATTGT

GACG GAGAGTC
TTTTTAGGG
GCTAAT
PK2: -18.720000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)
C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG

GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC
PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT
ACAAGGGA AGGCCAGGGA
PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(3051) JN024532
=====

PK1: -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -18.720000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
ACAAGGGA AGGCCAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(3052) JN024533
=====

PK1: -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -18.720000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(3053) JN024534
=====

PK1: -12.955000(kcal/mol): PK_start=1485 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1513
(fs_start=1505)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -18.720000(kcal/mol): PK_start=1490 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1526
(fs_start=1505)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1513 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1547
(fs_start=1505)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1520 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1557
(fs_start=1505)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(3054) JN024536
=====

PK1: -12.955000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -18.720000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1511 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1545
(fs_start=1503)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(3055) JN024537
=====

PK1: -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -18.720000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(3056) JN024538
=====

PK1: -13.595000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAAGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA

```

                                TGGCCTTC
          GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)
                                AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTCT
                                AGGCCAGGAA
          ACAAGGGA

PK4:  -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)
                                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAAG   GGAA
                                TCTTCA
          AAATTT

=====
(3057) JN024539
=====
PK1:  -13.595000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)
                                A
GAAAAGAAGGACACCAAATGAAAGATTGT
                                GACA   GAAAGTC
                                TTTTTAGGG
          GCTAAT

PK2:  -20.500000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
                                GATTTTTT   A   ATCGGA
                                TGGCCTTC
          GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)
                                AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTCT
                                AGGCCAGGAA
          ACAAGGGA

PK4:  -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)
                                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAAG   GGAA

```

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                                TCTTCA
                                AAATTT
=====
(3058) JN024540
=====
PK1:  -13.595000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)
                                A
GAAAAGAAGGACACCAAATGAAAGATTGT
                                GACA    GAAAGTC
                                TTTTtaggg
                                GCTAAT

PK2:  -20.500000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
                                GATTTTTT A  ATCGGA
                                TGGCCTTC
                                GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)
                                AAA
TACTGAAAGACAGGCTAATTTTTTtaggga
                                CCCT    TCCGGTCT
                                AGGCCAGGAA
                                ACAAGGGA

PK4:  -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)
                                CCAC
AGACAGGCTAATTTTTTtaggGAAAATCTGGCCTTC
                                GGACCGGAAG    GGAA
                                TCTTCA
                                AAATTT

=====
(3059) JN024541
=====
PK1:  -13.595000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)
                                A
GAAAAGAAGGACACCAAATGAAAGATTGT
                                GACA    GAAAGTC
                                TTTTtaggg
                                GCTAAT

PK2:  -20.500000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA

```

GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT
AGGCCAGGAA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAAG GGAA
TCTTCA
AAATTT

=====
(3060) JN024542
=====

PK1: -13.595000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAAGAAGGACACCAAATGAAAGATTGT

GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA

GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT
AGGCCAGGAA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

```

                GGACCGGAAG    GGAA
                                TCTTCA
        AAATTT

=====
(3061) JN024543
=====
PK1:  -13.595000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)
                A
GAAAAGAAGGACACCAAATGAAAGATTGT
                GACA    GAAAGTC
                                TTTTTAGGG
        GCTAAT

PK2:  -20.500000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)
                C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
                GATTTTTT  A  ATCGGA
                                TGGCCTTC
        GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1511 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1545
(fs_start=1503)
                AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
                CCCT    TCCGGTCT
                                AGGCCAGGAA
        ACAAGGGA

PK4:  -26.715000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)
                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                GGACCGGAAG    GGAA
                                TCTTCA
        AAATTT

=====
(3062) JN024544
=====
PK1:  -13.595000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)
                A
GAAAAGAAGGACACCAAATGAAAGATTGT
                GACA    GAAAGTC
                                TTTTTAGGG
        GCTAAT

```

PK2: -20.50000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGAA
ACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
AAATTT

PK4B: -27.515000(kcal/mol): PK_start=1519 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1582
(fs_start=1504)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CTCCGC
AAATTTTCTTCAGAGCAGGCCAGGCCATCAG

=====
(3063) JN024545
=====

PK1: -13.065000(kcal/mol): PK_start=1472 sp=0 s1=3 s2=8 l1=5 l2=16 L3=0 PK_end=1514
(fs_start=1507)

CCAAA
GCTGTTGGAAGTGTGGAAAAGAAGGACA
TGT TAGAAAGT
ATTTTTTAGG
ACCGAAAGACAGGCTA

PK2: -17.220000(kcal/mol): PK_start=1494 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=1528
(fs_start=1507)

C
AGGACACCAAATGAAAGATTGTACCGAAAGA
TTTTTT A ATCGGA
TGGCCTTC
AGGGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1515 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1549
(fs_start=1507)

AAA
TACCGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGAA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1522 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1559
(fs_start=1507)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
AAATTT

=====
(3064) JN024546
=====

PK1: -13.595000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAAGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGAA
ACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
AAATTT

PK4B: -27.515000(kcal/mol): PK_start=1519 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1582
(fs_start=1504)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CTCCGC
AAATTTTCTTCAGAGCAGGCCAGGCCATCAG

=====
(3065) JN024548
=====

PK1: -13.595000(kcal/mol): PK_start=1485 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1513
(fs_start=1505)

A
GAAAAGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1490 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1526
(fs_start=1505)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1513 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1547
(fs_start=1505)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGAA
ACAAAGGA

PK4: -24.115000(kcal/mol): PK_start=1520 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1557
(fs_start=1505)

TCCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA AGGAA
TTCTTCA
AAATT

=====
(3066) JN024549
=====

PK1: -13.595000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAAGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC

TTTTTAGGG
GCTAAT
PK2: -20.50000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.27500(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGAA
ACAAAGGA

PK4: -24.11500(kcal/mol): PK_start=1519 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1556
(fs_start=1504)

TCCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA AGGAA
TTCTTCA
AAATT

=====
(3067) JN024550
=====

PK1: -10.76500(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAAGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTT
TTTTTAGGG
GCTAAT

PK2: -18.47000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTATTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.27500(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TATTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT

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                                AGGCCAGGAA
                ACAAGGGG
PK4:  -26.235000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)
                                CCAC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAGG    GGAA
                                TCTTCA
                AAATTT

PK4B:  -27.515000(kcal/mol): PK_start=1519 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1582
(fs_start=1504)
                                TCCCACAA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT
                                GGACCGGA    GGGG
                                CTCCAC
                AAATTTTCTTCAGAGCAGGCCAGAGCCATCAG

=====
(3068) JN024551
=====
PK1:  -13.595000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)
                                A
GAAAAGAAGGACACCAAATGAAAGATTGT
                                GACA    GAAAGTC
                                TTTTTAGGG
                GCTAAT

PK2:  -20.500000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
                                GATTTTTT    A    ATCGGA
                                TGGCCTTC
                GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)
                                AAA
TACTGAAAGACAGGCTAATTTTTTTAGGGA
                                CCCT    TCCGGTCT
                                AGGCCAGGAA
                ACAAGGGG

PK4:  -26.235000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)
                                CCAC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAGG    GGAA

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                                TCTTCA
AAATTT
PK4B:  -27.515000(kcal/mol): PK_start=1519 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1582
(fs_start=1504)
                                TCCCACAA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT
                                GGACCGGA    GGGG
                                CTCCGC
AAATTTTCTTCAGAGCAGGCCAGAGCCATCAG

=====
(3069) JN024552
=====
PK1:  -13.595000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)
                                A
GAAAAGAAGGACACCAAATGAAAGATTGT
                                GACA    GAAAGTC
                                TTTTtaggg
GCTAAT

PK2:  -20.500000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
                                GATTTTTT  A  ATCGGA
                                TGGCCTTC
GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)
                                AAA
TACTGAAAGACAGGCTAATTTTTTTAGGGA
                                CCCT    TCCGGTCT
                                AGGCCAGGAA
ACAAGGGG

PK4:  -26.235000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)
                                CCAC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAGG    GGAA
                                TCTTCA
AAATTT

PK4B:  -27.515000(kcal/mol): PK_start=1519 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1582
(fs_start=1504)
                                TCCCACAA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT
                                GGACCGGA    GGGG

```

CTCCGC
AAATTTTCTTCAGAGCAGGCCAGAGCCATCAG

=====
(3070) JN024553
=====

PK1: -13.595000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A
GAAAAGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTCC
GGAAAATC

PK3: -28.440000(kcal/mol): PK_start=1511 sp=0 s1=3 s2=9 l1=4 l2=7 L3=0 PK_end=1545
(fs_start=1503)

AAAA
TACTGAAAGACAGGCTAATTTTTTAGGG
CCC CTCCGGTCT
GAGGCCAGGAA
ACAAGGG

PK4: -29.045000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTCC
GGACCGGAGG GGAA
TCTTCA
AAATTT

PK4B: -27.515000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1581
(fs_start=1503)

CCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CTCCGC
AAATTTTCTTCAGAGCAGGCCAGAGCCATCAG

=====
(3071) JN024554
=====

PK1: -13.595000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A
GAAAAGAAGGACACCAAATGAAAGATTGT

GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.50000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA

GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1511 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1545
(fs_start=1503)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT
AGGCCAGGAA
ACAAAGGA

PK4: -24.115000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1555
(fs_start=1503)

TCCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT

GGACCGGA AGGAA
TTCTTCA
AAATT

=====
(3072) JN024555
=====

PK1: -13.595000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAAGAAGGACACCAAATGAAAGATTGT

GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA

GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA

```

          CCCT   TCCGGTCT
                AGGCCAGGAA
ACAAGGGG
PK4:  -26.235000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)
                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                GGACCGGAGG   GGAA
                                TCTTCA
                AAATTT

PK4B:  -27.515000(kcal/mol): PK_start=1519 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1582
(fs_start=1504)
                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                GGACCGGA   GGGG
                                CTCCGC
                AAATTTTCTTCAGAGCGGGCCAGGCCATCAG

=====
(3073) JN024556
=====
PK1:  -13.595000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)
                A
GAAAAGAAGGACACCAAATGAGAGATTGT
                GACA   GAAAGTC
                                TTTT TAGGA
                GCTAAT

PK2:  -20.500000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)
                C
GAAGGACACCAAATGAGAGATTGTACTGAAAGA
                GATTTTTT   A   ATCGGA
                                TGGCCTTC
                GAAAAATC

PK3:  -23.345000(kcal/mol): PK_start=1512 sp=0 s1=3 s2=8 l1=4 l2=9 L3=0 PK_end=1546
(fs_start=1504)
                AAAA
TACTGAAAGACAGGCTAATTTTTTAGGA
                CCT   TCCGGTCT
                                AGGCCGGGAA
                CACAAGGGA

PK4:  -26.045000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)
                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

```

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GGGCCGGAAG    GGAA
                TCTTCA
AAATTT
=====
(3074) JN024557
=====
PK1:  -15.585000(kcal/mol): PK_start=1486 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1514
(fs_start=1506)
                A
GAAAGGAAGGACACCAAATGAAAGACTGT
                GACA    GAGAGTC
                TTTTTAGGG
GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1491 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1527
(fs_start=1506)
                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
                GATTTTTT  A  ATCGGA
                TGGCCTTC
GGAAGATC

PK3:  -25.060000(kcal/mol): PK_start=1514 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1548
(fs_start=1506)
                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                TCCTTC    CGGTCT
                GCCAGGGA
CCAAGGGAAG

PK4:  -24.995000(kcal/mol): PK_start=1521 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1558
(fs_start=1506)
                TCCTCAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
                GGACCGGA    AGGG
                TCTCCA
GAATTT

=====
(3075) JN024558
=====
PK1:  -15.585000(kcal/mol): PK_start=1486 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1514
(fs_start=1506)
                A
GAAAGGAAGGACACCAAATGAAAGACTGT
                GACA    GAGAGTC
                TTTTTAGGG
GCTAAT

```

PK2: -20.460000(kcal/mol): PK_start=1491 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1527
(fs_start=1506)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1514 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1548
(fs_start=1506)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
CCAAGGGAAG

PK4: -24.995000(kcal/mol): PK_start=1521 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1558
(fs_start=1506)

TCCTCCAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGG
TCTCCA
GAATTT

=====
(3076) JN024559
=====

PK1: -15.585000(kcal/mol): PK_start=1486 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1514
(fs_start=1506)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1491 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1527
(fs_start=1506)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1514 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1548
(fs_start=1506)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
CCAAGGGAAG

PK4: -24.995000(kcal/mol): PK_start=1521 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1558
(fs_start=1506)

TCCTCCAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGG
TCTCCA
GAATTT

=====
(3077) JN024560
=====

PK1: -15.585000(kcal/mol): PK_start=1486 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1514
(fs_start=1506)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1491 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1527
(fs_start=1506)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1514 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1548
(fs_start=1506)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
CCAAGGGAAG

PK4: -24.995000(kcal/mol): PK_start=1521 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1558
(fs_start=1506)

TCCTCCAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGG
TCTCCA
GAATTT

=====
(3078) JN024561
=====

PK1: -15.585000(kcal/mol): PK_start=1485 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1513
(fs_start=1505)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC

```

                TTTT TAGGG
      GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1490 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1526
(fs_start=1505)
                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
                GATTTTTT A  ATCGGA
                TGGCCTTC
      GGAAGATC
PK3:  -25.060000(kcal/mol): PK_start=1513 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1547
(fs_start=1505)
                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                TCCTTC  CGGTCT
                GCCAGGGA
      CCAAGGGAAG
PK4:  -24.995000(kcal/mol): PK_start=1520 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1557
(fs_start=1505)
                TCCTCAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
                GGACCGGA  AGGG
                TCTCCA
      GAATTT

=====
(3079) JN024562
=====
PK1:  -13.595000(kcal/mol): PK_start=1494 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1522
(fs_start=1514)
                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                GACA  GAAAGTC
                TTTT TAGGG
      GCTAAT
PK2:  -20.500000(kcal/mol): PK_start=1499 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1535
(fs_start=1514)
                C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
                GATTTTTT A  ATCGGA
                TGGCCTTC
      GGAAGATC
PK3:  -26.110000(kcal/mol): PK_start=1522 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1556
(fs_start=1514)
                A
TACTGAAAGACAGGCTAATTTTTTAGGGAAG
                CCCTTC  CGGTCT

```

GCCAGGGA

ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1529 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1566
(fs_start=1514)

CCAC

AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCTTC

GGACCGGAAG GGAA

TCTTCA

GAATTT

=====
(3080) JN024563
=====

PK1: -13.595000(kcal/mol): PK_start=1494 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1522
(fs_start=1514)

A

GAAAGGAAGGACACCAAATGAAAGATTGT

GACA GAAAGTC

TTTTTAGGG

GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1499 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1535
(fs_start=1514)

C

GAAGGACACCAAATGAAAGATTGTACTGAAAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1522 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1556
(fs_start=1514)

A

TACTGAAAGACAGGCTAATTTTTTTAGGGAAG

CCCTTC CGGTCT

GCCAGGGA

ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1529 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1566
(fs_start=1514)

CCAC

AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCTTC

GGACCGGAAG GGAA

TCTTCA

GAATTT

=====
(3081) JN024564
=====

PK1: -13.595000(kcal/mol): PK_start=1494 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1522
(fs_start=1514)

A

GAAAGGAAGGGCACCAAATGAAAGATTGT

```

          GACA   GAAAGTC
                TTTTtaggg
    GCTAAT
PK2:  -20.50000(kcal/mol): PK_start=1499 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1535
(fs_start=1514)
                                C
GAAGGGCACCAAATGAAAGATTGTACTGAAAGA
                GATTTTTT  A  ATCGGA
                                TGGCCTTC
                GGAAGATC

PK3:  -26.11000(kcal/mol): PK_start=1522 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1556
(fs_start=1514)
                                A
TACTGAAAGACAGGCTAATTTTTTAGGGAAG
                CCCTTC   CGGTCT
                                GCCAGGGA
                ACAAGGGAAG

PK4:  -26.71500(kcal/mol): PK_start=1529 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1566
(fs_start=1514)
                                CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
                GGACCGGAAG   GGAA
                                TCTTCA
                GAATTT

=====
(3082) JN024565
=====
PK1:  -13.59500(kcal/mol): PK_start=1494 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1522
(fs_start=1514)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                GACA   GAAAGTC
                TTTTtaggg
    GCTAAT

PK2:  -20.50000(kcal/mol): PK_start=1499 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1535
(fs_start=1514)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
                GATTTTTT  A  ATCGGA
                                TGGCCTTC
                GGAAGATC

PK3:  -26.11000(kcal/mol): PK_start=1522 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1556
(fs_start=1514)
                                A
TACTGAAAGACAGGCTAATTTTTTAGGGAAG

```

CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG
PK4: -26.715000(kcal/mol): PK_start=1529 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1566
(fs_start=1514)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(3083) JN024566
=====

PK1: -13.595000(kcal/mol): PK_start=1494 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1522
(fs_start=1514)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1499 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1535
(fs_start=1514)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1522 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1556
(fs_start=1514)

A
TACTGAAAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1529 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1566
(fs_start=1514)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(3084) JN024567
=====

PK1: -13.595000(kcal/mol): PK_start=1494 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1522
(fs_start=1514)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1499 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1535
(fs_start=1514)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1522 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1556
(fs_start=1514)

A
TACTGAAAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGAA
ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1529 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1566
(fs_start=1514)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
AAATTT

=====
(3085) JN024568
=====

PK1: -13.595000(kcal/mol): PK_start=1494 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1522
(fs_start=1514)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1499 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1535
(fs_start=1514)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1522 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1556
(fs_start=1514)

A
TACTGAAAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1529 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1566
(fs_start=1514)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(3086) JN024569
=====

PK1: -13.595000(kcal/mol): PK_start=1494 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1522
(fs_start=1514)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1499 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1535
(fs_start=1514)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1522 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1556
(fs_start=1514)

A
TACTGAAAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1529 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1566
(fs_start=1514)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(3087) JN024570
=====

PK1: -13.595000(kcal/mol): PK_start=1494 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1522
(fs_start=1514)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1499 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1535
(fs_start=1514)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1522 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1556
(fs_start=1514)

A
TACTGAAAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1529 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1566
(fs_start=1514)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(3088) JN024571
=====

PK1: -13.595000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAAGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA


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                                TGGCCTTC
          GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)
                                AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTCT
                                AGGCCAGGAA
          ACAAGGGA
PK4:  -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)
                                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAAG   GGAA
                                TCTTCA
          AAATTT
=====
(3089) JN024572
=====
PK1:  -12.955000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                                GACG   GAGAGTC
                                TTTTTAGGG
          GCTAAT
PK2:  -18.720000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
                                GATTTTTT   A   ATCGGA
                                TGGCCTTC
          GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)
                                AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTCT
                                AGGCCAGGGA
          ACAAGGGA
PK4:  -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)
                                CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAAG   GGAA

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                                TCTTCA
                                GAATTT

=====
(3090) JN024573
=====
PK1:  -15.585000(kcal/mol): PK_start=1485 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1513
(fs_start=1505)
                                A
GAAAGGAAGGACACCAAATGAAAGACTGT
                                GACA    GAGAGTC
                                TTTTtaggg
                                GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1490 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1526
(fs_start=1505)
                                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
                                GATTTTTT A  ATCGGA
                                TGGCCTTC
                                GGAAGATC

PK3:  -25.060000(kcal/mol): PK_start=1513 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1547
(fs_start=1505)
                                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                                TCCTTC    CGGTCT
                                GCCAGGGA
                                CCAAGGGAAG

PK4:  -24.995000(kcal/mol): PK_start=1520 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1557
(fs_start=1505)
                                TCCTCAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
                                GGACCGGA    AGGG
                                TCTCCA
                                GAATTT

=====
(3091) JN029801
=====
PK1:  -10.640000(kcal/mol): PK_start=1260 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1298
(fs_start=1291)
                                A
TTGGAATGTGGAAAGGAAGGACACCAA
                                GTT    AGAAAGT
                                TTTTTTtagg
                                CACTGAGAGACAGGCTAA

PK2:  -20.460000(kcal/mol): PK_start=1276 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1312
(fs_start=1291)
                                C
GAAGGACACCAAATGAAAGATTGCACTGAGAGA

```

GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.440000(kcal/mol): PK_start=1299 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1333
(fs_start=1291)

A
CACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCGGGGA
ACAAGGGAAG

PK4: -26.045000(kcal/mol): PK_start=1306 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1343
(fs_start=1291)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGCCGGAAG GGAA
TCTTCA
GAATTT

=====
(3092) JN029803
=====

PK1: -10.640000(kcal/mol): PK_start=1260 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1298
(fs_start=1291)

A
TTGGAAATGTGGACAAGAAGGACACCAA
GTT AGAAAGT
TTTTTTAGG
CACTGAGAGACAGGCTAA

PK2: -20.460000(kcal/mol): PK_start=1276 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1312
(fs_start=1291)

C
GAAGGACACCAAATGAAAGATTGCACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.440000(kcal/mol): PK_start=1299 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1333
(fs_start=1291)

A
CACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCGGGGA
ACAAGGGAAG

PK4: -26.045000(kcal/mol): PK_start=1306 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1343
(fs_start=1291)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC

```

GGGCCGGAAG    GGAA
                TCTTCA
GAATTT
=====
(3093) JN106043
=====
PK1:  -11.420000(kcal/mol): PK_start=1292 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=1318
(fs_start=1312)
                CACA
GAAGGGAGGGACATCAAATGAARGACTG
                GAC    AGAGAG
                TTTTTTAG
GCTAA

PK2:  -18.660000(kcal/mol): PK_start=1299 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1334
(fs_start=1312)
                C
GGGACATCAAATGAARGACTGCACAGAGAGA
                TTTTTT    AATCGGA
                TTGGCCTTC
AGGGAAAAT

PK3:  -18.565000(kcal/mol): PK_start=1321 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1354
(fs_start=1312)
                AAA
ACAGAGAGACAGGCTAATTTTTTAGGGA
                CCT    TCCGGTTT
                AGGCCGGGGA
ACAAGGGG

PK4:  -23.290000(kcal/mol): PK_start=1327 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1364
(fs_start=1312)
                CAAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
                GGGCCGAGG    GGAA
                CCTTCA
GAATTT

PK4B:  -25.145000(kcal/mol): PK_start=1327 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1390
(fs_start=1312)
                TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGGCCGGA    GGGG
                CCCCAC
GAATTTCTTCAGAACAGGCTAGAGCCAACAG
=====
(3094) JN188292
=====

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PK1: -12.225000(kcal/mol): PK_start=2054 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2082
(fs_start=2074)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GGGAGTC
TTTTTAGGG
GCTAAT

PK2: -17.570000(kcal/mol): PK_start=2059 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2096
(fs_start=2074)

C
GAAGGACACCAAATGAAAGACTGTACTGAGGGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=2082 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2116
(fs_start=2074)

AAA
TACTGAGGGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=2089 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2126
(fs_start=2074)

CCAC
GGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=2089 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2152
(fs_start=2074)

TCCCACAA
GGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(3095) JN230353
=====

PK1: -15.100000(kcal/mol): PK_start=1605 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1633
(fs_start=1625)

CA
GAAAGGAAGGCCATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1610 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1647
(fs_start=1625)

C
GAAGGCCATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAGACT

PK3: -18.840000(kcal/mol): PK_start=1633 sp=0 s1=5 s2=6 l1=2 l2=11 l3=0 PK_end=1667
(fs_start=1625)

AC
CACTGAGAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTTT
GCCAGGAA
AACACGGGAG

PK4: -20.990000(kcal/mol): PK_start=1640 sp=7 s1=7 s2=4 l1=10 l2=6 l3=0 PK_end=1677
(fs_start=1625)

TTCCAACAAC
AGACAGGCTAATTTTTTAGGGAGACTTTGGCC
GGACCGG AGGG
TCCTCA
AAATTT

=====
(3096) JN235952
=====

PK1: -15.025000(kcal/mol): PK_start=1254 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1282
(fs_start=1274)

A
GAAGAGAAGGGCACCAAATGAAAGACTGT
GACG GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.370000(kcal/mol): PK_start=1259 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1296
(fs_start=1274)

C
GAAGGGCACCAAATGAAAGACTGTACTGAAAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -18.320000(kcal/mol): PK_start=1283 sp=0 s1=4 s2=4 l1=5 l2=10 l3=0 PK_end=1313
(fs_start=1274)

AATTT
ACTGAAAGGCAGGCTAATTTTTTAGGGAA
CCTT CCGG
GGCCCG
AACAAAGGGGA

PK4: -22.820000(kcal/mol): PK_start=1292 sp=10 s1=7 s2=4 l1=4 l2=9 L3=0 PK_end=1326 (fs_start=1274)

CAAC
CAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
CCGGAGG GGAA
CCTTCA
CGGAAATTT

PK4B: -24.675000(kcal/mol): PK_start=1292 sp=10 s1=5 s2=4 l1=8 l2=35 L3=0 PK_end=1352 (fs_start=1274)

TCCAACAA
CAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
CCGGA GGGG
CCCCGC
CGGAAATTTCTTCAGAACAGGCCAGAGCCAACAG

=====
(3097) JN235956
=====

PK1: -15.100000(kcal/mol): PK_start=1257 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1285 (fs_start=1277)

CA
GGAGAGAAGGTCACCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1262 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1299 (fs_start=1277)

C
GAAGGTCACCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -21.780000(kcal/mol): PK_start=1285 sp=0 s1=5 s2=4 l1=5 l2=9 L3=0 PK_end=1316 (fs_start=1277)

AATTT
CACTGAGAGACAGGCTAATTTTTTAGGGAA
CCCTT CCGG
GGCCCG
ACAAGGGGA

PK4: -22.820000(kcal/mol): PK_start=1295 sp=10 s1=7 s2=4 l1=4 l2=9 L3=0 PK_end=1329 (fs_start=1277)

CCAC
CAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
CCGGAGG GGAA
CCTTCA
CGGAAATTT

PK4B: -24.675000(kcal/mol): PK_start=1295 sp=10 s1=5 s2=4 l1=8 l2=35 L3=0
PK_end=1355 (fs_start=1277)

TCCCACAA
CAGGCTAATTTTTTAGGGAAAATTTGGCCT
CCGGA GGGG
CCCCGC
CGGAAATTCCTTCAGAACAGGCCAGAGCCAACAG

=====
(3098) JN235957
=====

PK1: -14.985000(kcal/mol): PK_start=1260 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1288
(fs_start=1280)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1265 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1302
(fs_start=1280)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1288 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1322
(fs_start=1280)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGAA
ACAAGGGG

PK4: -23.985000(kcal/mol): PK_start=1295 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1333
(fs_start=1280)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CTCCAG
AAACTTC

PK4B: -26.865000(kcal/mol): PK_start=1295 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1358
(fs_start=1280)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
AAACTTCCTCCAGAGCAGACCAGAGCCAACAG

=====
(3099) JN235958
=====

PK1: -15.585000(kcal/mol): PK_start=1266 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1294
(fs_start=1286)

A
GAAAGGAAGGACACCAAATGAAGGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1271 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1307
(fs_start=1286)

C
GAAGGACACCAAATGAAGGACTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1294 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1328
(fs_start=1286)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -28.540000(kcal/mol): PK_start=1301 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1338
(fs_start=1286)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1301 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1364
(fs_start=1286)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(3100) JN235959
=====

PK1: -13.555000(kcal/mol): PK_start=1269 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1297
(fs_start=1289)

A
GAAAGGAAGGACATCAAATGAAAGATTGT
GACA GAGAGTC

TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1310
(fs_start=1289)

C
GAAGGACATCAAATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1297 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1331
(fs_start=1289)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG

CCCTTC CGGTCT
GCCAGGGA
ACAAAGGAAG

PK4: -24.115000(kcal/mol): PK_start=1304 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1341
(fs_start=1289)

TCCCACA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT

GGACCGGA AGGAA
TTCTTCA
GAACT

=====
(3101) JN235960
=====

PK1: -15.140000(kcal/mol): PK_start=1254 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1282
(fs_start=1274)

CA
GAAGAGAGGGACACCAAATGAAAGACTG

GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -21.980000(kcal/mol): PK_start=1259 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1296
(fs_start=1274)

C
GAGGGACACCAAATGAAAGACTGCACTGAAAGA

GATTTTTT AATCGGA
TTGGCCTTC
GGAAAGT

PK3: -23.745000(kcal/mol): PK_start=1282 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1316
(fs_start=1274)

AAG
CACTGAAAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT

AGGCCAGGGA

ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1289 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1326
(fs_start=1274)

CCAC

AGACAGGCTAATTTTTTTAGGGAAAGTTTGGCCTTC

GGACCGGAGG GGAA

CCTTCA

GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1289 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=1352
(fs_start=1274)

TCCCACAA

AGACAGGCTAATTTTTTTAGGGAAAGTTTGGCCT

GGACCGGA GGGG

CCCCGC

GAATTTCTTCAGAGCAGGCCAGAGCCAACAG

=====
(3102) JN235963
=====

PK1: -12.360000(kcal/mol): PK_start=1243 sp=0 s1=3 s2=7 l1=1 l2=18 l3=0 PK_end=1281
(fs_start=1274)

A

TTGGAAATGTGGAAGAGAAGGACACCAG

GTC AGAAAGT

TTTTTTTAGG

CACTGAAAGACAGGCTAA

PK2: -20.500000(kcal/mol): PK_start=1259 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1295
(fs_start=1274)

C

GAAGGACACCAGATGAAAGACTGCACTGAAAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAAGTC

PK3: -18.320000(kcal/mol): PK_start=1283 sp=0 s1=4 s2=4 l1=5 l2=10 l3=0 PK_end=1313
(fs_start=1274)

AGTCT

ACTGAAAGACAGGCTAATTTTTTTAGGGAA

CCTT CCGG

GGCCCG

AACAAGGGAA

PK4: -23.300000(kcal/mol): PK_start=1292 sp=10 s1=7 s2=4 l1=4 l2=9 l3=0 PK_end=1326
(fs_start=1274)

CAAC

CAGGCTAATTTTTTTAGGGAAAGTCTGGCCTTC

CCGGAAG GGAA

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                                CCTTCA
          CGGAAATTT
=====
(3103) JN235964
=====
PK1:  -15.140000(kcal/mol): PK_start=1254 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1282
(fs_start=1274)
          CA
GAAGAGAGGGACACCAAATGAAAGACTG
          GAC      AGAAAGTC
          TTTTTTAGGG
          GCTAA

PK2:  -21.980000(kcal/mol): PK_start=1259 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1296
(fs_start=1274)
          C
GAGGGACACCAAATGAAAGACTGCACTGAAAGA
          GATTTTTT      AATCGGA
          TTGGCCTTC
          GGAAAGT

PK3:  -23.745000(kcal/mol): PK_start=1282 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1316
(fs_start=1274)
          AAG
CACTGAAAGACAGGCTAATTTTTTAGGGA
          CCCT      TCCGGTTT
          AGGCCAGGGA
          ACAAGGGG

PK4:  -25.010000(kcal/mol): PK_start=1289 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1326
(fs_start=1274)
          CCAC
AGACAGGCTAATTTTTTAGGGAAAGTTTGGCCTTC
          GGACCGGAGG      GGAA
          CCTTCA
          GAATTT

PK4B:  -26.865000(kcal/mol): PK_start=1289 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1352
(fs_start=1274)
          TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAGTTTGGCCT
          GGACCGGA      GGGG
          CCCCCG
          GAATTTCTTCAGAGCAGGCCAGAGCCAACAG

=====
(3104) JN235965
=====
PK1:  -13.555000(kcal/mol): PK_start=1281 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1309
(fs_start=1301)
          A
GAAAGGAAGGACACCAAATGAAAGATTGT

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          GACA    GAGAGTC
                TTTTATAGGG
    GCTAAT
PK2:  -20.46000(kcal/mol): PK_start=1286 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1322
(fs_start=1301)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT  A  ATCGGA
                                TGGCCTTC
                GGAAAATC
PK3:  -27.27500(kcal/mol): PK_start=1309 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1343
(fs_start=1301)
                AAA
TACTGAGAGACAGGCTAATTTTTATAGGGA
                CCCT    TCCGGTCT
                                AGGCCAGGGA
                ACAAGGGA
PK4:  -26.71500(kcal/mol): PK_start=1316 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1353
(fs_start=1301)
                CCAC
AGACAGGCTAATTTTTATAGGAAAATCTGGCCTTC
                GGACCGGAAG    GGAA
                                TCTTCA
                GAATTT
=====
(3105) JN248316
=====
PK1:  -15.10000(kcal/mol): PK_start=1264 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1292
(fs_start=1284)
                CA
GGAAGGAAGGACATCAAATGAAGGACTG
                GAC    AGAGAGTC
                                TTTTTATAGGG
                GCTAA
PK2:  -21.94000(kcal/mol): PK_start=1269 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1306
(fs_start=1284)
                C
GAAGGACATCAAATGAAGGACTGCACTGAGAGA
                GATTTTTT  AATCGGA
                                TTGGCCTTC
                GGAAAAT
PK3:  -20.28500(kcal/mol): PK_start=1293 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1326
(fs_start=1284)
                AAA
ACTGAGAGACAGGCTAATTTTTATAGGGA

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          CCT   TCCGGTTT
                AGGCCAGGGA
    AACAAGGGA
PK4:  -22.915000(kcal/mol): PK_start=1299 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1336
(fs_start=1284)
                TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA   AGGGA
                TTCCTCA
          GAATT

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=====
(3106) JN248317
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PK1:  -10.440000(kcal/mol): PK_start=1253 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1291
(fs_start=1284)
          A
TTGGAAATGTGGAAAGGAAGGACATCAA
                GTT   AGAAAGT
                TTTTTTAGG
          CACTGAGAGACAGGCTAA

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PK2:  -21.940000(kcal/mol): PK_start=1269 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1306
(fs_start=1284)
          C
GAAGGACATCAAATGAAAGATTGCACTGAGAGA
                GATTTTTT   AATCGGA
                TTGGCCTTC
          GGAAAAT

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PK3:  -20.285000(kcal/mol): PK_start=1293 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1326
(fs_start=1284)
          AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                CCT   TCCGGTTT
                AGGCCAGGGA
          AACAAGGGA

```

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PK4:  -22.915000(kcal/mol): PK_start=1299 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1336
(fs_start=1284)
                TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA   AGGGA
                TTCCTCA
          GAATT

```

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=====
(3107) JN248318
=====

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PK1: -15.100000(kcal/mol): PK_start=1270 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1298
(fs_start=1290)

CA
GGAAGGAAGGCATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1275 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1312
(fs_start=1290)

C
GAAGGGCATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAGAAT

PK3: -18.840000(kcal/mol): PK_start=1298 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1332
(fs_start=1290)

AA
CACTGAGAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTTT
GCCAGGGA
ARCAAGGGAAG

PK4: -22.915000(kcal/mol): PK_start=1305 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1342
(fs_start=1290)

TCCARCA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(3108) JN248319
=====

PK1: -15.100000(kcal/mol): PK_start=1270 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1298
(fs_start=1290)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1275 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1312
(fs_start=1290)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAGATT

PK3: -18.095000(kcal/mol): PK_start=1299 sp=0 s1=3 s2=9 l1=2 l2=9 L3=0 PK_end=1333
(fs_start=1290)

GA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTTT
AGGCCGGGAA
AACAAGGGA

PK4: -23.300000(kcal/mol): PK_start=1304 sp=6 s1=11 s2=4 l1=4 l2=5 L3=0 PK_end=1342
(fs_start=1290)

CAAC
GAGACAGGCTAATTTTTTAGGGAGATTTTGGCCTTC
GGGGCCGGAAG GGAA
CCTTCA
AATTT

=====
(3109) JN248320
=====

PK1: -15.625000(kcal/mol): PK_start=1270 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1298
(fs_start=1290)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1275 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1311
(fs_start=1290)

C
GAAGGACACCAAATGAAAGACTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATA

PK3: -24.465000(kcal/mol): PK_start=1298 sp=0 s1=4 s2=6 l1=5 l2=8 L3=0 PK_end=1330
(fs_start=1290)

AAATA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGT
AGGCCAGG
ACAAGGGA

PK4: -23.405000(kcal/mol): PK_start=1307 sp=9 s1=8 s2=4 l1=4 l2=8 L3=0 PK_end=1342
(fs_start=1290)

CCAC
ACAGGCTAATTTTTTAGGGAAAATATGGCCTTC
ACCGGAAG GGAA
TCTTCA
GGGAATTT

=====
(3110) JN248321
=====

PK1: -13.555000(kcal/mol): PK_start=1276 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1304
(fs_start=1296)

A
GAAAAGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1281 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1317
(fs_start=1296)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1304 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1338
(fs_start=1296)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1311 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1348
(fs_start=1296)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1311 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=1374
(fs_start=1296)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCTTCAGAGCAGCCAGAGCCAACAG

=====
(3111) JN248322
=====

PK1: -15.100000(kcal/mol): PK_start=1276 sp=0 s1=3 s2=8 l1=2 l2=5 l3=0 PK_end=1304
(fs_start=1296)

CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC

TTTTTTAGGG
GCTAA
PK2: -21.940000(kcal/mol): PK_start=1281 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1318
(fs_start=1296)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -22.025000(kcal/mol): PK_start=1304 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1338
(fs_start=1296)

AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCGGGAA
ACAAGGGA

PK4: -21.195000(kcal/mol): PK_start=1311 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1348
(fs_start=1296)

TCCCACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA AGGGA
TTCCTCA
AAATT

=====
(3112) JN248323
=====

PK1: -12.955000(kcal/mol): PK_start=1270 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1298
(fs_start=1290)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -21.800000(kcal/mol): PK_start=1275 sp=0 s1=7 s2=7 l1=1 l2=8 L3=2 PK_end=1311
(fs_start=1290)

G
GAAGGACACCAAATGAAAGATTGTACTGAGAG
GATTTTT TA ATCGGAC
TGGCCTGTC
GGAAAATC

PK3: -26.580000(kcal/mol): PK_start=1299 sp=0 s1=3 s2=9 l1=3 l2=7 L3=0 PK_end=1332
(fs_start=1290)

AAA
ACTGAGAGGCAGGCTAATTTTTTAGGGA
CCT GTCCGGTCT

CAGGCCAGGAA

ACAAGGA

PK4: -25.100000(kcal/mol): PK_start=1305 sp=7 s1=7 s2=4 l1=10 l2=7 L3=0 PK_end=1343
(fs_start=1290)

TGTCCACAAG

AGGCAGGCTAATTTTTTTAGGGAAAATCTGGCC

GGACCGG ACAG

TGTCAG

AAACTTT

=====
(3113) JN248324
=====

PK1: -15.100000(kcal/mol): PK_start=1270 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1298
(fs_start=1290)

CA

GAAAGGAAGGACATCAAATGAAAGACTG

GAC AGAGAGTC

TTTTTTAGGG

GTTAA

PK2: -18.450000(kcal/mol): PK_start=1275 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1312
(fs_start=1290)

C

GAAGGACATCAAATGAAAGACTGCACTGAGAGA

GATTTTTT AATTGGA

TTGGCCTTC

GGAAGCT

PK3: -20.860000(kcal/mol): PK_start=1298 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1332
(fs_start=1290)

C

CACTGAGAGACAGGTTAATTTTTTTAGGGAAG

CCCTTC CGGTTT

GCCGGGGA

ACAAGGGAAG

PK4: -26.315000(kcal/mol): PK_start=1304 sp=6 s1=9 s2=5 l1=7 l2=4 L3=0 PK_end=1342
(fs_start=1290)

TCCCACA

GAGACAGGTTAATTTTTTTAGGGAAGCTTTGGCCT

GGGGCCGGA AGGGA

TCCCTCA

AATT

=====
(3114) JN248325
=====

PK1: -15.100000(kcal/mol): PK_start=1270 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1298
(fs_start=1290)

CA

GGAAAGAAGGACATCAAATGAAAGACTG

```

          GAC   AGAGAGTC
                TTTTTTAGGG
    GCTAA
PK2:  -21.940000(kcal/mol): PK_start=1275 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1312
(fs_start=1290)
                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT   AATCGGA
                TTGGCCTCC
    GGAAAAT

PK3:  -22.240000(kcal/mol): PK_start=1298 sp=0 s1=4 s2=7 l1=3 l2=10 L3=0 PK_end=1332
(fs_start=1290)
                AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA
                CCCT   CCGGTTT
                GGCCAGGAA
    AACAAGGGGA

PK4:  -24.585000(kcal/mol): PK_start=1305 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1342
(fs_start=1290)
                CCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTC
                GGACCGGAG   GGGA
                TCCTCA
    AAATTT

PK4B:  -26.865000(kcal/mol): PK_start=1305 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1368
(fs_start=1290)
                CCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA   GGGG
                CCCCCG
    AAATTTTCCTCAGAGCAGACCAGAGCCAACAG

=====
(3115) JN248326
=====
PK1:  -10.400000(kcal/mol): PK_start=1259 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1297
(fs_start=1290)
                A
TTGGAAATGTGGGAAGGAAGGACATCAA
                GTT   AGAGAGT
                TTTTTTAGG
    CACTGAGAGACAAGCTAA

PK2:  -15.820000(kcal/mol): PK_start=1275 sp=0 s1=8 s2=4 l1=3 l2=8 L3=1 PK_end=1309
(fs_start=1290)
                CAA
GAAGGACATCAAATGAGAGATTGCACTGAGAGA

```

GATTTTTT A ATCG
TGGCCT
GGAAAATC

PK3: -23.145000(kcal/mol): PK_start=1299 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1332
(fs_start=1290)

AAA
ACTGAGAGACAAGCTAATTTTTTTAGGGA

CCT TCCGGTCT
AGGCCGGGAA
ACAAGGGA

PK4: -25.775000(kcal/mol): PK_start=1305 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1342
(fs_start=1290)

TCCAACA
AGACAAGCTAATTTTTTTAGGGAAAATCTGGCCT

GGGCCGGA AGGGA
TTCCTCA
AAATT

=====
(3116) JN248327
=====

PK1: -15.100000(kcal/mol): PK_start=1279 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1307
(fs_start=1299)

CA
GGAAGGAAGGACATCAAATGAAAGACTG

GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1284 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1321
(fs_start=1299)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA

GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -22.025000(kcal/mol): PK_start=1307 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1341
(fs_start=1299)

AAA
CACTGAGAGACAGGCTAATTTTTTTAGGGA

CCCT TCCGGTTT
AGGCCGGGAA
ACAAGGGA

PK4: -21.195000(kcal/mol): PK_start=1314 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1351
(fs_start=1299)

TCCCACA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT

```

GGGCCGGA    AGGGA
              TTCCTCA
AAATT
=====
(3117) JN248328
=====
PK1:  -15.100000(kcal/mol): PK_start=1270 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1298
(fs_start=1290)
              CA
GGAAGGAAGGACATCAAATGAAAGACTG
              GAC    AGAGAGTC
              TTTTTTAGGG
GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1275 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1312
(fs_start=1290)
              C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
              GATTTTTT    AATCGGA
              TTGGCCTTC
GGAGAAT

PK3:  -18.840000(kcal/mol): PK_start=1298 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1332
(fs_start=1290)
              AA
CACTGAGAGACAGGCTAATTTTTTAGGGAG
              CCTTC    CGGTTT
              GCCAGGGA
AGCAAGGGAAG

PK4:  -22.915000(kcal/mol): PK_start=1305 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1342
(fs_start=1290)
              TCCAGCA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
              GGACCGGA    AGGGA
              TTCCTCA
GAATT

=====
(3118) JN248329
=====
PK1:  -13.555000(kcal/mol): PK_start=1279 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1307
(fs_start=1299)
              A
GAAAGGAAGGACACCAAATGAAAGATTGT
              GACA    GAGAGTC
              TTTTTTAGGG
GCTAAT

```

PK2: -20.46000(kcal/mol): PK_start=1284 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1320
(fs_start=1299)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.27500(kcal/mol): PK_start=1307 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1341
(fs_start=1299)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.71500(kcal/mol): PK_start=1314 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1351
(fs_start=1299)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(3119) JN248330

=====
PK1: -15.10000(kcal/mol): PK_start=1270 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1298
(fs_start=1290)

CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.94000(kcal/mol): PK_start=1275 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1312
(fs_start=1290)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.28500(kcal/mol): PK_start=1299 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1332
(fs_start=1290)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AGCAAGGGA

PK4: -22.915000(kcal/mol): PK_start=1305 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1342
(fs_start=1290)

TCCAGCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA AGGGA
TTCCTCA
AAATT

=====
(3120) JN248331
=====

PK1: -15.100000(kcal/mol): PK_start=1285 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1313
(fs_start=1305)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1290 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1327
(fs_start=1305)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAATT

PK3: -24.095000(kcal/mol): PK_start=1313 sp=0 s1=4 s2=9 l1=2 l2=8 L3=0 PK_end=1348
(fs_start=1305)

AA
CACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTTT
AGGCCGGGAAA
ACAAGGGA

PK4: -22.285000(kcal/mol): PK_start=1319 sp=6 s1=9 s2=4 l1=8 l2=4 L3=0 PK_end=1356
(fs_start=1305)

TCCCACAA
GAGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
AGGGCCGGA AGGG
TTCCAC
AATT

=====
(3121) JN248332
=====

PK1: -15.100000(kcal/mol): PK_start=1270 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1298
(fs_start=1290)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC

TTTTTTAGGG
 GCTAA

PK2: -21.940000(kcal/mol): PK_start=1275 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1312
 (fs_start=1290)

C
 GAAGGACATCAAATGAAAGACTGCACTGAGAGA

GATTTTTT AATCGGA
 TTGCCTTC
 GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1299 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1332
 (fs_start=1290)

AAA
 ACTGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT
 AGGCCGGGA
 AACAAGGGA

PK4: -21.195000(kcal/mol): PK_start=1305 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1342
 (fs_start=1290)

TCCAACA
 AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGGCCGGA AGGGA
 TTCCTCA
 GAATT

=====
 (3122) JN248333
 =====

PK1: -8.215000(kcal/mol): PK_start=1285 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=1312
 (fs_start=1305)

GA
 GAAAGGAAGGACACCAAATGAAAGATTGT

GACA GAGGGT
 TTTTTAGG
 GCTAAT

PK2: -15.420000(kcal/mol): PK_start=1291 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1326
 (fs_start=1305)

C
 AAGGACACCAAATGAAAGATTGTGATGGGAGA

ATTTTTT A ATCGGA
 TGGCCTTC
 GGGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1313 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1347
 (fs_start=1305)

AAA
 TGATGGGAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT

AGGCCAGGGA

ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1320 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1357
(fs_start=1305)

CCAC

AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAAG GGAA

TCTTCA

GAACTT

=====
(3123) JN248334
=====

PK1: -15.100000(kcal/mol): PK_start=1285 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1313
(fs_start=1305)

CA

GAAAGGAAGGACATCAAATGAAAGACTG

GAC AGAGAGTC

TTTTTTAGGG

GCTAA

PK2: -21.940000(kcal/mol): PK_start=1290 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1327
(fs_start=1305)

C

GAAGGACATCAAATGAAAGACTGCACTGAGAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAGATT

PK3: -20.635000(kcal/mol): PK_start=1314 sp=0 s1=3 s2=9 l1=2 l2=9 L3=0 PK_end=1348
(fs_start=1305)

GA

ACTGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTTT

AGGCCGGGAAA

ACAAGGGA

PK4: -22.765000(kcal/mol): PK_start=1319 sp=6 s1=9 s2=5 l1=7 l2=4 L3=0 PK_end=1357
(fs_start=1305)

TCCAACA

GAGACAGGCTAATTTTTTAGGGAGATTTTGGCCT

AGGGCCGGA AGGGA

TTCCTCA

AACT

=====
(3124) JN248335
=====

PK1: -13.555000(kcal/mol): PK_start=1276 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1304
(fs_start=1296)

A

GAAAGGAAGGACACCAAATGAAAGATTGT

GACA GAGAGTC
TTTTTAGGG
GCTAAT
PK2: -19.080000(kcal/mol): PK_start=1281 sp=0 s1=8 s2=5 l1=2 l2=8 L3=1 PK_end=1316
(fs_start=1296)
CA
GAAGGACACCAAATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGG
TGGCCCT
GGAAGGTC

PK3: -24.730000(kcal/mol): PK_start=1304 sp=0 s1=4 s2=7 l1=3 l2=9 L3=1 PK_end=1337
(fs_start=1296)
AGG
TACTGAGAGACAGGCTAATTTTTTAGGGA

CCCT C CCGGTCT
GGCCAGGGA
ACAAGGGAA

PK4: -23.190000(kcal/mol): PK_start=1311 sp=7 s1=7 s2=6 l1=8 l2=4 L3=0 PK_end=1348
(fs_start=1296)
CTCCCACA
AGACAGGCTAATTTTTTAGGGAAGGTCTGGCC

GGACCGG AAGGGA
TTTCTTCA
GAAT

=====
(3125) JN248336
=====

PK1: -15.100000(kcal/mol): PK_start=1270 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1298
(fs_start=1290)
CA
GGAAGGAAGGACATCAAATGAAAGACTG

GAC AGAGAGTC
TTTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1275 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1312
(fs_start=1290)
C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA

GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1299 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1332
(fs_start=1290)
AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA

```

          CCT      TCCGGTTT
                AGGCCGGGAA
          AACAAAGGGG

PK4:  -20.495000(kcal/mol): PK_start=1305 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1342
(fs_start=1290)
                CCAACA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTT
                GGGCCGGAG      GGGA
                                TCCTCA
          AAATTT

PK4B:  -25.145000(kcal/mol): PK_start=1305 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1368
(fs_start=1290)
                TCCAACAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
                GGGCCGGA      GGGG
                                CCCAC
          AAATTTTCCTCAGAGCAGACCAGAGCCAACAG

=====
(3126) JN248337
=====

PK1:  -11.665000(kcal/mol): PK_start=1273 sp=0 s1=3 s2=8 l1=5 l2=16 L3=0 PK_end=1315
(fs_start=1308)
                CCAAA
GCTGTTGGAAATGTGGAAAGGAAGGACA
                TGT      TAGGAAGT
                                ATTTTTTAGG
          ATCGAAAAACAGGCTA

PK2:  -17.260000(kcal/mol): PK_start=1295 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=1329
(fs_start=1308)
                C
AGGACACCAAATGAAGGATTGTATCGAAAAA
                TTTTTT  A  ATCGGA
                                TGGCCTTC
          AGGGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1316 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1350
(fs_start=1308)
                AAA
TATCGAAAAACAGGCTAATTTTTTTAGGGA
                CCCT      TCCGGTCT
                                AGGCCAGGGA
          ACAAGGGG

PK4:  -25.745000(kcal/mol): PK_start=1323 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1360
(fs_start=1308)
                CCCACA
AAACAGGCTAATTTTTTTAGGGAAAATCTGGCCTT

```

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                GGACCGGAG    GGGA
                                TCCTCA
        GAACTT
PK4B:  -30.395000(kcal/mol): PK_start=1323 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1386
(fs_start=1308)
                                TCCCACAA
AAACAGGCTAATTTTTTTAGGGAAAATCTGGCCT
                GGACCGGA    GGGG
                                CCCCAC
        GAACTTTCCTCAGAGCAGAACAGAGCCAACAG

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=====
(3127) JN248338
=====

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PK1:  -15.100000(kcal/mol): PK_start=1270 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1298
(fs_start=1290)
                CA
GAAAGGAAGGGCATCAAATGAAAGACTG
                GAC    AGAGAGTC
                                TTTTTTAGGG
        GCTAA

```

```

PK2:  -21.940000(kcal/mol): PK_start=1275 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1312
(fs_start=1290)
                C
GAAGGGCATCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT    AATCGGA
                                TTGGCCTTC
        GGAGAAT

```

```

PK3:  -18.840000(kcal/mol): PK_start=1298 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1332
(fs_start=1290)
                AA
CACTGAGAGACAGGCTAATTTTTTTAGGGAG
                CCTTC    CGGTTT
                                GCCAGGGA
        ARCAAGGGAAG

```

```

PK4:  -22.915000(kcal/mol): PK_start=1305 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1342
(fs_start=1290)
                                TCCARCA
AGACAGGCTAATTTTTTTAGGGAGAATTTGGCCT
                GGACCGGA    AGGGA
                                TTCCTCA
        GAATT

```

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=====
(3128) JN248339
=====

```

PK1: -15.100000(kcal/mol): PK_start=1270 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1298
(fs_start=1290)

CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GTTAA

PK2: -18.450000(kcal/mol): PK_start=1275 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1312
(fs_start=1290)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATTGGA
TTGGCCTTC
GGAAGTT

PK3: -20.860000(kcal/mol): PK_start=1298 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1332
(fs_start=1290)

T
CACTGAGAGACAGGTTAATTTTTTAGGGAAG
CCCTTC CGGTTT
GCCGGGA
ACAAGGGAAG

PK4: -20.030000(kcal/mol): PK_start=1305 sp=7 s1=6 s2=7 l1=9 l2=3 L3=0 PK_end=1342
(fs_start=1290)

CTTCCCACA
AGACAGGTTAATTTTTTAGGGAAGTTTTGGC
GGGCCG GAAGGGA
CTTTCCTCA
GAA

=====
(3129) JN248340
=====

PK1: -13.555000(kcal/mol): PK_start=1273 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1301
(fs_start=1293)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1278 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1314
(fs_start=1293)

C
GAAGGACACCAAATGAAAGATTGTTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1301 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1335
(fs_start=1293)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.445000(kcal/mol): PK_start=1308 sp=7 s1=8 s2=5 l1=7 l2=5 l3=0 PK_end=1345
(fs_start=1293)

TCCCACA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAACT

=====
(3130) JN248341
=====

PK1: -15.100000(kcal/mol): PK_start=1270 sp=0 s1=3 s2=8 l1=2 l2=5 l3=0 PK_end=1298
(fs_start=1290)

CA
GGCAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1275 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1312
(fs_start=1290)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -22.025000(kcal/mol): PK_start=1298 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=1332
(fs_start=1290)

AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCGGGGA
ACAAGGGA

PK4: -21.195000(kcal/mol): PK_start=1305 sp=7 s1=8 s2=5 l1=7 l2=5 l3=0 PK_end=1342
(fs_start=1290)

TCCCACA
AGACAGGCTAATTTTTTAGGAAAATTTGGCCT
GGGCCGGA AGGGA
TTCCTCA
GAATT

=====
(3131) JN248342
=====

PK1: -15.100000(kcal/mol): PK_start=1270 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1298
(fs_start=1290)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1275 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1312
(fs_start=1290)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1299 sp=0 s1=3 s2=8 l1=3 l2=6 L3=0 PK_end=1329
(fs_start=1290)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGAA
AAGGGA

PK4: -24.005000(kcal/mol): PK_start=1305 sp=7 s1=8 s2=5 l1=4 l2=5 L3=0 PK_end=1339
(fs_start=1290)

TCCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGCCGGA AGGGA
TCCCTCA
AAATT

=====
(3132) JN248343
=====

PK1: -15.585000(kcal/mol): PK_start=1279 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1307
(fs_start=1299)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1284 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1320
(fs_start=1299)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT A ATCGGA

TGGCCTTC

GGAGAATC

PK3: -22.370000(kcal/mol): PK_start=1307 sp=0 s1=5 s2=6 l1=2 l2=11 l3=0 PK_end=1341
(fs_start=1299)

AA

TACTGAGAGACAGGCTAATTTTTTAGGGAG

CCTTC CGGTCT

GCCAGGGA

CACAAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1314 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1351
(fs_start=1299)

CCAC

AGACAGGCTAATTTTTTAGGGAGAATCTGGCCTTC

GGACCGGAAG GGAA

TCTTCA

GAATTT

=====
(3133) JN248344
=====

PK1: -13.555000(kcal/mol): PK_start=1276 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1304
(fs_start=1296)

A

GACAAGAAGGACACCAAATGAAAGATTGT

GACA GAGAGTC

TTTTTAGGC

GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1281 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1317
(fs_start=1296)

C

GAAGGACACCAAATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GCAAGATC

PK3: -17.340000(kcal/mol): PK_start=1307 sp=0 s1=3 s2=6 l1=1 l2=13 l3=0 PK_end=1338
(fs_start=1296)

A

TGAGAGACAGGCTAATTTTTTAGGCAAG

TTC CGGTCT

GCCAGGGA

CCCACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1311 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1348
(fs_start=1296)

CCAC

AGACAGGCTAATTTTTTAGGCAAGATCTGGCCTTC

GGACCGGAGG GGAA

```

                                TCTTCA
          GAATTT
PK4B:  -30.395000(kcal/mol): PK_start=1311 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1374
(fs_start=1296)
                                TCCCACAA
AGACAGGCTAATTTTTTTAGGCAAGATCTGGCCT
          GGACCGGA      GGGG
                                CCCCAC
          GAATTTTCTTCAGAGCAGGCCAGAGCCAACAG

=====
(3134) JN248345
=====
PK1:  -13.595000(kcal/mol): PK_start=1276 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1304
(fs_start=1296)
          A
GACAAGAAGGACACCAAATGAAAGATTGT
          GACA      GAAAGTC
                                TTTTATAGGC
          GCTAAT

PK2:  -20.500000(kcal/mol): PK_start=1281 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1317
(fs_start=1296)
          C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
          GATTTTTT  A  ATCGGA
                                TGGCCTTC
          GCAAGATC

PK3:  -17.340000(kcal/mol): PK_start=1307 sp=0 s1=3 s2=6 l1=1 l2=13 L3=0 PK_end=1338
(fs_start=1296)
          A
TGAAAGACAGGCTAATTTTTTTAGGCAAG
          TTC      CGGTCT
                                GCCAGGGA
          CCCACAAGGGGAG

PK4:  -26.235000(kcal/mol): PK_start=1311 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1348
(fs_start=1296)
                                CCAC
AGACAGGCTAATTTTTTTAGGCAAGATCTGGCCTTC
          GGACCGGAGG      GGAA
                                TCTTCA
          GAATTT

PK4B:  -30.395000(kcal/mol): PK_start=1311 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1374
(fs_start=1296)
                                TCCCACAA
AGACAGGCTAATTTTTTTAGGCAAGATCTGGCCT
          GGACCGGA      GGGG

```

CCCCAC
GAATTTTCTTCAGAGCAGGCCAGAGCCAACAG

=====
(3135) JN248346
=====

PK1: -12.155000(kcal/mol): PK_start=1273 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1301
(fs_start=1293)

A
GAAAGGAAGGACACCAAATGAAAGACTGT

GACG GAGAGTT
TTTTTAGGG
GCTAAT

PK2: -6.855000(kcal/mol): PK_start=1290 sp=0 s1=3 s2=5 l1=1 l2=20 L3=0 PK_end=1326
(fs_start=1293)

A
ATGAAAGACTGTATTGAGAGGCAGGCTA

GAT TTTTT
AAGGACA
GGAAGATCTGGCCTGTCCAC

PK3: -26.580000(kcal/mol): PK_start=1302 sp=0 s1=3 s2=9 l1=3 l2=7 L3=0 PK_end=1335
(fs_start=1293)

AGA
ATTGAGAGGCAGGCTAATTTTTTAGGGA

CCT GTCCGGTCT
CAGGCCAGGGA
ACAAGGA

PK4: -25.100000(kcal/mol): PK_start=1308 sp=7 s1=7 s2=4 l1=10 l2=7 L3=0 PK_end=1346
(fs_start=1293)

TGTCCACAAG
AGGCAGGCTAATTTTTTAGGGAAGATCTGGCC

GGACCGG ACAG
TGTCAG
GAATTTT

=====
(3136) JN248347
=====

PK1: -13.555000(kcal/mol): PK_start=1276 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1304
(fs_start=1296)

A
GAAAGGAAGGACACCAAATGAAAGATTGT

GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1281 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1317
(fs_start=1296)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1304 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1338
(fs_start=1296)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -24.995000(kcal/mol): PK_start=1311 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1348
(fs_start=1296)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT

GGACCGGA AGGG
TCTCCA
GAATTT

=====
(3137) JN248348
=====

PK1: -10.975000(kcal/mol): PK_start=1279 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=1306
(fs_start=1299)

AA
GAAAGGAAGGACACCAAATGAAAGATTGT

GACA GAGAGT
TTTTTAGG
GCTAAT

PK2: -16.800000(kcal/mol): PK_start=1285 sp=0 s1=7 s2=5 l1=2 l2=9 L3=1 PK_end=1319
(fs_start=1299)

CA
AAGGACACCAAATGAAAGATTGTAATGAGAGA

ATTTTTT A ATCGG
TGGCCCT
GGAAAATC

PK3: -24.060000(kcal/mol): PK_start=1307 sp=0 s1=4 s2=7 l1=3 l2=9 L3=1 PK_end=1340
(fs_start=1299)

AAA
TAATGAGAGACAGGCTAATTTTTTAGGGA

CCCT C CCGGTCT
GGCCGGGAA
ACAAGGGAA

PK4: -22.520000(kcal/mol): PK_start=1314 sp=7 s1=7 s2=6 l1=8 l2=4 L3=0 PK_end=1351
(fs_start=1299)

CTCCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCC

```

GGGCCGG    AAGGGA
              TTTCTTCA
AAAC
=====
(3138) JN248350
=====
PK1:  -13.555000(kcal/mol): PK_start=1276 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1304
(fs_start=1296)
              A
GAAAGGAAGGACACCAAATGAAAGATTGT
              GACA    GAGAGTC
              TTTTTAGGG
GCTAAT

PK2:  -21.800000(kcal/mol): PK_start=1281 sp=0 s1=7 s2=7 l1=1 l2=8 L3=2 PK_end=1317
(fs_start=1296)
              A
GAAGGACACCAAATGAAAGATTGTACTGAGAG
              GATTTTT TA  ATCGGAC
              TGGCCTGTC
GGAAAATC

PK3:  -26.580000(kcal/mol): PK_start=1305 sp=0 s1=3 s2=9 l1=3 l2=7 L3=0 PK_end=1338
(fs_start=1296)
              AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
              CCT    GTCCGGTCT
              CAGGCCAGGGA
ACAAGGA

PK4:  -25.100000(kcal/mol): PK_start=1311 sp=7 s1=7 s2=4 l1=10 l2=7 L3=0 PK_end=1349
(fs_start=1296)
              TGTCCACAAG
AGACAGGCTAATTTTTTAGGAAAATCTGGCC
              GGACCGG    ACAG
              TGTCAG
GAATTTT

=====
(3139) JN248351
=====
PK1:  -15.140000(kcal/mol): PK_start=1270 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1298
(fs_start=1290)
              CA
GGAAGGAAGGACATCAAATGAAAGACTG
              GAC    AGAAAGTC
              TTTTTTAGGG
GCTAA

```

PK2: -20.50000(kcal/mol): PK_start=1275 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1311
(fs_start=1290)

C
GAAGGACATCAAATGAAAGACTGCACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAGATTC

PK3: -25.885000(kcal/mol): PK_start=1299 sp=0 s1=3 s2=9 l1=2 l2=9 L3=0 PK_end=1333
(fs_start=1290)

GA
ACTGAAAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTCTT
AGGCCAGGAAA
AACAAGGGA

PK4: -29.445000(kcal/mol): PK_start=1304 sp=6 s1=9 s2=4 l1=8 l2=5 L3=0 PK_end=1342
(fs_start=1290)

TCCAACAA
AAGACAGGCTAATTTTTTAGGGAGATTCTGGCCT
AGGACCGGA AGGG
TCCCCA
AATTT

=====
(3140) JN248352

=====
PK1: -10.440000(kcal/mol): PK_start=1259 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1297
(fs_start=1290)

A
TTGGAAATGTGGGAAGGAAGGACATCAA
GTT AGAAAGT
TTTTTTAGG
CACTGAGAGACAGGCTAA

PK2: -21.940000(kcal/mol): PK_start=1275 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1312
(fs_start=1290)

C
GAAGGACATCAAATGAAAGATTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAGATT

PK3: -23.755000(kcal/mol): PK_start=1299 sp=0 s1=3 s2=9 l1=2 l2=9 L3=0 PK_end=1333
(fs_start=1290)

GA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTTT
AGGCCAAGAAA
AACAAGGGA

PK4: -25.885000(kcal/mol): PK_start=1304 sp=6 s1=9 s2=5 l1=7 l2=4 l3=0 PK_end=1342
(fs_start=1290)

TCCAACA
GAGACAGGCTAATTTTTTAGGGAGATTTTGGCCT
AGAACCGGA AGGGA
TTCCTCA
AATT

=====
(3141) JN248354
=====

PK1: -10.640000(kcal/mol): PK_start=1262 sp=0 s1=3 s2=7 l1=1 l2=18 l3=0 PK_end=1300
(fs_start=1293)

A
TTGGAAATGTGGAAAAGAAGGACACCAA
GTT AGAAAGT
TTTTTTAGG
CACTGAGAGACAGGCTAA

PK2: -19.080000(kcal/mol): PK_start=1278 sp=0 s1=8 s2=5 l1=2 l2=8 l3=1 PK_end=1313
(fs_start=1293)

CA
GAAGGACACCAAATGAAAGATTGCACTGAGAGA
GATTTTTT A ATCGG
TGGCCCT
GGAAAATC

PK3: -24.730000(kcal/mol): PK_start=1301 sp=0 s1=4 s2=7 l1=3 l2=9 l3=1 PK_end=1334
(fs_start=1293)

AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT C CCGGTCT
GGCCAGGGA
ACAAGGGAA

PK4: -23.190000(kcal/mol): PK_start=1308 sp=7 s1=7 s2=6 l1=8 l2=4 l3=0 PK_end=1345
(fs_start=1293)

CTCCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCC
GGACCGG AAGGGA
TTTCTTCA
GAAT

=====
(3142) JN248355
=====

PK1: -15.140000(kcal/mol): PK_start=1270 sp=0 s1=3 s2=8 l1=2 l2=5 l3=0 PK_end=1298
(fs_start=1290)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAAAGTC

TTTTTTAGGG

GCTRA

PK2: -19.500000(kcal/mol): PK_start=1275 sp=0 s1=8 s2=5 l1=1 l2=9 L3=2 PK_end=1310
(fs_start=1290)

C

GAAGGACATCAAATGAAAGACTGCACTGAAAGA

GATTTTTT AR TCGGA

GGCCTTC

GGAAAATTT

PK3: -20.285000(kcal/mol): PK_start=1299 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1332
(fs_start=1290)

AAA

ACTGAAAGACAGGCTRATTTTTTTAGGGA

CCT TCCGGTTT

AGGCCAGGGA

AACAAGGGA

PK4: -22.915000(kcal/mol): PK_start=1305 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1342
(fs_start=1290)

TCCAACA

AGACAGGCTRATTTTTTTAGGGAAAATTTGGCCT

GGACCGGA AGGGA

TTCCTCA

GAATT

=====
(3143) JN248357
=====

PK1: -13.555000(kcal/mol): PK_start=1273 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1301
(fs_start=1293)

A

GAAAGGAAGGACATCAAATCAAAGATTGT

GACA GAGAGTC

TTTTTAGGA

GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1278 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1314
(fs_start=1293)

C

GAAGGACATCAAATCAAAGATTGTTACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GAAAGCTC

PK3: -17.340000(kcal/mol): PK_start=1304 sp=0 s1=3 s2=6 l1=1 l2=13 L3=0 PK_end=1335
(fs_start=1293)

C

TGAGAGACAGGCTAATTTTTTTAGGAAAG

TTC CGGTCT


```

                                GCCAGGGA
                                CCCACAAGGGGAG

PK4:  -32.705000(kcal/mol): PK_start=1307 sp=6 s1=9 s2=4 l1=8 l2=31 L3=0 PK_end=1371
(fs_start=1293)
                                TCCCACAA
GAGACAGGCTAATTTTTTTAGGAAAGCTCTGGCCT
                                GGGACCGGA    GGGG
                                CCCCAC
                                AATTTTCTTCAGAGCAGGCCAGAGCCAACAG

=====
(3144) JN248580
=====
PK1:  -15.585000(kcal/mol): PK_start=1256 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1284
(fs_start=1276)
                                A
GGAAGGAAGGACACCAAATGAAAGACTGT
                                GACA    GAGAGTC
                                TTTTATAGGG
                                GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1261 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1297
(fs_start=1276)
                                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
                                GATTTTTT    A    ATCGGA
                                TGGCCTTC
                                GGAAAATC

PK3:  -23.815000(kcal/mol): PK_start=1285 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1318
(fs_start=1276)
                                AAA
ACTGAGAGACAGGCTAATTTTTTTAGGGA
                                CCT    TCCGGTCT
                                AGGCCAGGAA
                                AGCAAGGGG

PK4:  -25.745000(kcal/mol): PK_start=1291 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1328
(fs_start=1276)
                                CCAGCA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTT
                                GGACCGGAG    GGGA
                                TCCTCA
                                AAATTT

PK4B:  -30.395000(kcal/mol): PK_start=1291 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1354
(fs_start=1276)
                                TCCAGCAA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT
                                GGACCGGA    GGGG

```

CCCCGC
AAATTTTCCTCAAAGCAGACCAGAACCAACAG

=====
(3145) JN248584
=====

PK1: -9.130000(kcal/mol): PK_start=1280 sp=0 s1=3 s2=5 l1=5 l2=6 L3=0 PK_end=1306
(fs_start=1300)

CCCAG
GACAGGAAGGACATCAAATGAGAGACTG
GAC AGAGG
TTTTTAG
GCTAAT

PK2: -16.390000(kcal/mol): PK_start=1289 sp=0 s1=4 s2=7 l1=1 l2=9 L3=2 PK_end=1320
(fs_start=1300)

C
GACATCAAATGAGAGACTGCCAGGGAGA
TTTT TT AATCGGA
TTGGCCTTC
AGGGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1308 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1342
(fs_start=1300)

AAA
CCCAGGGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGAA
ACAAGGGG

PK4: -24.120000(kcal/mol): PK_start=1315 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=1353
(fs_start=1300)

TTCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCC
GGACCGG AGGGG
TCTCCAG
AAATTT

=====
(3146) JN248585
=====

PK1: -15.625000(kcal/mol): PK_start=1259 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1287
(fs_start=1279)

A
GGAAGGAAGGACATCAGATGAAAGACTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -21.980000(kcal/mol): PK_start=1264 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1301
(fs_start=1279)

C
GAAGGACATCAGATGAAAGACTGTACTGAAAGA

```

          GATTTTTT   AATCGGA
                    TTGGCCTTC
          GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1288 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1321
(fs_start=1279)
          AAA
ACTGAAAGACAGGCTAATTTTTTTAGGGA
          CCT   TCCGGTTT
                    AGGCCAGGAA
          AACAAGGGA

PK4:  -22.915000(kcal/mol): PK_start=1294 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1331
(fs_start=1279)
                    TCCAACA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
          GGACCGGA   AGGGA
                    TTCCTCA
          AAATT

=====
(3147) JN248586
=====
PK1:  -11.420000(kcal/mol): PK_start=1265 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=1291
(fs_start=1285)
          CACA
GAAAGGAGGGACATCAAATGAAAGACTG
          GAC   AGAGAG
                    TTTTTTAG
          GCTAA

PK2:  -18.660000(kcal/mol): PK_start=1272 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1307
(fs_start=1285)
          C
GGGACATCAAATGAAAGACTGCACAGAGAGA
          TTTTTT   AATCGGA
                    TTGGCCTTC
          AGGGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1294 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1327
(fs_start=1285)
          AAA
ACAGAGAGACAGGCTAATTTTTTTAGGGA
          CCT   TCCGGTTT
                    AGGCCAGGGA
          AACAAGGGG

PK4:  -22.705000(kcal/mol): PK_start=1300 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1337
(fs_start=1285)
                    CAAC
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTTC

```

GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1300 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1363
(fs_start=1285)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG
CCCCAC
GAATTTTCTTCAGAACAGGCCAGAGCCATCAG

=====
(3148) JN248587
=====

PK1: -15.585000(kcal/mol): PK_start=1256 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1284
(fs_start=1276)

A
GGAAGGAAGGACACCAAATGAAAGACTGT

GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -21.940000(kcal/mol): PK_start=1261 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1298
(fs_start=1276)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA

GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1285 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1318
(fs_start=1276)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT
AGGCCAGGAA
AGCAAGGGG

PK4: -27.000000(kcal/mol): PK_start=1291 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=1329
(fs_start=1276)

TTCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCC

GGACCGG AGGGG
TCCCCAG
AAATTT

PK4B: -24.080000(kcal/mol): PK_start=1292 sp=8 s1=6 s2=4 l1=9 l2=33 L3=1 PK_end=1353
(fs_start=1276)

TTCCAGCAA
GACAGGCTAATTTTTTAGGGAAAATTTGGCC

```

GACCGG A GGG
          CCCCAC
GAAATTTTCCCAGAGCAGACCGGAACCAACAG

=====
(3149) JN248589
=====
PK1: -15.585000(kcal/mol): PK_start=1256 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1284
(fs_start=1276)
          A
GGAGGGAAGGACACCAAATGAAAGACTGT
          GACA GAGAGTC
          TTTTATAGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1261 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1297
(fs_start=1276)
          C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
          GATTTTTT A ATCGGA
          TGGCCTTC
GGAAAATC

PK3: -23.815000(kcal/mol): PK_start=1285 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1318
(fs_start=1276)
          AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
          CCT TCCGGTCT
          AGGCCAGGAA
AGCAAGGGG

PK4: -27.650000(kcal/mol): PK_start=1291 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=1329
(fs_start=1276)
          TTCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCC
          GGACCGG AGGGG
          TCCTCAG
AAATTT

PK4B: -22.830000(kcal/mol): PK_start=1292 sp=8 s1=6 s2=4 l1=9 l2=33 L3=1 PK_end=1353
(fs_start=1276)
          TTCCAGCAA
GACAGGCTAATTTTTTAGGGAAAATCTGGCC
          GACCGG A GGG
          CTCCAC
GAAATTTTCTCAGAGCAGACCGGAACCAACAG

=====
(3150) JN248590
=====

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PK1: -15.585000(kcal/mol): PK_start=1268 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1296
(fs_start=1288)

A
GGAAGGAAGGACACCAAATGAAGGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -21.940000(kcal/mol): PK_start=1273 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1310
(fs_start=1288)

C
GAAGGACACCAAATGAAGGACTGTACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1297 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1330
(fs_start=1288)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AGCAAAGGG

PK4: -21.815000(kcal/mol): PK_start=1303 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1340
(fs_start=1288)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGG
TCCTCA
AAATTT

=====
(3151) JN248591
=====

PK1: -11.420000(kcal/mol): PK_start=1274 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=1300
(fs_start=1294)

CACA
GAAGAGAGGGACATCAAATGAAAGACTG
GAC AGAGAG
TTTTTTAG
GCTAA

PK2: -18.660000(kcal/mol): PK_start=1281 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1316
(fs_start=1294)

C
GGGACATCAAATGAAAGACTGCACAGAGAGA
TTTTTT AATCGGA
TTGGCCTTC
AGGGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1303 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1336
(fs_start=1294)

AAA
ACAGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGAA
AACAAGGGG

PK4: -20.985000(kcal/mol): PK_start=1309 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1346
(fs_start=1294)

CAAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTC
GGGCCGGAGG GGAA
TCTTCA
AAATTT

PK4B: -25.145000(kcal/mol): PK_start=1309 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1372
(fs_start=1294)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA GGGG
CCCCAC
AAATTTTCTTCAAAACAGACTAGAGCCAACAG

=====
(3152) JN248592
=====

PK1: -15.100000(kcal/mol): PK_start=1256 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1284
(fs_start=1276)

CA
GGAAGGAAGGACACCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1261 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1298
(fs_start=1276)

C
GAAGGACACCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1285 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1318
(fs_start=1276)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AGCAAGGGG

PK4: -22.215000(kcal/mol): PK_start=1291 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1328
(fs_start=1276)

CCAGCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGAG GGGA
TCCTCA
AAATTT

PK4B: -26.865000(kcal/mol): PK_start=1291 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1354
(fs_start=1276)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGA GGGG
CCCCAC
AAATTTTCCTCAGAACAGACTGGAACCAACAG

=====
(3153) JN248593
=====

PK1: -11.460000(kcal/mol): PK_start=1259 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=1285
(fs_start=1279)

CACA
GAAGGGAGGGACATCAAATGAAAGACTG
GAC AGAAAG
TTTTTTAG
GCTAA

PK2: -18.700000(kcal/mol): PK_start=1266 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1301
(fs_start=1279)

C
GGGACATCAAATGAAAGACTGCACAGAAAGA
TTTTTT AATCGGA
TTGGCCTCC
AGGGAAAAT

PK3: -24.910000(kcal/mol): PK_start=1287 sp=0 s1=3 s2=9 l1=4 l2=7 L3=0 PK_end=1321
(fs_start=1279)

AAAA
CACAGAAAGACAGGCTAATTTTTTAGGG
CCC CTCCGGTTT
GAGGCCAGGGA
ACAGTGG

PK4: -27.055000(kcal/mol): PK_start=1294 sp=7 s1=8 s2=5 l1=7 l2=33 L3=0 PK_end=1359
(fs_start=1279)

CCCCACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGA GGGTG
CCCACCA
GAATTTTCCTCAGAAGAGGCTAGAGCCAACAGC

=====
(3154) JN251896
=====

PK1: -13.065000(kcal/mol): PK_start=1254 sp=0 s1=3 s2=8 l1=5 l2=16 L3=0 PK_end=1296
(fs_start=1289)

 CCAAA
GCTGTTGGAAATGTGGAAAGGAAGGACA

 TGT TAGAAAGT

 ATTTTTTAGG
 ATCGAGAGACAGGCTA

PK2: -17.180000(kcal/mol): PK_start=1276 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=1310
(fs_start=1289)

 C
AGGACACCAAATGAAAGATTGTATCGAGAGA

 TTTTTT A ATCGGA

 TGGCCTC
 AGGGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1297 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1331
(fs_start=1289)

 A
TATCGAGAGACAGGCTAATTTTTTAGGGAAG

 TCCTTC CGGTCT

 GCCAGGGA
 CCAAGGGAAG

PK4: -24.995000(kcal/mol): PK_start=1304 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1341
(fs_start=1289)

 TCCTCCAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT

 GGACCGGA AGGG

 TCTCCA
 GAATTT

PK4B: -26.530000(kcal/mol): PK_start=1304 sp=7 s1=8 s2=4 l1=1 l2=40 L3=7 PK_end=1368
(fs_start=1289)

 T
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT

 GGACCGGA AGGGAAC CTCC

 GAGGAG
 GAATTTTCTCCAGAGCAGACCAGAGCCAACAGCCCCACCA

=====
(3155) JN251897
=====

PK1: -13.595000(kcal/mol): PK_start=1266 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1294
(fs_start=1286)

 A
GAAGGGAAGGACACCAAATGAAAGATTGT

 GACA GAAAGTC

TTTTTAGGG

GCTAAT

PK2: -21.980000(kcal/mol): PK_start=1271 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1308
(fs_start=1286)

C

GAAGGACACCAAATGAAAGATTGTACTGAAAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1295 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1328
(fs_start=1286)

AAA

ACTGAAAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT

AGGCCGGGAA

AACAAGGGR

PK4: -20.390000(kcal/mol): PK_start=1301 sp=7 s1=8 s2=5 l1=6 l2=5 L3=1 PK_end=1337
(fs_start=1286)

TCCAAC

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGGCCGGA R GGGAA

TCCTTCA

AAATT

=====
(3156) JN251898
=====

PK1: -15.140000(kcal/mol): PK_start=1266 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1294
(fs_start=1286)

CA

GAAAAGAAGGACACCAAATGAAAGACTG

GAC AGAAAGTC

TTTTTTTAGGG

GCTAA

PK2: -21.980000(kcal/mol): PK_start=1271 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1308
(fs_start=1286)

C

GAAGGACACCAAATGAAAGACTGCACTGAAAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1294 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1328
(fs_start=1286)

AAA

CACTGAAAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT

```

                                AGGCCAGGAA
                ACAAGGGG
PK4:  -25.010000(kcal/mol): PK_start=1301 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1338
(fs_start=1286)
                                CCAC
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTTC
                GGACCGGAGG    GGAA
                                CCTTCA
                AAATTT
PK4B:  -26.865000(kcal/mol): PK_start=1301 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1364
(fs_start=1286)
                                TCCCACAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
                GGACCGGA    GGGG
                                CCCCCG
                AAATTTCTTCAGAACAGGCCAGAGCCAACAG
=====
(3157) JN251899
=====
PK1:  -12.310000(kcal/mol): PK_start=1254 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1282
(fs_start=1274)
                                CA
GAAAAGAAGGACACCAAATGAAAGACTG
                GAC    AGAAAGTT
                                TTTTTTAGGG
                GCTAA
PK2:  -19.950000(kcal/mol): PK_start=1259 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1296
(fs_start=1274)
                                C
GAAGGACACCAAATGAAAGACTGCATTGAAAGA
                GATTTTTT    AATCGGA
                                TTGGCCTTC
                GGAAAAT
PK3:  -18.320000(kcal/mol): PK_start=1283 sp=0 s1=4 s2=4 l1=5 l2=10 L3=0 PK_end=1313
(fs_start=1274)
                                AATTT
ATTGAAAGACAGGCTAATTTTTTTAGGGAA
                CCTT    CCGG
                                GGCCCG
                AACAAAGGGGA
PK4:  -22.820000(kcal/mol): PK_start=1292 sp=10 s1=7 s2=4 l1=4 l2=9 L3=0 PK_end=1326
(fs_start=1274)
                                CAAC
CAGGCTAATTTTTTTAGGGAAAATTTGGCCTTC
                CCGGAGG    GGAA

```

CCTTCA

CGGAAATTT

PK4B: -24.675000(kcal/mol): PK_start=1292 sp=10 s1=5 s2=4 l1=8 l2=35 L3=0
 PK_end=1352 (fs_start=1274)

TCCAACAA

CAGGCTAATTTTTTAGGGAAAATTTGGCCT

CCGGA GGGG

CCCCAC

CGGAAATTTCCCTTCAGAGCAGGCCAGAGCCATCAG

=====

(3158) JN251900

=====

PK1: -15.140000(kcal/mol): PK_start=1266 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1294
 (fs_start=1286)

CA

GAAGAGAAGGACACCAAATGAAAGACTG

GAC AGAAAGTC

TTTTTTAGGG

GCTAA

PK2: -21.980000(kcal/mol): PK_start=1271 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1308
 (fs_start=1286)

C

GAAGGACACCAAATGAAAGACTGCACTGAAAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -21.780000(kcal/mol): PK_start=1294 sp=0 s1=5 s2=4 l1=5 l2=9 L3=0 PK_end=1325
 (fs_start=1286)

AATTT

CACTGAAAGACAGGCTAATTTTTTAGGGAA

CCCTT CCGG

GGCCCG

ACAAGGGGA

PK4: -22.820000(kcal/mol): PK_start=1304 sp=10 s1=7 s2=4 l1=4 l2=9 L3=0 PK_end=1338
 (fs_start=1286)

CCAC

CAGGCTAATTTTTTAGGGAAAATTTGGCCTTC

CCGGAGG GGAA

CCTTCA

CGGGAATTT

PK4B: -24.675000(kcal/mol): PK_start=1304 sp=10 s1=5 s2=4 l1=8 l2=35 L3=0
 PK_end=1364 (fs_start=1286)

TCCCACAA

CAGGCTAATTTTTTAGGGAAAATTTGGCCT

CCGGA GGGG

CCCCAC
CGGGAATTTTCCTTCAGAACAGGCCAGAGCCAACAG

=====
(3159) JN251901
=====

PK1: -13.595000(kcal/mol): PK_start=1266 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1294
(fs_start=1286)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1271 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1307
(fs_start=1286)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1294 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1328
(fs_start=1286)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
AGAAAGGA

PK4: -24.115000(kcal/mol): PK_start=1301 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1338
(fs_start=1286)

TCCCAGA
AGACAGGCTAATTTTTTAGGAAAATCTGGCCT
GGACCGGA AGGAA
TTCTTCA
GAATT

=====
(3160) JN251902
=====

PK1: -15.140000(kcal/mol): PK_start=1254 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1282
(fs_start=1274)

CA
GAAGAGAAGGACACCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -21.980000(kcal/mol): PK_start=1259 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1296
(fs_start=1274)

C
GAAGGACACCAAATGAAAGACTGCACTGAAAGA

```

          GATTTTTT   AATCGGA
                    TTGGCCTTC
          GGAAAAT

PK3:  -23.745000(kcal/mol): PK_start=1282 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1316
(fs_start=1274)
                    AAA
CACTGAAAGACAGGCTAATTTTTTAGGGA
                    CCCT   TCCGGTTT
                    AGGCCAGGGA
          ACAAGGGG

PK4:  -26.865000(kcal/mol): PK_start=1289 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1352
(fs_start=1274)
                    TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                    GGACCGGA   GGGG
                    CCCCCG
          GAATTTTCATTCAGAGCAGGCCAGAGCCGACAG

=====
(3161) JN251903
=====
PK1:  -13.130000(kcal/mol): PK_start=1254 sp=0 s1=3 s2=7 l1=2 l2=6 L3=1 PK_end=1281
(fs_start=1274)
                    TA
GAAGGGAAGGACACCAAATGAAAGACTG
                    GAC   C   AAAAGTC
                    TTTTTAGGG
          AATAAT

PK2:  -8.260000(kcal/mol): PK_start=1261 sp=0 s1=5 s2=4 l1=3 l2=8 L3=2 PK_end=1289
(fs_start=1274)
                    CCA
AGGACACCAAATGAAAGACTGTACTGAAAA
                    TTTTT   AA   TAAG
                    ATTTGG
          TAGGGAAA

PK3:  -21.780000(kcal/mol): PK_start=1282 sp=0 s1=5 s2=4 l1=5 l2=9 L3=0 PK_end=1313
(fs_start=1274)
                    AATTT
TACTGAAAACCAGAATAATTTTTTAGGGAA
                    CCCTT   CCGG
                    GGCCCC
          ACAAGGGGA

PK4:  -22.820000(kcal/mol): PK_start=1292 sp=10 s1=7 s2=4 l1=4 l2=9 L3=0 PK_end=1326
(fs_start=1274)
                    CCAC
CAGAATAATTTTTTAGGGAAAATTTGGCCTTC

```

CCGGAGG GGAA
CCTTCA
CGGAAATTT
PK4B: -24.675000(kcal/mol): PK_start=1292 sp=10 s1=5 s2=4 l1=8 l2=35 L3=0
PK_end=1352 (fs_start=1274)

TCCCACAA
CAGAATAATTTTTTAGGGAAAATTTGGCCT
CCGGA GGGG
CCCCAC
CGGAAATTTCTTCAGAACAGGACAGAGCCAACAG

=====
(3162) JN251905
=====

PK1: -15.140000(kcal/mol): PK_start=1254 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1282
(fs_start=1274)

CA
GAAAAGAAGGACACCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTTAGGG
GCTAA

PK2: -21.980000(kcal/mol): PK_start=1259 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1296
(fs_start=1274)

C
GAAGGACACCAAATGAAAGACTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAGAT

PK3: -18.720000(kcal/mol): PK_start=1283 sp=0 s1=4 s2=4 l1=5 l2=10 L3=0 PK_end=1313
(fs_start=1274)

GATTT
ACTGAAAGACAGGCTAATTTTTTAGGGAA
CCTT CCGG
GGCCTG
GACAAGGGAA

PK4: -23.300000(kcal/mol): PK_start=1292 sp=10 s1=7 s2=4 l1=4 l2=9 L3=0 PK_end=1326
(fs_start=1274)

CGAC
CAGGCTAATTTTTTAGGGAAAGATTTGGCCTTC
CCGGAAG GGAA
CCTTCA
TGGAATTT

=====
(3163) JN251906
=====

PK1: -13.005000(kcal/mol): PK_start=1269 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=1296
(fs_start=1289)

AA
GAAAGGAAGGCCACCAAATGAAAGACTGT
GACA GAGAGT
TTTTTAGG
GCTAAT

PK2: -19.660000(kcal/mol): PK_start=1275 sp=0 s1=7 s2=7 l1=1 l2=8 L3=0 PK_end=1311
(fs_start=1289)

C
AAGGCCACCAAATGAAAGACTGTAATGAGAGA
ATTTTTT AATCGGA
TTGGCCTTC
GGGAAGAT

PK3: -22.580000(kcal/mol): PK_start=1297 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1331
(fs_start=1289)

A
TAATGAGAGACAGGCTAATTTTTTTAGGGAAG
CCCTTC CGGTTT
GCCAGGGA
ACGGGGGGAG

PK4: -23.510000(kcal/mol): PK_start=1304 sp=7 s1=10 s2=4 l1=4 l2=7 L3=0 PK_end=1342
(fs_start=1289)

CCAC
AGACAGGCTAATTTTTTTAGGGAAGATTGGCCTTC
GGACCGGAGG GGGG
CTTCAG
GAACTTT

PK4B: -30.120000(kcal/mol): PK_start=1304 sp=7 s1=10 s2=4 l1=4 l2=32 L3=0
PK_end=1367 (fs_start=1289)

CCAC
AGACAGGCTAATTTTTTTAGGGAAGATTGGCCTTC
GGACCGGAGG GGGG
CCCCAC
GAACTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(3164) JN397362
=====

PK1: -10.640000(kcal/mol): PK_start=1976 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=2014
(fs_start=2007)

A
TTGGAAATGTGAAAAGAAGGACACCAA
GTT AGAAAGT
TTTTTTAGG
CACTGAGAGACAGGCTAA

PK2: -20.460000(kcal/mol): PK_start=1992 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2028
(fs_start=2007)

C
GAAGGACACCAAATGAAAGATTGCACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=2015 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2049
(fs_start=2007)

AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGAA
ACAAGGGG

PK4: -28.540000(kcal/mol): PK_start=2022 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2059
(fs_start=2007)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
AAACTT

=====
(3165) JN397363
=====

PK1: -10.640000(kcal/mol): PK_start=1920 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1958
(fs_start=1951)

A
TTGGAAATGTGGAAAAGAAGGACACCAA
GTT AGAAAGT
TTTTTTAGG
CACTGAGAGACAGGCTAA

PK2: -20.460000(kcal/mol): PK_start=1936 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1972
(fs_start=1951)

C
GAAGGACACCAAATGAAAGATTGCACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1959 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1993
(fs_start=1951)

AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGAA
ACAAGGGG

PK4: -28.540000(kcal/mol): PK_start=1966 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2003
(fs_start=1951)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
AAACTT

=====
(3166) JN397364
=====

PK1: -13.555000(kcal/mol): PK_start=1937 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1965
(fs_start=1957)

A
GACAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1942 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1978
(fs_start=1957)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.440000(kcal/mol): PK_start=1965 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1999
(fs_start=1957)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCGGGAA
ACAAGGGGAG

PK4: -27.870000(kcal/mol): PK_start=1972 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2009
(fs_start=1957)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGGCCGGAGG GGAA
CCTTCA
AAATTT

PK4B: -29.725000(kcal/mol): PK_start=1972 sp=7 s1=8 s2=4 l1=8 l2=39 L3=0 PK_end=2042
(fs_start=1957)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGGCCGGA GGGG
CCCCAC
AAATTTCTTCAGAGCAGCAGAGCGACCACAGCCAACAG

=====
(3167) JN417236
=====

PK1: -10.640000(kcal/mol): PK_start=1428 sp=0 s1=3 s2=7 l1=1 l2=21 l3=0 PK_end=1469
(fs_start=1462)

A

TTGGAAGTGTGGGAAGGAGGGACACCAA

GTT AGAAAGT

TTTTTTAGG
CACTACTGAAAGACAGGCTAA

PK2: -21.980000(kcal/mol): PK_start=1447 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1484
(fs_start=1462)

C

GGACACCAAATGAAAGATTGCACTACTGAAAGA

GATTTTTT AATCGGA

GGAAAAAT
TTGGCCTTC

PK3: -23.745000(kcal/mol): PK_start=1470 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=1504
(fs_start=1462)

AAA

TACTGAAAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT

ACAAAGGA
AGGCCAGGGA

PK4: -22.465000(kcal/mol): PK_start=1477 sp=7 s1=8 s2=4 l1=8 l2=5 l3=0 PK_end=1513
(fs_start=1462)

TCCCACAA

AGACAGGCTAATTTTTTAGGAAAATTTGGCCT

GGACCGGA AGGA

GAATT
TCCTCC

=====
(3168) JN417237
=====

PK1: -10.640000(kcal/mol): PK_start=1292 sp=0 s1=3 s2=7 l1=1 l2=21 l3=0 PK_end=1333
(fs_start=1326)

A

TTGGAAGTGCGGGAAGGAGGGACACCAA

GTT AGAAAGT

TTTTTTAGG
CACTTCTGGAAGACAGGCTAA

PK2: -21.140000(kcal/mol): PK_start=1309 sp=0 s1=10 s2=7 l1=1 l2=5 l3=0 PK_end=1348
(fs_start=1326)

C

AGGGACACCAAATGAAAGATTGCACTTCTGGAAGA

GGGATTTTTT AATCGGA

TTGGCCTTC

AAAAT

PK3: -23.745000(kcal/mol): PK_start=1334 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1368
(fs_start=1326)

AAA

TTCTGGAAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT

AGGCCAGGGA

ACAAAGGA

PK4: -22.465000(kcal/mol): PK_start=1341 sp=7 s1=8 s2=4 l1=8 l2=5 L3=0 PK_end=1377
(fs_start=1326)

TCCCACAA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA AGGA

TCCTCC

GAATT

=====
(3169) JN417239
=====

PK1: -10.640000(kcal/mol): PK_start=1451 sp=0 s1=3 s2=7 l1=1 l2=21 L3=0 PK_end=1492
(fs_start=1485)

A

TTGGAAGTGTGGGAAGGAGGGACACCAA

GTT AGAAAGT

TTTTTTTAGG

CACTAATGAAAGACAGGCTAA

PK2: -18.220000(kcal/mol): PK_start=1471 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1506
(fs_start=1485)

C

GACACCAAATGAAAGATTGCACTAATGAAAGA

ATTTTTT A ATCGGA

TGGCCTTC

GGGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1493 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1527
(fs_start=1485)

AAA

TAATGAAAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT

AGGCCAGGGA

ACAAAGGG

PK4: -25.345000(kcal/mol): PK_start=1500 sp=7 s1=8 s2=4 l1=8 l2=5 L3=0 PK_end=1536
(fs_start=1485)

TCCCACAA

AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT

GGACCGGA GGGA

TCCTCC

GAATT

=====
(3170) JN417240
=====

PK1: -10.640000(kcal/mol): PK_start=1461 sp=0 s1=3 s2=7 l1=1 l2=21 L3=0 PK_end=1502
(fs_start=1495)

A

TTGGAAGTGC GGAAAGGAGGGACACCAA

GTT AGAAAGT

TTTTTTTAGG

CACTAATGAAAGACAGGCTAA

PK2: -19.700000(kcal/mol): PK_start=1481 sp=0 s1=7 s2=7 l1=1 l2=8 L3=0 PK_end=1517
(fs_start=1495)

C

GACACCAAATGAAAGATTGCACTAATGAAAGA

ATTTTTT AATCGGA

TTGGCCTTC

GGGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1503 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1537
(fs_start=1495)

AAA

TAATGAAAGACAGGCTAATTTTTTTAGGGA

CCCT TCCGGTTT

AGGCCAGGGA

ACAAAGGA

PK4: -22.465000(kcal/mol): PK_start=1510 sp=7 s1=8 s2=4 l1=8 l2=5 L3=0 PK_end=1546
(fs_start=1495)

TCCCACAA

AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT

GGACCGGA AGGA

TCCTCC

GAATT

=====
(3171) JN417241
=====

PK1: -12.640000(kcal/mol): PK_start=1422 sp=0 s1=3 s2=7 l1=4 l2=18 L3=0 PK_end=1463
(fs_start=1456)

CAGA

CTGTTGAAATGTGGAAAGGAGGGACAC

GTG AGAAAGT

TTTTTTTAGG

CTCTGAAAGACAGGCTAA

PK2: -25.320000(kcal/mol): PK_start=1439 sp=0 s1=10 s2=7 l1=1 l2=5 L3=0 PK_end=1478
(fs_start=1456)

C

AGGAGGGACACCAGATGAAAGAGTGCTCTGAAAGA

GGGATTTTTT AATCGGA
TTGGCCTTC
AAAAT
PK3: -23.745000(kcal/mol): PK_start=1464 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1498
(fs_start=1456)

AAA
CTCTGAAAGACAGGCTAATTTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -23.985000(kcal/mol): PK_start=1471 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1509
(fs_start=1456)

TCCCACAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CTCCAG
GAATTTTC

PK4B: -26.865000(kcal/mol): PK_start=1471 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1534
(fs_start=1456)

TCCCACAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCTCCAGAGCAGACCAGCCAACAG

=====
(3172) JN572926
=====

PK1: -10.440000(kcal/mol): PK_start=1427 sp=0 s1=3 s2=7 l1=1 l2=24 L3=0 PK_end=1471
(fs_start=1464)

A
TTGGAAGTGTGGGCAAGAAGGACATCAA
GTT AGAAAGT
TTTTTTTAGG
CAAAAGTGAAGGAAGACAGGCTAA

PK2: -14.080000(kcal/mol): PK_start=1447 sp=0 s1=7 s2=6 l1=4 l2=9 L3=1 PK_end=1485
(fs_start=1464)

AGAC
GACATCAAATGAAAGATTGCAAAAGTGAAGGA
ATTTTTT A ATCGGA
TGGTCTCC
GGAAGGGGC

PK3: -23.495000(kcal/mol): PK_start=1475 sp=0 s1=5 s2=6 l1=1 l2=7 L3=0 PK_end=1504
(fs_start=1464)

C
AGGAAGACAGGCTAATTTTTTTAGGAAGGGG

TTCCC TCTGGT
AGACCAGG
CAAAGGG

PK4: -25.620000(kcal/mol): PK_start=1475 sp=3 s1=4 s2=8 l1=1 l2=6 L3=0 PK_end=1505
(fs_start=1464)

G
AGGAAGACAGGCTAATTTTTTAGGAAGGG

TTCC CTCTGGTC
GAGACCAGGA
CAAAGG

=====
(3173) JN631793
=====

PK1: -15.100000(kcal/mol): PK_start=1493 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1521
(fs_start=1513)

CA
GGCAGGAAGGACATCAAATGAAAGACTG

GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1498 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1535
(fs_start=1513)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA

GATTTTTT AATCGGA
TTGGCCTTC
GGAAACT

PK3: -20.285000(kcal/mol): PK_start=1522 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1555
(fs_start=1513)

AAC
ACTGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT
AGGCCAGGAA
AACAAAGGGA

PK4: -22.915000(kcal/mol): PK_start=1528 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1565
(fs_start=1513)

TCCAACA
AGACAGGCTAATTTTTTAGGGAAACTTTGGCCT

GGACCGGA AGGGA
TTCCTCA
AAATT

=====
(3174) JN692431
=====

PK1: -13.555000(kcal/mol): PK_start=1516 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1544
(fs_start=1536)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -17.820000(kcal/mol): PK_start=1521 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1557
(fs_start=1536)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGTCTTC
GGAAAATC

PK3: -24.635000(kcal/mol): PK_start=1544 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1578
(fs_start=1536)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCTGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -24.075000(kcal/mol): PK_start=1551 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1588
(fs_start=1536)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGTCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(3175) JN692433
=====

PK1: -10.765000(kcal/mol): PK_start=1521 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1549
(fs_start=1541)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTT
TTTTTAGGG
GCTAAT

PK2: -18.470000(kcal/mol): PK_start=1526 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1562
(fs_start=1541)

C
GAAGGACACCAAATGAAAGATTGTATTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1549 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1583 (fs_start=1541)

A
TATTGAAAGACAGGCTAATTTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACGGGGGGAG

PK4: -27.040000(kcal/mol): PK_start=1556 sp=7 s1=10 s2=4 l1=4 l2=7 l3=0 PK_end=1594 (fs_start=1541)

CCAC
AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAGG GGGG
CTTCAG
GAACTTT

PK4B: -33.650000(kcal/mol): PK_start=1556 sp=7 s1=10 s2=4 l1=4 l2=32 l3=0 PK_end=1619 (fs_start=1541)

CCAC
AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAGG GGGG
CCCCAC
GAACTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(3176) JN692434
=====

PK1: -15.585000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1540 (fs_start=1532)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -21.940000(kcal/mol): PK_start=1517 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1554 (fs_start=1532)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1540 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=1574 (fs_start=1532)

AAA
TACTGAGAGACAGGCTAATTTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGAA
ACAAGGGG

PK4: -23.985000(kcal/mol): PK_start=1547 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1585
(fs_start=1532)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CTCCAG
AAATTTTC

PK4B: -26.865000(kcal/mol): PK_start=1547 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1610
(fs_start=1532)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTTCCTCCAGAGCAGACCGGAGCCAACAG

=====
(3177) JN692435
=====

PK1: -12.640000(kcal/mol): PK_start=1506 sp=0 s1=3 s2=7 l1=4 l2=18 L3=0 PK_end=1547
(fs_start=1540)

CAAA
CTGCTGGAAATGTGGAAAGGAAGGACAC
GTG AGAAAGT
TTTTTTTAGG
CACTGAAAGACAGGCTAA

PK2: -20.500000(kcal/mol): PK_start=1525 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1561
(fs_start=1540)

C
GAAGGACACCAAATGAAAGAGTGCCTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1548 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1582
(fs_start=1540)

A
CACTGAAAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGAA
ACAAGGGGAG

PK4: -28.540000(kcal/mol): PK_start=1555 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1592
(fs_start=1540)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
AAACTT

PK4B: -30.395000(kcal/mol): PK_start=1555 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1618
(fs_start=1540)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CCCCAC
AAACTTCCTTCAGAACAGACCAGAGCCATCAG

=====
(3178) JN692436
=====

PK1: -13.555000(kcal/mol): PK_start=1520 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1548
(fs_start=1540)

A
GAAAGGAAGGACATCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1525 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1561
(fs_start=1540)

C
GAAGGACATCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1548 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1582
(fs_start=1540)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=1555 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1592
(fs_start=1540)

CCAC
AGACAGGCTAATTTTTTAGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAACTT

PK4B: -30.395000(kcal/mol): PK_start=1555 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1618
(fs_start=1540)

TCCCACAA
AGACAGGCTAATTTTTTAGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCGC
GAACTTTCTTCAGAGCAGACCAGAGCCATCAG

=====
(3179) JN692437
=====

PK1: -10.640000(kcal/mol): PK_start=1456 sp=0 s1=3 s2=7 l1=1 l2=18 l3=0 PK_end=1494
(fs_start=1487)

A
TTGGAAATGTGGAAAAGAAGGACACCAA
GTT AGAAAGT
TTTTTTAGG
CACTGAAAGACAGGCTAA

PK2: -21.980000(kcal/mol): PK_start=1472 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1509
(fs_start=1487)

C
GAAGGACACCAAATGAAAGATTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1495 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=1529
(fs_start=1487)

AAA
CACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGAA
ACAAGGGG

PK4: -22.705000(kcal/mol): PK_start=1502 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1539
(fs_start=1487)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
AAATTT

PK4B: -26.865000(kcal/mol): PK_start=1502 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=1565
(fs_start=1487)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCGC
AAATTTTCTTCAGAACAGGCCAGAGCCTACAG

=====
(3180) JN692439
=====

PK1: -15.585000(kcal/mol): PK_start=1394 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1422
(fs_start=1414)

A
GAAGTGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC

TTTTTAGGG
GCTAAT
PK2: -20.460000(kcal/mol): PK_start=1399 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1435
(fs_start=1414)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1422 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1456
(fs_start=1414)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -28.540000(kcal/mol): PK_start=1429 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1466
(fs_start=1414)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1429 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1492
(fs_start=1414)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(3181) JN692442
=====

PK1: -17.225000(kcal/mol): PK_start=1462 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1490
(fs_start=1482)

A
GAAAGGAAGGACACCAAATGAAAGACTGC
GACG GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.370000(kcal/mol): PK_start=1467 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1504
(fs_start=1482)

C
GAAGGACACCAAATGAAAGACTGCACTGAAAGG
GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAAT

PK3: -23.745000(kcal/mol): PK_start=1490 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1524
(fs_start=1482)

AAA

CACTGAAAGGCAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT

AGGCCAGGAA

ACAAGGGG

PK4: -26.865000(kcal/mol): PK_start=1497 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1535
(fs_start=1482)

TCCCACAA

AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG

CCCCAG

AAATTTTC

PK4B: -26.865000(kcal/mol): PK_start=1497 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1560
(fs_start=1482)

TCCCACAA

AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG

CCCCAC

AAATTTCCCCCAGAGCAGATTAGAGCCAACAG

=====
(3182) JN692443
=====

PK1: -13.555000(kcal/mol): PK_start=1523 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1551
(fs_start=1543)

A

GAAAGGAAGGACACCAAATGAAAGATTGT

GACA GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1528 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1564
(fs_start=1543)

C

GAAGGACACCAAATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAGATC

PK3: -22.650000(kcal/mol): PK_start=1552 sp=0 s1=5 s2=6 l1=1 l2=11 L3=0 PK_end=1585
(fs_start=1543)

A

ACTGAGAGACAGGCTAATTTTTTAGGGAAG

CCTTC CGGTCT

GCCAGGAA

ACCAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1558 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1595
(fs_start=1543)

CACC

AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCTTC

GGACCGGAGG GGAA

TCTTCA

AAACTT

PK4B: -30.395000(kcal/mol): PK_start=1558 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1621
(fs_start=1543)

TCCACCAA

AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCT

GGACCGGA GGGG

CCCCAC

AAACTTTCTTCAGAACAGACCAGAGCCAACAG

=====
(3183) JN692444
=====

PK1: -13.065000(kcal/mol): PK_start=1484 sp=0 s1=3 s2=8 l1=5 l2=16 L3=0 PK_end=1526
(fs_start=1519)

CCAAA

GCTGTTGGAAATGTGGAAGGGAAGGACA

TGT TAGAAAGT

ATTTTTTAGG

ACCGAGAGACAGGCTA

PK2: -17.180000(kcal/mol): PK_start=1506 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=1540
(fs_start=1519)

C

AGGACACCAAATGAAAGATTGTACCGAGAGA

TTTTTT A ATCGGA

TGGCCTTC

AGGGAAAATC

PK3: -26.605000(kcal/mol): PK_start=1527 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1561
(fs_start=1519)

AAA

TACCGAGAGACAGGCTAATTTTTTTAGGGA

CCCT TCCGGTCT

AGGCCGGGAA

ACAAGGGG

PK4: -27.870000(kcal/mol): PK_start=1534 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1571
(fs_start=1519)

CCAC

AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC

GGGCCGGAGG GGAA

CCTTCA

AAATTT

PK4B: -29.725000(kcal/mol): PK_start=1534 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1597
(fs_start=1519)

TCCCACAA

AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT

GGGCCGGA GGGG

CCCCAC

AAATTTTCCTTCAGAGCAGACCAGAGCCAACAG

=====
(3184) JN692445
=====

PK1: -13.555000(kcal/mol): PK_start=1536 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1564
(fs_start=1556)

A

GAAGGGAAGGACACCAAATGAAAGATTGT

GACA GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1541 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1577
(fs_start=1556)

C

GAAGGACACCAAATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1564 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1598
(fs_start=1556)

AAA

TACTGAGAGACAGGCTAATTTTTTTAGGGA

CCCT TCCGGTCT

AGGCCAGGGA

ACAAGGGG

PK4: -27.515000(kcal/mol): PK_start=1571 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1609
(fs_start=1556)

TCCCACAA

AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT

GGACCGGA GGGG

CTCCAG

GAATTTT

PK4B: -30.395000(kcal/mol): PK_start=1571 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1634
(fs_start=1556)

TCCCACAA

AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT

GGACCGGA GGGG

CCCCAC
GAATTTCCCTCCAGAGCAGACCAGAGCCAACAG

=====
(3185) JN692446
=====

PK1: -13.555000(kcal/mol): PK_start=1378 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1406
(fs_start=1398)

A
GAAAGGAAGGACACCAGATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1383 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1419
(fs_start=1398)

C
GAAGGACACCAGATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1406 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1440
(fs_start=1398)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGAA
ACAGGGGG

PK4: -25.885000(kcal/mol): PK_start=1413 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1450
(fs_start=1398)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAG GGG
TCTTCA
AAACTT

PK4B: -31.255000(kcal/mol): PK_start=1413 sp=7 s1=9 s2=4 l1=6 l2=32 L3=0 PK_end=1476
(fs_start=1398)

CCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT
GGACCGGAG GGGG
CCCCAC
AAACTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(3186) JN692447
=====

PK1: -13.595000(kcal/mol): PK_start=1525 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1553
(fs_start=1545)

A
GAAGGGAAGGACACCAAATGAAAGATTGT

```

          GACA      GAAAGTC
                TTTTATAGGG
    GCTAAT
PK2:  -20.50000(kcal/mol): PK_start=1530 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1566
(fs_start=1545)
                C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
                GATTTTTT  A  ATCGGA
                                TGGCCTTC
                GGAAAATC
PK3:  -23.815000(kcal/mol): PK_start=1554 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1587
(fs_start=1545)
                AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
                CCT      TCCGGTCT
                                AGGCCAGGGA
                AACAAGGGG
PK4:  -26.235000(kcal/mol): PK_start=1560 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1597
(fs_start=1545)
                CAAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                GGACCGGAGG      GGAA
                                TCTTCA
                GAATTT
PK4B:  -30.395000(kcal/mol): PK_start=1560 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1623
(fs_start=1545)
                TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                GGACCGGA      GGGG
                                CCCAC
                GAATTTTCTTCAGAACAGAGCAGAGCCAACCG
=====
(3187) JN692448
=====
PK1:  -15.140000(kcal/mol): PK_start=1394 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1422
(fs_start=1414)
                CA
GAAGAGAAGGACATCAAATGAAAGACTG
                GAC      AGAAAGTC
                                TTTTTTATAGGG
                GCTAA
PK2:  -21.980000(kcal/mol): PK_start=1399 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1436
(fs_start=1414)
                C
GAAGGACATCAAATGAAAGACTGCACTGAAAGA

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          GATTTTTT   AATCGGA
                    TTGGCCTTC
      GGAAAAT
PK3:  -23.745000(kcal/mol): PK_start=1422 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1456
(fs_start=1414)
          AAA
CACTGAAAGACAGGCTAATTTTTTAGGGA
          CCCT   TCCGGTTT
                    AGGCCAGGGA
      AGAAGGGG
PK4:  -26.865000(kcal/mol): PK_start=1429 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1492
(fs_start=1414)
                    TCCCAGAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
          GGACCGGA   GGGG
                    CCCCCG
      GAATTTTCATTCAGAACAGGCCAGAGCCGTCAG

=====
(3188) JN692449
=====
PK1:  -15.140000(kcal/mol): PK_start=1519 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1547
(fs_start=1539)
          CA
GAAAAGAAGGACACCAAATGAAAGACTG
          GAC   AGAAAGTC
                    TTTTTTAGGG
      GCTAA
PK2:  -20.500000(kcal/mol): PK_start=1524 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1560
(fs_start=1539)
          C
GAAGGACACCAAATGAAAGACTGCACTGAAAGA
          GATTTTTT   A   ATCGGA
                    TTGGCCTTC
      GGAAAATC
PK3:  -32.400000(kcal/mol): PK_start=1547 sp=0 s1=3 s2=10 l1=5 l2=3 L3=0 PK_end=1580
(fs_start=1539)
          AAAAT
CACTGAAAGACAGGCTAATTTTTTAGGG
          CCC   CCTTCCGGTC
                    GGAAGGCCAGGG
      AAG
PK4:  -26.715000(kcal/mol): PK_start=1554 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1591
(fs_start=1539)
                    CCCC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

```

```

                GGACCGGAAG    GGAA
                                TCTTCA
        GAATTT

=====
(3189) JN692450
=====
PK1:  -12.955000(kcal/mol): PK_start=1468 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1496
(fs_start=1488)
                A
GAAGAGAAGGACACCAAATGAAAGATTGT

                GACG    GAGAGTC
                                TTTTATAGGG
        GCTAAT

PK2:  -18.720000(kcal/mol): PK_start=1473 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1509
(fs_start=1488)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG

                GATTTTTT    A    ATCGGA
                                TGGCCTTC
        GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1496 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1530
(fs_start=1488)
                AAA
TACTGAGAGGCAGGCTAATTTTTATAGGGA

                CCCT    TCCGGTCT
                                AGGCCAGGGA
        ACAAGGGA

PK4:  -29.020000(kcal/mol): PK_start=1503 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1540
(fs_start=1488)
                CCAC
AGGCAGGCTAATTTTTATAGGAAAATCTGGCCTTC

                GGACCGGAAG    GGAA
                                CCTTCA
        GAATTT

=====
(3190) JN692451
=====
PK1:  -17.845000(kcal/mol): PK_start=1501 sp=0 s1=6 s2=8 l1=5 l2=16 L3=0 PK_end=1549
(fs_start=1542)
                CCAAA
AGGGCTGTTGGAAATGTGGAAAGGAAGGACA

                TCTTGT    TAGAAAGT
                                ATTTTTTAGG
        CTTGAAAGACAGGCTA

```

PK2: -22.110000(kcal/mol): PK_start=1525 sp=0 s1=10 s2=6 l1=1 l2=6 L3=1 PK_end=1563
(fs_start=1542)

C
AAGGACACCAAATGAAAGATTGTTCTCTTGAAAGA
GGGATTTTTT A ATCGGA
TGGCCTTC
AAAATC

PK3: -26.605000(kcal/mol): PK_start=1550 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1584
(fs_start=1542)

AAA
TCTTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCGGGAA
AGAAGGGA

PK4: -32.300000(kcal/mol): PK_start=1557 sp=7 s1=11 s2=4 l1=2 l2=7 L3=0 PK_end=1595
(fs_start=1542)

CA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTCC
GGGCCGGAAGG GAAG
CTTCAG
AAATTTTC

=====
(3191) JN692452
=====

PK1: -13.245000(kcal/mol): PK_start=1533 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1560
(fs_start=1552)

A
AAAGGAAGGACACCAAATGAAAGAGTGT
ACA GAAAGTC
TTTTTAGGG
GGCTAAT

PK2: -20.500000(kcal/mol): PK_start=1537 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1573
(fs_start=1552)

C
GAAGGACACCAAATGAAAGAGTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1560 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1594
(fs_start=1552)

A
TACTGAAAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
CCAAGGGAAG

PK4: -29.020000(kcal/mol): PK_start=1567 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1604
(fs_start=1552)

CTCC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(3192) JN692455
=====

PK1: -13.555000(kcal/mol): PK_start=1517 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1545
(fs_start=1537)

A
GAAGGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1522 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1558
(fs_start=1537)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1545 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1579
(fs_start=1537)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1552 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1589
(fs_start=1537)

CTAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1552 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=1615
(fs_start=1537)

TCCTACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCTTCAGAACAGACCAGAGCCAACAG

=====
(3193) JN692456
=====

PK1: -15.140000(kcal/mol): PK_start=1522 sp=0 s1=3 s2=8 l1=2 l2=5 l3=0 PK_end=1550
(fs_start=1542)

CA
GAAAAGAGGGACACCAACTGAAAGACTG
GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -17.860000(kcal/mol): PK_start=1527 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1563
(fs_start=1542)

C
GAGGGACACCAACTGAAAGACTGCACTGAAAGA
GATTTTTT A ATCGGA
TGGTCTTC
GGAAAATC

PK3: -24.635000(kcal/mol): PK_start=1550 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=1584
(fs_start=1542)

AAA
CACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCTGGTCT
AGGCCAGGGA
AGAAGGGG

PK4: -29.850000(kcal/mol): PK_start=1557 sp=7 s1=11 s2=4 l1=2 l2=7 l3=0 PK_end=1595
(fs_start=1542)

CA
AGACAGGCTAATTTTTTAGGGAAAATCTGGTCTTCC
GGACCGGAGGG GAAG
CTTCAG
GAATTTTC

PK4B: -27.755000(kcal/mol): PK_start=1557 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=1620
(fs_start=1542)

TCCCAGAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGTCT
GGACCGGA GGGG
CCCCAC
GAATTTCTTCAGAGCAGACCAGAACCAACAG

=====
(3194) JN692457
=====

PK1: -15.155000(kcal/mol): PK_start=1472 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1500
(fs_start=1492)

A
GAAAGGAAGGACACCAAATGAAAGATTGC
GACG GAGAGTC

```

                TTTT TAGGG
      GCTAAT
PK2:  -18.720000(kcal/mol): PK_start=1477 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1513
(fs_start=1492)
                C
GAAGGACACCAAATGAAAGATTGCACTGAGAGG
                GATTTTTT A  ATCGGA
                TGGCCTTC
      GGAAGATC
PK3:  -26.110000(kcal/mol): PK_start=1500 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1534
(fs_start=1492)
                A
CACTGAGAGGCAGGCTAATTTTTTAGGGAAG
                CCCTTC  CGGTCT
                GCCAGGGA
      ACAAAGGAAG
PK4:  -26.925000(kcal/mol): PK_start=1507 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1544
(fs_start=1492)
                TCCCACA
AGGCAGGCTAATTTTTTAGGGAAGATCTGGCCT
                GGACCGGA  AGGAA
                TCCTTCA
      GAATT

=====
(3195) JN692461
=====
PK1:  -12.560000(kcal/mol): PK_start=1408 sp=0 s1=3 s2=7 l1=3 l2=5 L3=0 PK_end=1435
(fs_start=1428)
                CAG
GAAAGGAGGGACACCAAATGAAAGACTG
                GAC  AGAAAGT
                TTTTTTAGG
      GCTAA
PK2:  -18.120000(kcal/mol): PK_start=1414 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1449
(fs_start=1428)
                C
AGGGACACCAAATGAAAGACTGCAGTGAAAGA
                ATTTTTT A  ATCGGA
                TGGCCTTC
      GGGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1436 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1470
(fs_start=1428)
                AAA
CAGTGAAAGACAGGCTAATTTTTTAGGGA
                CCCT  TCCGGTCT

```


AGGCCAGGGA

ACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=1443 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1480
(fs_start=1428)

CCAC

AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAGG GGAA

TCTTCA

GAATTT

PK4B: -27.225000(kcal/mol): PK_start=1443 sp=7 s1=8 s2=4 l1=8 l2=30 L3=0 PK_end=1504
(fs_start=1428)

TCCCACAA

AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT

GGACCGGA GGGG

TCCCCC

GAATTTTCTTCAGAGCAGACCAGAGCCATC

=====
(3196) JN692462
=====

PK1: -10.640000(kcal/mol): PK_start=1490 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1528
(fs_start=1521)

A

CTGGAAATGTGGAAAGGAGGGACACCAA

GTT AGAAAGT

TTTTTTTAGG

CACTGAGAGACAGGCTAA

PK2: -20.460000(kcal/mol): PK_start=1506 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1542
(fs_start=1521)

C

GAGGGACACCAAATGAAAGATTGCACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1529 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1563
(fs_start=1521)

AAA

CACTGAGAGACAGGCTAATTTTTTTAGGGA

CCCT TCCGGTCT

AGGCCAGGAA

ACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=1536 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1573
(fs_start=1521)

CCAC

AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAGG GGAA

```

                                TCTTCA
AAACTT
PK4B: -30.875000(kcal/mol): PK_start=1536 sp=7 s1=8 s2=5 l1=7 l2=32 L3=0 PK_end=1600
(fs_start=1521)
                                TCCCACA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT
                                GGACCGGA    GGGGA
                                CCCCTCC
AAACTTTCTTCAGAACAGACCAGAGCCATCAG

=====
(3197) JN692463
=====
PK1: -13.555000(kcal/mol): PK_start=1400 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1428
(fs_start=1420)
                                A
GGAAGGAAGGACACCAAATGAAAGATTGT
                                GACA    GAGAGTC
                                TTTTtaggg
GCTAAT

PK2: -17.820000(kcal/mol): PK_start=1405 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1441
(fs_start=1420)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                                GATTTTTT A ATCGGA
                                TGGTCTTC
GGAAAATC

PK3: -24.635000(kcal/mol): PK_start=1428 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1462
(fs_start=1420)
                                AAA
TACTGAGAGACAGGCTAATTTTTTTAGGGA
                                CCCT    TCTGGTCT
                                AGGCCAGGGA
ACAAGGGA

PK4: -26.380000(kcal/mol): PK_start=1435 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1472
(fs_start=1420)
                                CCAC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGTCTTC
                                GGACCGGAAG    GGAA
                                CCTTCA
GAATTT

PK4B: -25.905000(kcal/mol): PK_start=1435 sp=7 s1=9 s2=4 l1=6 l2=33 L3=0 PK_end=1499
(fs_start=1420)
                                CCCACA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGTCTT
                                GGACCGGAA    GGGA

```

CCCTCC
GAATTTCCCTTCAGAGCAGACCAGAGCCAACAGC

=====
(3198) JN692464
=====

PK1: -14.235000(kcal/mol): PK_start=1568 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1596
(fs_start=1588)

A
GAAAGGAAGGACACCAAATGAAAGATTGT

AACA GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -15.820000(kcal/mol): PK_start=1573 sp=0 s1=8 s2=4 l1=3 l2=8 L3=1 PK_end=1607
(fs_start=1588)

CAA

GAAGGACACCAAATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCG

TGGCCT

GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1596 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1630
(fs_start=1588)

AAA

TACTGAGAGACAAGCTAATTTTTTAGGGA

CCCT TCCGGTCT

AGGCCAGGGA

ACAAGGGG

PK4: -28.540000(kcal/mol): PK_start=1603 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1640
(fs_start=1588)

CCAC

AGACAAGCTAATTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAGG GGAA

CCTTCA

GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1603 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1666
(fs_start=1588)

TCCCACAA

AGACAAGCTAATTTTTTAGGGAAAATCTGGCCT

GGACCGGA GGGG

CCCCAC

GAATTTCCCTTCAGAGCAGACCAGAGCCAACAG

=====
(3199) JN692465
=====

PK1: -10.640000(kcal/mol): PK_start=1533 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1571
(fs_start=1564)

A

TTGGAAATGTGGAAAGGAAGGACACCAA

```

          GTT   AGAAAGT
                TTTTTTAGG
    CACTGAAAGACAGGCTAA

PK2:  -20.500000(kcal/mol): PK_start=1549 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1585
(fs_start=1564)
                C
    GAAGGACACCAAATGAAAGATTGCACTGAAAGA
                GATTTTTT A  ATCGGA
                                TGGCCTTC
    GGAAGATC

PK3:  -23.230000(kcal/mol): PK_start=1572 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1606
(fs_start=1564)
                A
    CACTGAAAGACAGGCTAATTTTTTAGGGAAG
                CTCTTC   CGGTCT
                                GCCAGGGA
    AAGGGGGGAG

PK4:  -33.650000(kcal/mol): PK_start=1579 sp=7 s1=10 s2=4 l1=4 l2=32 L3=0 PK_end=1642
(fs_start=1564)
                TCAA
    AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
                GGACCGGAGG   GGGG
                                CCCCAC
    GAATTTTATTCAGAACAGACTAGAGCCAACAG

=====
(3200) JN692466
=====
PK1:  -13.555000(kcal/mol): PK_start=1476 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1504
(fs_start=1496)
                A
    GAAAGGAAGGACATCAGATGAAAGATTGT
                GACA   GAGAGTC
                                TTTTTTAGGG
    GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1481 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1517
(fs_start=1496)
                C
    GAAGGACATCAGATGAAAGATTGTACTGAGAGA
                GATTTTTT A  ATCGGA
                                TGGCCTTC
    GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1504 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1538
(fs_start=1496)
                AAA
    TACTGAGAGACAGGCTAATTTTTTAGGGA

```

CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA
PK4: -26.715000(kcal/mol): PK_start=1511 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1548
(fs_start=1496)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(3201) JN692467
=====

PK1: -10.640000(kcal/mol): PK_start=1402 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1440
(fs_start=1433)

A
TTGGAAATGTGGAAAGGAAGGACACCAA
GTT AGAAAGT
TTTTTTTAGG
CACTGAGAGACAGGCTAA

PK2: -20.460000(kcal/mol): PK_start=1418 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1454
(fs_start=1433)

C
GAAGGACACCAAATGAAAGATTGCACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAGACTC

PK3: -30.485000(kcal/mol): PK_start=1441 sp=0 s1=4 s2=9 l1=2 l2=8 L3=0 PK_end=1476
(fs_start=1433)

GA
CACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCTC
AGGCCAGGGAA
ACAAGGGA

PK4: -29.055000(kcal/mol): PK_start=1447 sp=6 s1=9 s2=5 l1=7 l2=4 L3=0 PK_end=1485
(fs_start=1433)

TCCCACA
GAGACAGGCTAATTTTTTAGGGAGACTCTGGCCT
GGGACCGGA AGGA
TTCCTCA
AATT

=====
(3202) JN692468
=====

PK1: -10.725000(kcal/mol): PK_start=1524 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1552
(fs_start=1544)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTT
TTTTTAGGG
GCTAAT

PK2: -18.430000(kcal/mol): PK_start=1529 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1565
(fs_start=1544)

C
GAAGGACACCAAATGAAAGATTGTATTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1552 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1586
(fs_start=1544)

A
TATTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -24.995000(kcal/mol): PK_start=1559 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1596
(fs_start=1544)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGG
TCTCCA
GAACTT

=====
(3203) JN692469
=====

PK1: -13.205000(kcal/mol): PK_start=1518 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1545
(fs_start=1537)

A
AAAGGAAGGACACCAAATAAAAGAGTGT
ACA GAGAGTC
TTTTTAGGG
GGCTAAT

PK2: -20.460000(kcal/mol): PK_start=1522 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1558
(fs_start=1537)

C
GAAGGACACCAAATAAAAGAGTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1545 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=1579
(fs_start=1537)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -24.995000(kcal/mol): PK_start=1552 sp=7 s1=8 s2=4 l1=8 l2=6 l3=0 PK_end=1589
(fs_start=1537)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA AGGG
TCTCCA
GAATTT

=====
(3204) JN692470
=====

PK1: -13.065000(kcal/mol): PK_start=1484 sp=0 s1=3 s2=8 l1=5 l2=16 l3=0 PK_end=1526
(fs_start=1519)

CCAAA
GCTGTTGGAAATGTGGAAAGGAAGGACA
TGT TAGAAAGT
ATTTTTTAGG
ACCGAGAGACAGGCTT

PK2: -16.180000(kcal/mol): PK_start=1506 sp=0 s1=6 s2=5 l1=1 l2=11 l3=2 PK_end=1539
(fs_start=1519)

C
AGGACACCAAATGAAAGATTGTACCGAGAGA
TTTTTT AT TCGGA
GGCCTC
AGGGAAGATCT

PK3: -25.440000(kcal/mol): PK_start=1527 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1561
(fs_start=1519)

A
TACCGAGAGACAGGCTTATTTTTTAGGGAAG
CCCTC CGGTCT
GCCGGAA
ACAAGGGGAG

PK4: -25.565000(kcal/mol): PK_start=1534 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1571
(fs_start=1519)

CCAC
AGACAGGCTTATTTTTTAGGGAAGATCTGGCCTC
GGGCCGGAGG GGAA
TCTTCA
AAATTT

PK4B: -29.725000(kcal/mol): PK_start=1534 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1597
(fs_start=1519)

TCCCACAA
AGACAGGCTTATTTTTTAGGGAAGATCTGGCCT
GGGCCGGA GGGG
CCCCAC
AAATTTTCTTCAGAGCAGACCAGACCAACAG

=====
(3205) JN692471
=====

PK1: -13.555000(kcal/mol): PK_start=1521 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1549
(fs_start=1541)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1526 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1562
(fs_start=1541)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1549 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1583
(fs_start=1541)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAAGGAAG

PK4: -24.115000(kcal/mol): PK_start=1556 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1593
(fs_start=1541)

TCCCACA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGAA
TTCTTCA
GAATT

=====
(3206) JN692472
=====

PK1: -10.630000(kcal/mol): PK_start=1506 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1544
(fs_start=1537)

A
TTGGAAGTGTGAAAGGAAGGACACCAA
GTT AGAAAAT


```

                TTTTTTAGG
    CACTGAAAGACAGGCTAA

PK2:  -20.50000(kcal/mol): PK_start=1522 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1558
(fs_start=1537)
                C
    GAAGGACACCAAATAAAAGATTGCACTGAAAGA
                GATTTTTT A  ATCGGA
                TGGCCTTC
    GGAAGATC

PK3:  -23.23000(kcal/mol): PK_start=1545 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1579
(fs_start=1537)
                A
    CACTGAAAGACAGGCTAATTTTTTAGGGAAG
                CTCTTC  CGGTCT
                GCCAGGGA
    AAGGGGGGAG

PK4:  -33.65000(kcal/mol): PK_start=1552 sp=7 s1=10 s2=4 l1=4 l2=32 L3=0 PK_end=1615
(fs_start=1537)
                TCAA
    AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
                GGACCGGAGG  GGGG
                CCCCAC
    GAATTTTATTCAGAACAGACTAGAGCCAACAG

=====
(3207) JN692473
=====
PK1:  -13.55500(kcal/mol): PK_start=1571 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1599
(fs_start=1591)
                A
    GAAAGGAAGGACACCAAATGAAAGATTGT
                GACA  GAGAGTC
                TTTTTAGGG
    GCTAAT

PK2:  -20.46000(kcal/mol): PK_start=1576 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1612
(fs_start=1591)
                C
    GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT A  ATCGGA
                TGGCCTTC
    GGAAAATC

PK3:  -27.27500(kcal/mol): PK_start=1599 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1633
(fs_start=1591)
                AAA
    TACTGAGAGACAGGCTAATTTTTTAGGGA
                CCCT  TCCGGTCT

```

AGGCCAGGGA

ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1606 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1643
(fs_start=1591)

CCAC

AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAAG GGAA

TCTTCA

GAATTT

=====
(3208) JN692474
=====

PK1: -10.640000(kcal/mol): PK_start=1506 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1544
(fs_start=1537)

A

TTGGAAATGTGGAAGAGAAGGACACCAA

GTT AGAAAGT

TTTTTTAGG

CAATGAGAAACAGGCTAA

PK2: -18.220000(kcal/mol): PK_start=1523 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1558
(fs_start=1537)

C

AAGGACACCAAATGAAAGATTGCAATGAGAAA

ATTTTTT A ATCGGA

TGGCCTTC

GGGAGGATC

PK3: -25.760000(kcal/mol): PK_start=1545 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1579
(fs_start=1537)

A

CAATGAGAAACAGGCTAATTTTTTTAGGGAGG

CCCTTC CGGTCT

GCCAGGGA

ACAACGGAAG

PK4: -24.440000(kcal/mol): PK_start=1552 sp=7 s1=7 s2=4 l1=10 l2=4 L3=0 PK_end=1587
(fs_start=1537)

TTCCCACAAC

AAACAGGCTAATTTTTTTAGGGAGGATCTGGCC

GGACCGG AAGG

TTCCTT

GAAT

=====
(3209) JN692475
=====

PK1: -13.205000(kcal/mol): PK_start=1545 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1572
(fs_start=1564)

A

AAAGGAAGGACATCAAATGAAAGAGTGT

ACA GAGAGTC
TTTTTAGGG
GGCTAAT
PK2: -20.460000(kcal/mol): PK_start=1549 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1585
(fs_start=1564)

C
GAAGGACATCAAATGAAAGAGTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1572 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1606
(fs_start=1564)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=1579 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1616
(fs_start=1564)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1579 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1642
(fs_start=1564)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(3210) JN692478
=====

PK1: -14.985000(kcal/mol): PK_start=1526 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1554
(fs_start=1546)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1531 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1568
(fs_start=1546)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG

```

                GATTTTTT   AATCGGA
                    TTGGCCTTC
    GGAAAAT
PK3:  -23.745000(kcal/mol): PK_start=1554 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1588
(fs_start=1546)
                AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTTT
                    AGGCCAGGGA
    ACAAGGGG
PK4:  -23.985000(kcal/mol): PK_start=1561 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1599
(fs_start=1546)
                    TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA   GGGG
                    CTCCAG
    GAATTTTC
PK4B: -26.865000(kcal/mol): PK_start=1561 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1624
(fs_start=1546)
                    TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA   GGGG
                    CCCCAC
    GAATTTCTCCAGAGCAGACCACAGCCAACAG
=====
(3211) JN692479
=====
PK1:  -13.555000(kcal/mol): PK_start=1518 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1546
(fs_start=1538)
                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                GACA   GAGAGTC
                    TTTTTAGGG
    GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1523 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1559
(fs_start=1538)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT   A   ATCGGA
                    TGGCCTTC
    GGAAAGTC
PK3:  -27.275000(kcal/mol): PK_start=1546 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1580
(fs_start=1538)
                AAG
TACTGAGAGACAGGCTAATTTTTTAGGGA

```

CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA
PK4: -26.715000(kcal/mol): PK_start=1553 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1590
(fs_start=1538)

CCAC
AGACAGGCTAATTTTTTAGGGAAAGTCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(3212) JN692480
=====

PK1: -13.595000(kcal/mol): PK_start=1481 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1509
(fs_start=1501)

A
GACAAGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1486 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1522
(fs_start=1501)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1509 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1543
(fs_start=1501)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -27.045000(kcal/mol): PK_start=1516 sp=7 s1=8 s2=5 l1=7 l2=4 L3=0 PK_end=1552
(fs_start=1501)

TCCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA AGGGA
TTCCTAC
GAAT

=====
(3213) JN860761
=====

PK1: -15.585000(kcal/mol): PK_start=1270 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1298
(fs_start=1290)

A
GGAAGGAAGGACATCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -21.940000(kcal/mol): PK_start=1275 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1312
(fs_start=1290)

C
GAAGGACATCAAATGAAAGACTGTACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1299 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1332
(fs_start=1290)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AACAAGGGA

PK4: -22.915000(kcal/mol): PK_start=1305 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1342
(fs_start=1290)

TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(3214) JN860762
=====

PK1: -15.100000(kcal/mol): PK_start=1270 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1298
(fs_start=1290)

CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1275 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1312
(fs_start=1290)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAGAAT

PK3: -18.840000(kcal/mol): PK_start=1298 sp=0 s1=5 s2=6 l1=2 l2=8 L3=0 PK_end=1329
(fs_start=1290)

AA
CACTGAGAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTTT
GCCAGGGA
AAAGGAAG

PK4: -22.465000(kcal/mol): PK_start=1305 sp=7 s1=8 s2=4 l1=5 l2=6 L3=0 PK_end=1339
(fs_start=1290)

TCCAA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
GGACCGGA AGGA
TCCTCA
GAATTT

=====
(3215) JN860763
=====

PK1: -15.100000(kcal/mol): PK_start=1270 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1298
(fs_start=1290)

CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGA
GCAAA

PK2: -14.310000(kcal/mol): PK_start=1275 sp=0 s1=8 s2=4 l1=4 l2=6 L3=0 PK_end=1308
(fs_start=1290)

CAGG
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AAAC
TTTGGT
GAAAAA

PK3: -16.340000(kcal/mol): PK_start=1298 sp=0 s1=3 s2=7 l1=4 l2=11 L3=0 PK_end=1332
(fs_start=1290)

AAAA
CACTGAGAGACAGGCAAATTTTTTAGGA
CCT CTGGTTT
GGCCAGGGA
CCACAAGGGGA

PK4: -21.945000(kcal/mol): PK_start=1305 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1342
(fs_start=1290)

CCCACA
AGACAGGCAAATTTTTTAGGAAAAATTTGGTCTC
GGACCGGAG GGGGA
TCCTCA
GAATTT

PK4B: -24.225000(kcal/mol): PK_start=1305 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1368
(fs_start=1290)

CCCCACAA
AGACAGGCAAATTTTTTAGGAAAAATTTGGTCT
GGACCGGA GGGG
CCCCAC
GAATTTTCCTCAGAGCAGACCAGGCCAACAG

=====
(3216) JN860764
=====

PK1: -15.100000(kcal/mol): PK_start=1270 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1298
(fs_start=1290)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1275 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1312
(fs_start=1290)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1299 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1332
(fs_start=1290)

AAA
ACTGAGAGACAGGCTAATTTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AACAAGGGG

PK4: -22.215000(kcal/mol): PK_start=1305 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1342
(fs_start=1290)

CCAACA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTT
GGACCGGAG GGGG
TCCTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1305 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1368
(fs_start=1290)

TCCAACAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCCTCAGAGCAGACCGGAGGCCAACAG

=====
(3217) JN860765
=====

PK1: -15.10000(kcal/mol): PK_start=1258 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1286
(fs_start=1278)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.94000(kcal/mol): PK_start=1263 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1300
(fs_start=1278)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAGATT

PK3: -20.63500(kcal/mol): PK_start=1287 sp=0 s1=3 s2=9 l1=2 l2=9 L3=0 PK_end=1321
(fs_start=1278)

GA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTTT
AGGCCGGGAAA
AACAAGGGA

PK4: -22.76500(kcal/mol): PK_start=1292 sp=6 s1=9 s2=5 l1=7 l2=4 L3=0 PK_end=1330
(fs_start=1278)

TCCAACA
GAGACAGGCTAATTTTTTAGGGAGATTTTGGCCT
AGGGCCGGA AGGGA
TTCCTCA
AATT

=====
(3218) JN860766
=====

PK1: -12.34000(kcal/mol): PK_start=1270 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1298
(fs_start=1290)

CA
GGGAAGAAGGACATCAAATGAAAGACTG
GAC AGAGGGTC
TTTTTTAGGG
GCTAA

PK2: -19.18000(kcal/mol): PK_start=1275 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1312
(fs_start=1290)

C
GAAGGACATCAAATGAAAGACTGCACTGGGAGA
GATTTTTT AATCGGA

TTGGCCTTC

GGAAATT

PK3: -23.275000(kcal/mol): PK_start=1298 sp=0 s1=4 s2=9 l1=2 l2=8 L3=0 PK_end=1333
(fs_start=1290)

AA

CACTGGGAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTTTT

AGGCCAGGGAA

ACAAGGGA

PK4: -22.445000(kcal/mol): PK_start=1304 sp=6 s1=9 s2=5 l1=7 l2=4 L3=0 PK_end=1342
(fs_start=1290)

TCCCACA

GAGACAGGCTAATTTTTTAGGGAAATTTTGGCCT

GGGACCGGA AGGGA

TTCCTCA

AATT

=====
(3219) JN860767
=====

PK1: -15.100000(kcal/mol): PK_start=1270 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1298
(fs_start=1290)

YA

GGAAAGAAGGACATCAAATGAAGGACTG

GAC AGAGAGTC

TTTTTTAGGG

GCTAA

PK2: -21.940000(kcal/mol): PK_start=1275 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1312
(fs_start=1290)

C

GAAGGACATCAAATGAAGGACTGYACTGAGAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAGAT

PK3: -22.580000(kcal/mol): PK_start=1298 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1332
(fs_start=1290)

A

YACTGAGAGACAGGCTAATTTTTTAGGGAAG

CCCTTC CGGTTT

GCCAGGGA

ACAAGGGAAG

PK4: -22.915000(kcal/mol): PK_start=1305 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1342
(fs_start=1290)

TCCCACA

AGACAGGCTAATTTTTTAGGGAAAGATTTGGCCT

GGACCGGA AGGGA

```

                                TTCCTCA
                                GAATT
=====
(3220) JN860768
=====
PK1:  -15.100000(kcal/mol): PK_start=1270 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1298
(fs_start=1290)
                                CA
GAAAGGAAGGACATCAAATGAAAGACTG
                                GAC   AGAGAGTC
                                TTTTTTAGGG
                                GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1275 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1312
(fs_start=1290)
                                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                                GATTTTTT   AATCGGA
                                TTGGCCTTC
                                GGAAAAT

PK3:  -18.565000(kcal/mol): PK_start=1299 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1332
(fs_start=1290)
                                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCT   TCCGGTTT
                                AGGCCGGGGA
                                AGCAAGGGA

PK4:  -18.405000(kcal/mol): PK_start=1306 sp=8 s1=9 s2=4 l1=4 l2=4 L3=0 PK_end=1339
(fs_start=1290)
                                CAGC
GACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
                                GGCCGGAAG   GGAA
                                TTTTCA
                                GGAA

=====
(3221) JN860769
=====
PK1:  -13.555000(kcal/mol): PK_start=1297 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1325
(fs_start=1317)
                                A
GACAGGAAGGACACCAAATGAAAGATTGT
                                GACA   GAGAGTC
                                TTTTTTAGGG
                                GCTAAT

PK2:  -19.080000(kcal/mol): PK_start=1302 sp=0 s1=8 s2=5 l1=2 l2=8 L3=1 PK_end=1337
(fs_start=1317)
                                CA
GAAGGACACCAAATGAAAGATTGTACTGAGAGA

```

GATTTTTT A ATCGG
TGGCCCT
GGAAAATC

PK3: -24.730000(kcal/mol): PK_start=1325 sp=0 s1=4 s2=7 l1=3 l2=9 L3=1 PK_end=1358
(fs_start=1317)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA

CCCT C CCGGTCT
GGCCAGGAA
ACAAGGGAA

PK4: -23.190000(kcal/mol): PK_start=1332 sp=7 s1=7 s2=6 l1=8 l2=4 L3=0 PK_end=1369
(fs_start=1317)

CTCCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCC

GGACCGG AAGGGA
TTTCTTCA
AAAC

PK4B: -24.360000(kcal/mol): PK_start=1332 sp=7 s1=7 s2=4 l1=8 l2=33 L3=2 PK_end=1394
(fs_start=1317)

CTCCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCC

GGACCGG AA GGGA
CCCTCC
AAACTTTCTTCAGAACAGACCAGAGCCAACAGC

=====
(3222) JN864047
=====

PK1: -15.585000(kcal/mol): PK_start=1267 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1295
(fs_start=1287)

A
GAAAGGAAGGACACCAAATGAAAGACTGT

GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -21.940000(kcal/mol): PK_start=1272 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1309
(fs_start=1287)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA

GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1296 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1329
(fs_start=1287)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA

```

          CCT      TCCGGTTT
                AGGCCAGGAA
          AACAAAGGGG

PK4:  -22.215000(kcal/mol): PK_start=1302 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1339
(fs_start=1287)
                CCAACA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTT
                GGACCGGAG      GGGA
                                TCCTCA
          AAATTT

PK4B:  -26.865000(kcal/mol): PK_start=1302 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1365
(fs_start=1287)
                TCCAACAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
                GGACCGGA      GGGG
                                CCCAC
          AAATTTTCCTCAGAGCAGAACGGAACCAACAG

=====
(3223) JN864048
=====
PK1:  -15.585000(kcal/mol): PK_start=1345 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1373
(fs_start=1365)
                A
GAAAGGAAGGACACCAAATGAAAGACTGT
                GACA      GAGAGTC
                                TTTTTAGGG
          GCTAAT

PK2:  -21.940000(kcal/mol): PK_start=1350 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1387
(fs_start=1365)
                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
                GATTTTTT      AATCGGA
                                TTGGCCTTC
          GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1374 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1407
(fs_start=1365)
                AAA
ACTGAGAGACAGGCTAATTTTTTTAGGGA
                CCT      TCCGGTTT
                                AGGCCAGGAA
          AACAAAGGGG

PK4:  -22.215000(kcal/mol): PK_start=1380 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1417
(fs_start=1365)
                CCAACA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTT

```

GGACCGGAG GGGA
 TCCTCA
 AAATTT

PK4B: -26.865000(kcal/mol): PK_start=1380 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1443
 (fs_start=1365)

TCCAACAA
 AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG
 CCCCAC
 AAATTTTCCTCAGAGCAGAACGGAACCAACAG

=====
 (3224) JN864049
 =====

PK1: -10.640000(kcal/mol): PK_start=1341 sp=0 s1=3 s2=7 l1=1 l2=21 L3=0 PK_end=1382
 (fs_start=1375)

A
 TTGGAAATGTGGAAAGGAAGGACACCAA

GTT AGAAAGT
 TTTTTTAGG
 CACTAATGAGAGACAGGCTAA

PK2: -19.660000(kcal/mol): PK_start=1361 sp=0 s1=7 s2=7 l1=1 l2=8 L3=0 PK_end=1397
 (fs_start=1375)

C
 GACACCAAATGAAAGATTGCACTAATGAGAGA

ATTTTTT AATCGGA
 TTGGCCTTC
 GGGAGAAT

PK3: -18.840000(kcal/mol): PK_start=1383 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1417
 (fs_start=1375)

AA
 TAATGAGAGACAGGCTAATTTTTTAGGGAG

CCTTC CGGTTT
 GCCAGGGA
 AGCAAGGGGAG

PK4: -22.215000(kcal/mol): PK_start=1390 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1427
 (fs_start=1375)

CCAGCA
 AGACAGGCTAATTTTTTAGGGAGAATTTGGCCTT

GGACCGGAG GGGA
 TCCTCA
 GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1390 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1453
 (fs_start=1375)

TCCAGCAA
 AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT

GGACCGGA GGGG
CCCCAC
GAATTTTCCTCAGAGCAGACCAGAGCCAACAG

=====
(3225) JN864050
=====

PK1: -15.100000(kcal/mol): PK_start=1298 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1326
(fs_start=1318)

CA
GGAAGGAAGGACACCAAATGAAAGACTG

GAC AGAGAGTC
TTTTTTTAGGG
GCTAA

PK2: -20.460000(kcal/mol): PK_start=1303 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1339
(fs_start=1318)

C
GAAGGACACCAAATGAAAGACTGCACTGAGAGA

GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1326 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1360
(fs_start=1318)

AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.445000(kcal/mol): PK_start=1333 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1370
(fs_start=1318)

TCCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT

GGACCGGA AGGGA
TTCCTCA
GAACT

=====
(3226) JN864051
=====

PK1: -11.370000(kcal/mol): PK_start=1298 sp=0 s1=3 s2=10 l1=3 l2=5 L3=0 PK_end=1331
(fs_start=1321)

CAC
GCAAGGAAGGACACCAAATGAAAGACTG

GAC AGAAAGTTTT
TTTTTTTAGGGAA
GCTAA

PK2: -19.010000(kcal/mol): PK_start=1304 sp=0 s1=10 s2=7 l1=1 l2=5 l3=0 PK_end=1343
(fs_start=1321)

C
AAGGACACCAAATGAAAGACTGCACTTTTGAAAGA
GGGATTTTTT AATCGGA
TTGGCCTTC
AAAAAT

PK3: -20.285000(kcal/mol): PK_start=1330 sp=0 s1=3 s2=8 l1=3 l2=9 l3=0 PK_end=1363
(fs_start=1321)

AAA
TTTGAAAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AACAAGGGG

PK4: -22.215000(kcal/mol): PK_start=1336 sp=7 s1=9 s2=4 l1=6 l2=6 l3=0 PK_end=1373
(fs_start=1321)

CCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGAG GGGA
TCCTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1336 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=1399
(fs_start=1321)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCCTCAGAGCAGACCAGAGCCAACAG

=====
(3227) JN864052
=====

PK1: -15.140000(kcal/mol): PK_start=1346 sp=0 s1=3 s2=8 l1=2 l2=5 l3=0 PK_end=1374
(fs_start=1366)

CA
GGAAGGAAGGACACCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -21.980000(kcal/mol): PK_start=1351 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1388
(fs_start=1366)

C
GAAGGACACCAAATGAAAGACTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1375 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1408
(fs_start=1366)

AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AACAAGGGA

PK4: -22.915000(kcal/mol): PK_start=1381 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1418
(fs_start=1366)

TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(3228) JN864053
=====

PK1: -13.070000(kcal/mol): PK_start=1416 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1444
(fs_start=1436)

CA
GAAAGGAAGGACACCAAATGAAGGATTG
GAC AGAGAGTC
TTTTTTTAGGG
GCGAA

PK2: -13.950000(kcal/mol): PK_start=1421 sp=0 s1=8 s2=4 l1=4 l2=6 L3=0 PK_end=1454
(fs_start=1436)

CAGG
GAAGGACACCAAATGAAGGATTGCACTGAGAGA
GATTTTTT AAGC
TTTGGC
GGAGAA

PK3: -18.840000(kcal/mol): PK_start=1444 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1478
(fs_start=1436)

AA
CACTGAGAGACAGGCGAATTTTTTAGGGAG
CCTTC CGGTTT
GCCAGGCA
AACAAGGGGAG

PK4: -22.215000(kcal/mol): PK_start=1451 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1488
(fs_start=1436)

CCAACA
AGACAGGCGAATTTTTTAGGGAGAATTTGGCCTT
GGACCGGAG GGGA
TCCTCA
CAATTT

PK4B: -26.865000(kcal/mol): PK_start=1451 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1514
(fs_start=1436)

TCCAACAA
AGACAGGCGAATTTTTTAGGGAGAATTTGGCCT
GGACCGGA GGGG
CCCCAC
CAATTTTCCTCAGAGCAGACCGGAACCAACAG

=====
(3229) JN864056
=====

PK1: -10.440000(kcal/mol): PK_start=1355 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1393
(fs_start=1386)

A
TTGGAAATGTGGAAAGGAGGGACATCAA
GTT AGAAAGT
TTTTTTAGG
CACAGAGAGACAGGCTAA

PK2: -18.660000(kcal/mol): PK_start=1373 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1408
(fs_start=1386)

C
GGGACATCAAATGAAAGATTGCACAGAGAGA
TTTTTT AATCGGA
TTGGCCTTC
AGGGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1395 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1428
(fs_start=1386)

AAA
ACAGAGAGACAGGCTAATTTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AACAAGGGA

PK4: -21.465000(kcal/mol): PK_start=1401 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1438
(fs_start=1386)

TCCAACAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
GGACCGGA AGGG
TCTCCA
GAATTT

PK4B: -20.650000(kcal/mol): PK_start=1401 sp=7 s1=7 s2=4 l1=1 l2=41 L3=9 PK_end=1464
(fs_start=1386)

T
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCC
GGACCGG AAGGGAACA ACCT
TGGAGA
GAATTTTCTCCAGAACAGGCCAGAGCCAACAGCCCCACCCA

=====
(3230) JN864057
=====

PK1: -15.585000(kcal/mol): PK_start=1344 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1372
(fs_start=1364)

A
GGAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -21.940000(kcal/mol): PK_start=1349 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1386
(fs_start=1364)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAAT

PK3: -20.285000(kcal/mol): PK_start=1373 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1406
(fs_start=1364)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AGCAAGGGG

PK4: -22.215000(kcal/mol): PK_start=1379 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1416
(fs_start=1364)

CCAGCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGAG GGGG
TCCTCA
AAATTT

PK4B: -26.865000(kcal/mol): PK_start=1379 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1442
(fs_start=1364)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTTCCTCAAAGCAGACCAGAACCAACAG

=====
(3231) JN864058
=====

PK1: -15.100000(kcal/mol): PK_start=1298 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1326
(fs_start=1318)

CA
GAAAGGAAGGACACCAAATGAAAGACTG
GAC AGAGAGTC

TTTTTTAGGG
GCTAA
PK2: -21.940000(kcal/mol): PK_start=1303 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1340
(fs_start=1318)

C
GAAGGACACCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1327 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1360
(fs_start=1318)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AGCAAGGGA

PK4: -22.915000(kcal/mol): PK_start=1333 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1370
(fs_start=1318)

TCCAGCA
AGACAGGCTAATTTTTTAGGAAAATTTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(3232) JN882651
=====

PK1: -15.585000(kcal/mol): PK_start=1259 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1287
(fs_start=1279)

A
GGAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -21.940000(kcal/mol): PK_start=1264 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1301
(fs_start=1279)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1288 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1321
(fs_start=1279)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT

```

                AGGCCAGGAA
            AACAAGGGG

PK4:  -27.000000(kcal/mol): PK_start=1294 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=1332
(fs_start=1279)
                TTCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCC
                GGACCGG    AGGGG
                TCCCCAG
            AAATTT

PK4B:  -24.080000(kcal/mol): PK_start=1295 sp=8 s1=6 s2=4 l1=9 l2=33 L3=1 PK_end=1356
(fs_start=1279)
                TTCCAACAA
GACAGGCTAATTTTTTAGGGAAAATTTGGCC
                GACCGG    A    GGGG
                CCCCAC
            GAAATTTTCCCCAGAGCAGACCGGAACCAACAG

=====
(3233) JN882652
=====
PK1:  -15.585000(kcal/mol): PK_start=1401 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1429
(fs_start=1421)
                A
GGAAGGAAGGACACCAAATGAAGGACTGT
                GACA    GAGAGTC
                TTTTTAGGG
            GCTAAT

PK2:  -21.940000(kcal/mol): PK_start=1406 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1443
(fs_start=1421)
                C
GAAGGACACCAAATGAAGGACTGTACTGAGAGA
                GATTTTTT    AATCGGA
                TTGGCCTTC
            GGAGAAT

PK3:  -18.840000(kcal/mol): PK_start=1429 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1463
(fs_start=1421)
                AA
TACTGAGAGACAGGCTAATTTTTTAGGGAG
                CCTTC    CGGTTT
                GCCAGGAA
            AGCAAGGGGAG

PK4:  -27.000000(kcal/mol): PK_start=1436 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=1474
(fs_start=1421)
                TTCCAGCAA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCC
                GGACCGG    AGGGG

```

TCCCCAG

AAATTT

PK4B: -21.200000(kcal/mol): PK_start=1437 sp=8 s1=6 s2=4 l1=9 l2=33 L3=1 PK_end=1498
(fs_start=1421)

TTCCAGCAA

GACAGGCTAATTTTTTTAGGGAGAATTTGGCC

GACCGG A GGGG

CTCCAC

GAAATTTTCCCCAGAGCAGACTGGAACCAACAG

=====

(3234) JN882653

=====

PK1: -15.625000(kcal/mol): PK_start=1508 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1536
(fs_start=1528)

A

GGAAGGAAGGACACCAAATGAAAGACTGT

GACA GAAAGTC

TTTTTAGGG

GCTAAT

PK2: -21.980000(kcal/mol): PK_start=1513 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1550
(fs_start=1528)

C

GAAGGACACCAAATGAAAGACTGTACTGAAAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1537 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1570
(fs_start=1528)

AAA

ACTGAAAGACAGGCTAATTTTTTTAGGGA

CCT TCCGGTTT

AGGCCAGGAA

AGCAAGGGG

PK4: -24.120000(kcal/mol): PK_start=1543 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=1581
(fs_start=1528)

TTCCAGCAA

AGACAGGCTAATTTTTTTAGGGAAAATTTGGCC

GGACCGG AGGGG

TCCTCAG

AAATTT

PK4B: -21.200000(kcal/mol): PK_start=1544 sp=8 s1=6 s2=4 l1=9 l2=33 L3=1 PK_end=1605
(fs_start=1528)

TTCCAGCAA

GACAGGCTAATTTTTTTAGGGAAAATTTGGCC

GACCGG A GGGG

CTCCAC
GAAATTTTCCTCAGAGCAGACCAGAACCAACAG

=====
(3235) JN882654
=====

PK1: -13.110000(kcal/mol): PK_start=1407 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1435
(fs_start=1427)

CA
GAAAGGAAGGACACCAAATGAAGGATTG
GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -20.500000(kcal/mol): PK_start=1412 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1448
(fs_start=1427)

C
GAAGGACACCAAATGAAGGATTGCACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAACTC

PK3: -30.485000(kcal/mol): PK_start=1435 sp=0 s1=4 s2=9 l1=2 l2=8 L3=0 PK_end=1470
(fs_start=1427)

AA
CACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCTC
AGGCCAGGGAA
ACAAGGGA

PK4: -30.485000(kcal/mol): PK_start=1441 sp=6 s1=9 s2=4 l1=8 l2=5 L3=0 PK_end=1479
(fs_start=1427)

TCCCACAA
AAGACAGGCTAATTTTTTAGGGAACTCTGGCCT
GGGACCGGA AGGG
TCCCCA
AATTT

=====
(3236) JN882655
=====

PK1: -15.025000(kcal/mol): PK_start=1409 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1437
(fs_start=1429)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAAAGTC
TTTTTTAGGG
GCTAAT

PK2: -20.370000(kcal/mol): PK_start=1414 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1451
(fs_start=1429)

C
GAAGGACACCAAATGAAAGACTGTACTGAAAGG

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          GATTTTTT   AATCGGA
                    TTGGCCTTC
GGAAAAT
PK3:  -20.285000(kcal/mol): PK_start=1438 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1471
(fs_start=1429)
          AAA
ACTGAAAGGCAGGCTAATTTTTTTAGGGA
          CCT   TCCGGTTT
                    AGGCCAGGAA
          AACAAGGGG
PK4:  -22.215000(kcal/mol): PK_start=1444 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1481
(fs_start=1429)
                    CCAACA
AGGCAGGCTAATTTTTTTAGGGAAAATTTGGCCTT
          GGACCGGAG   GGGA
                    TCCTCA
          AAATTT
PK4B: -26.865000(kcal/mol): PK_start=1444 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1507
(fs_start=1429)
                    TCCAACAA
AGGCAGGCTAATTTTTTTAGGGAAAATTTGGCCTT
          GGACCGGA   GGGG
                    CCCCAC
          AAATTTTCCTCAGAGCAGACCGGAACCAACAG
=====
(3237) JN944897
=====
PK1:  -13.845000(kcal/mol): PK_start=2049 sp=0 s1=3 s2=8 l1=5 l2=16 L3=0 PK_end=2091
(fs_start=2084)
          TCAAA
GCTGTTGGAAATGTGGAAAGGAGGGGCA
          CGT   TAGAAAGT
                    ATTTTTTAGG
          ATTGAAAGACAGGCTA
PK2:  -18.470000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2105
(fs_start=2084)
          C
GAGGGGCATCAAATGAAAGATTGCATTGAAAGA
          GATTTTTT   A   ATCGGA
                    TGGCCTTC
          GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=2092 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2126
(fs_start=2084)
          AAA
CATTGAAAGACAGGCTAATTTTTTTAGGGA

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CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA
PK4: -26.715000(kcal/mol): PK_start=2099 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2136
(fs_start=2084)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(3238) JN944898
=====

PK1: -13.845000(kcal/mol): PK_start=1468 sp=0 s1=3 s2=8 l1=5 l2=16 L3=0 PK_end=1510
(fs_start=1503)

TCAAA
GCTGTTGGAAATGTGGAAAGGAGGGGCA
CGT TAGAAAGT
ATTTTTTAGG
ATTGAAAGACAGGCTA

PK2: -18.470000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)

C
GAGGGGCATCAAATGAAAGATTGCATTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1511 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1545
(fs_start=1503)

AAA
CATTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(3239) JN944899
=====

PK1: -13.845000(kcal/mol): PK_start=1468 sp=0 s1=3 s2=8 l1=5 l2=16 l3=0 PK_end=1510 (fs_start=1503)

TCAAA
GCTGTTGGAAATGTGGAAAGGAGGGGCA
CGT TAGAAAGT
ATTTTTTAGG
ATTGAAAGACAGGCTA

PK2: -18.470000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1524 (fs_start=1503)

C
GAGGGGCATCAAATGAAAGATTGCATTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1511 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=1545 (fs_start=1503)

AAA
CATTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1555 (fs_start=1503)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(3240) JN944900
=====

PK1: -13.845000(kcal/mol): PK_start=1468 sp=0 s1=3 s2=8 l1=5 l2=16 l3=0 PK_end=1510 (fs_start=1503)

TCAAA
GCTGTTGGAAATGTGGAAAGGAGGGGCA
CGT TAGAAAGT
ATTTTTTAGG
ATTGAAAGACAGGCTA

PK2: -18.470000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1524 (fs_start=1503)

C
GAGGGGCATCAAATGAAAGATTGCATTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1511 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1545
(fs_start=1503)

AAA
CATTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(3241) JN944901
=====

PK1: -13.845000(kcal/mol): PK_start=1468 sp=0 s1=3 s2=8 l1=5 l2=16 L3=0 PK_end=1510
(fs_start=1503)

TCAAA
GCTGTTGGAAATGTGGAAAGGAGGGGCA
CGT TAGAAAGT
ATTTTTTAGG
ATTGAAAGACAGGCTA

PK2: -18.470000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1524
(fs_start=1503)

C
GAGGGGCATCAAATGAAAGATTGCATTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1511 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1545
(fs_start=1503)

AAA
CATTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(3242) JN944902
=====

PK1: -13.845000(kcal/mol): PK_start=1468 sp=0 s1=3 s2=8 l1=5 l2=16 l3=0 PK_end=1510
(fs_start=1503)

TCAAA
GCTGTTGGAAATGTGGAAAGGAGGGGCA
CGT TAGAAAGT
ATTTTTTAGG
ATTGAAAGACAGGCTA

PK2: -18.470000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1524
(fs_start=1503)

C
GAGGGGCATCAAATGAAAGATTGCATTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1511 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=1545
(fs_start=1503)

AAA
CATTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1555
(fs_start=1503)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(3243) JN944903
=====

PK1: -13.845000(kcal/mol): PK_start=1468 sp=0 s1=3 s2=8 l1=5 l2=16 l3=0 PK_end=1510
(fs_start=1503)

TCAAA
GCTGTTGGAAATGTGGAAAGGAGGGGCA
CGT TAGAAAGT
ATTTTTTAGG
ATTGAAAGACAGGCTA

PK2: -18.470000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1524
(fs_start=1503)

C
GAGGGGCATCAAATGAAAGATTGCATTGAAAGA
GATTTTTT A ATCGGA

TGGCCTTC

GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1511 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1545
(fs_start=1503)

AAA

CATTGAAAGACAGGCTAATTTTTTTAGGGA

CCCT TCCGGTCT

AGGCCAGGGA

ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)

CCAC

AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAAG GGAA

TCTTCA

GAATTT

=====
(3244) JN944905
=====

PK1: -13.555000(kcal/mol): PK_start=2063 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2091
(fs_start=2083)

A

GAAAGGAAGGACATCAAATGAAAGATTGT

GACA GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2068 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2104
(fs_start=2083)

C

GAAGGACATCAAATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAGATC

PK3: -25.440000(kcal/mol): PK_start=2091 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=2125
(fs_start=2083)

A

TACTGAGAGACAGGCTAATTTTTTTAGGGAAG

CCCTTC CGGTCT

GCCGGGGA

ACAAGGGAAG

PK4: -28.350000(kcal/mol): PK_start=2098 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2135
(fs_start=2083)

CCAC

AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCTTC

GGGCCGGAAG GGAA

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                                CCTTCA
                                GAATTT
=====
(3245) JN944907
=====
PK1:  -13.555000(kcal/mol): PK_start=2073 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2101
(fs_start=2093)
                                A
GAAGGGAAGGACATCAAATGAAAGATTGT
                                GACA    GAGAGTC
                                TTTT TAGGG
                                GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=2078 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2114
(fs_start=2093)
                                C
GAAGGACATCAAATGAAAGATTGTACTGAGAGA
                                GATTTTTT A  ATCGGA
                                TGGCCTTC
                                GGAAAATC

PK3:  -18.320000(kcal/mol): PK_start=2102 sp=0 s1=4 s2=4 l1=5 l2=10 L3=0 PK_end=2132
(fs_start=2093)
                                AATCT
ACTGAGAGACAGGCTAATTTTTTAGGGAA
                                CCTT    CCGG
                                GGCCCG
                                AACAAAGGGGA

PK4:  -20.515000(kcal/mol): PK_start=2111 sp=10 s1=7 s2=4 l1=4 l2=9 L3=0 PK_end=2145
(fs_start=2093)
                                CAAC
CAGGCTAATTTTTTAGGGAAAATCTGGCCTC
                                CCGGAGG    GGAA
                                TCTTCA
                                CGGGAATTT

PK4B:  -24.675000(kcal/mol): PK_start=2111 sp=10 s1=5 s2=4 l1=8 l2=35 L3=0
PK_end=2171 (fs_start=2093)
                                TCCAACAA
CAGGCTAATTTTTTAGGGAAAATCTGGCCT
                                CCGGA    GGGG
                                CCCCAC
                                CGGGAATTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(3246) JN944909
=====
PK1:  -12.640000(kcal/mol): PK_start=2065 sp=0 s1=3 s2=7 l1=4 l2=18 L3=0 PK_end=2106
(fs_start=2099)
                                CAAA
CTGTTGAAATGTGGAAAGGAAGGACAC

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          GTG   AGAAAGT
                TTTTTTAGG
          CACTGAAAGACAGGCTAA

PK2:  -20.50000(kcal/mol): PK_start=2084 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2120
(fs_start=2099)
                C
          GAAGGACACCAAATGAAAGAGTGCCTGAAAGA
                GATTTTTT  A  ATCGGA
                                TGGCCTTC
          GGAAAATC

PK3:  -30.70000(kcal/mol): PK_start=2108 sp=0 s1=3 s2=10 l1=4 l2=3 L3=0 PK_end=2140
(fs_start=2099)
                AAAT
          ACTGAAAGACAGGCTAATTTTTTAGGGA
                CCT   CCTTCCGGTC
                                GGAAGGCCAGGA
          AAG

PK4:  -26.71500(kcal/mol): PK_start=2114 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2151
(fs_start=2099)
                CTCC
          AGACAGGCTAATTTTTTAGGAAAATCTGGCCTTC
                GGACCGGAAG   GGAA
                                TCTTCA
          AAATTT

=====
(3247) JN944911
=====
PK1:  -15.58500(kcal/mol): PK_start=2084 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2112
(fs_start=2104)
                A
          GAAAGGAGGGACACCAAATGAAAGACTGT
                GACA   GAGAGTC
                                TTTTTTAGGG
          GCTAAT

PK2:  -21.60000(kcal/mol): PK_start=2089 sp=0 s1=7 s2=7 l1=1 l2=8 L3=2 PK_end=2125
(fs_start=2104)
                A
          GAGGGACACCAAATGAAAGACTGTACTGAGAG
                GATTTTTT  TA  ATCGGAC
                                TGGCCTGCC
          GGAAAATC

PK3:  -24.46000(kcal/mol): PK_start=2112 sp=0 s1=3 s2=8 l1=4 l2=8 L3=1 PK_end=2145
(fs_start=2104)
                AAAA
          TACTGAGAGACAGGCTAATTTTTTAGGG

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          CCC  G  TCCGGTCT
                AGGCCAGGAA
ACAAGGGG
PK4:  -22.195000(kcal/mol): PK_start=2119 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2156
(fs_start=2104)
                GCCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                GGACCGGA  GGGGA
                TTCTTCA
          AAACT
PK4B:  -30.395000(kcal/mol): PK_start=2119 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2182
(fs_start=2104)
                GCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                GGACCGGA  GGGG
                CCCAC
          AAACTTTCTTCAGAGCAGGCCAGACCAACAG
=====
(3248) JN944912
=====
PK1:  -15.585000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)
                A
GAAAGGAGGGACACCAAATGAAAGACTGT
                GACA  GAGAGTC
                TTTTATAGGG
          GCTAAT
PK2:  -21.600000(kcal/mol): PK_start=1489 sp=0 s1=7 s2=7 l1=1 l2=8 L3=2 PK_end=1525
(fs_start=1504)
                A
GAGGGACACCAAATGAAAGACTGTACTGAGAG
                GATTTTT  TA  ATCGGAC
                TGGCCTGCC
          GGAAAATC
PK3:  -24.460000(kcal/mol): PK_start=1512 sp=0 s1=3 s2=8 l1=4 l2=8 L3=1 PK_end=1545
(fs_start=1504)
                AAAA
TACTGAGAGACAGGCTAATTTTTTAGGG
                CCC  G  TCCGGTCT
                AGGCCAGGAA
          ACAAGGGG
PK4:  -22.195000(kcal/mol): PK_start=1519 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1556
(fs_start=1504)
                GCCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT

```


GGACCGGA GGGGA
 TTCTTCA
 AACT

PK4B: -30.395000(kcal/mol): PK_start=1519 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1582
 (fs_start=1504)

AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
 GCCCACAA
 GGACCGGA GGGG
 CCCCAC
 AACTTTCTTCAGAGCAGGCCAGAGCCAACAG

=====
 (3249) JN944913
 =====

PK1: -15.585000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
 (fs_start=1504)

A
 GAAAGGAGGGACACCAAATGAAAGACTGT
 GACA GAGAGTC
 TTTTATAGGG
 GCTAAT

PK2: -21.600000(kcal/mol): PK_start=1489 sp=0 s1=7 s2=7 l1=1 l2=8 L3=2 PK_end=1525
 (fs_start=1504)

A
 GAGGGACACCAAATGAAAGACTGTACTGAGAG
 GATTTTT TA ATCGGAC
 TGGCCTGCC
 GGAAAATC

PK3: -24.460000(kcal/mol): PK_start=1512 sp=0 s1=3 s2=8 l1=4 l2=8 L3=1 PK_end=1545
 (fs_start=1504)

AAAA
 TACTGAGAGACAGGCTAATTTTTTAGGG
 CCC G TCCGGTCT
 AGGCCAGGAA
 ACAAGGGG

PK4: -22.195000(kcal/mol): PK_start=1519 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1556
 (fs_start=1504)

GCCCACA
 AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
 GGACCGGA GGGGA
 TTCTTCA
 AACT

PK4B: -30.395000(kcal/mol): PK_start=1519 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1582
 (fs_start=1504)

GCCCACAA
 AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT

GGACCGGA GGG
CCCCAC
AAACTTTCTTCAGAGCAGGCCAGAGCCAACAG

=====
(3250) JN944914
=====

PK1: -15.585000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAAGGAGGGACACCAAATGAAAGACTGT

GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -21.600000(kcal/mol): PK_start=1489 sp=0 s1=7 s2=7 l1=1 l2=8 L3=2 PK_end=1525
(fs_start=1504)

A
GAGGGACACCAAATGAAAGACTGTACTGAGAG

GATTTTT TA ATCGGAC
TGGCCTGCC
GGAAAATC

PK3: -24.460000(kcal/mol): PK_start=1512 sp=0 s1=3 s2=8 l1=4 l2=8 L3=1 PK_end=1545
(fs_start=1504)

AAAA
TACTGAGAGACAGGCTAATTTTTTAGGG

CCC G TCCGGTCT
AGGCCAGGAA
ACAAGGGG

PK4: -22.195000(kcal/mol): PK_start=1519 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1556
(fs_start=1504)

GCCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT

GGACCGGA GGGGA
TTCTTCA
AAACT

PK4B: -30.395000(kcal/mol): PK_start=1519 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1582
(fs_start=1504)

GCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT

GGACCGGA GGGG
CCCCAC
AAACTTTCTTCAGAGCAGGCCAGAGCCAACAG

=====
(3251) JN944915
=====

PK1: -15.585000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512 (fs_start=1504)

A
GAAAGGAGGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -21.600000(kcal/mol): PK_start=1489 sp=0 s1=7 s2=7 l1=1 l2=8 L3=2 PK_end=1525 (fs_start=1504)

A
GAGGGACACCAAATGAAAGACTGTACTGAGAG
GATTTTT TA ATCGGAC
TGGCCTGCC
GGAAAATC

PK3: -24.460000(kcal/mol): PK_start=1512 sp=0 s1=3 s2=8 l1=4 l2=8 L3=1 PK_end=1545 (fs_start=1504)

AAAA
TACTGAGAGACAGGCTAATTTTTTAGGG
CCC G TCCGGTCT
AGGCCAGGAA
ACAAGGGG

PK4: -22.195000(kcal/mol): PK_start=1519 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1556 (fs_start=1504)

GCCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGGA
TTCTTCA
AAACT

PK4B: -30.395000(kcal/mol): PK_start=1519 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1582 (fs_start=1504)

GCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
AAACTTTCTTCAGAGCAGGCCAGCCAACAG

=====
(3252) JN944917
=====

PK1: -13.555000(kcal/mol): PK_start=2061 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2089 (fs_start=2081)

A
GAAAAGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2066 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2102 (fs_start=2081)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=2089 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2123 (fs_start=2081)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -29.020000(kcal/mol): PK_start=2096 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2133 (fs_start=2081)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(3253) JN944918
=====

PK1: -13.555000(kcal/mol): PK_start=1480 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1508 (fs_start=1500)

A
GAAAAGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1485 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1521 (fs_start=1500)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1508 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1542 (fs_start=1500)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -29.020000(kcal/mol): PK_start=1515 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1552
(fs_start=1500)

CCAC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(3254) JN944920
=====

PK1: -13.555000(kcal/mol): PK_start=1480 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1508
(fs_start=1500)

A
GAAAAGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1485 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1521
(fs_start=1500)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1508 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1542
(fs_start=1500)

AAA
TACTGAGAGACAGGCTAATTTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -29.020000(kcal/mol): PK_start=1515 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1552
(fs_start=1500)

CCAC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(3255) JN944921
=====

PK1: -13.555000(kcal/mol): PK_start=1480 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1508
(fs_start=1500)

A
GAAAAGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC

```

                TTTT TAGGG
      GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1485 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1521
(fs_start=1500)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT A  ATCGGA
                TGGCCTTC
      GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1508 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1542
(fs_start=1500)
                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTCT
                AGGCCAGGGA
      ACAAGGGA
PK4:  -29.020000(kcal/mol): PK_start=1515 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1552
(fs_start=1500)
                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                GGACCGGAAG   GGAA
                CCTTCA
      GAATTT

=====
(3256) JN944922
=====
PK1:  -13.555000(kcal/mol): PK_start=1480 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1508
(fs_start=1500)
                A
GAAAAGAAGGACACCAAATGAAAGATTGT
                GACA   GAGAGTC
                TTTT TAGGG
      GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1485 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1521
(fs_start=1500)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT A  ATCGGA
                TGGCCTTC
      GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1508 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1542
(fs_start=1500)
                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTCT

```

AGGCCAGGGA

ACAAGGGA

PK4: -29.020000(kcal/mol): PK_start=1515 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1552
(fs_start=1500)

CCAC

AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAAG GGAA

CCTTCA

GAATTT

=====
(3257) JN944923
=====

PK1: -13.555000(kcal/mol): PK_start=1480 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1508
(fs_start=1500)

A

GAAAAGAAGGACACCAAATGAAAGATTGT

GACA GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1485 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1521
(fs_start=1500)

C

GAAGGACACCAAATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1508 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1542
(fs_start=1500)

AAA

TACTGAGAGACAGGCTAATTTTTTTAGGGA

CCCT TCCGGTCT

AGGCCAGGGA

ACAAGGGA

PK4: -29.020000(kcal/mol): PK_start=1515 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1552
(fs_start=1500)

CCAC

AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAAG GGAA

CCTTCA

GAATTT

=====
(3258) JN944924
=====

PK1: -13.555000(kcal/mol): PK_start=1480 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1508
(fs_start=1500)

A

GAAAAGAAGGACACCAAATGAAAGATTGT

```

                GACA    GAGAGTC
                    TTTT TAGGG
GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1485 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1521
(fs_start=1500)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                    GATTTTTT A  ATCGGA
                                TGGCCTTC
                    GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1508 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1542
(fs_start=1500)
                                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                    CCCT    TCCGGTCT
                                AGGCCAGGGA
                    ACAAGGGA

PK4:  -29.020000(kcal/mol): PK_start=1515 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1552
(fs_start=1500)
                                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                    GGACCGGAAG    GGAA
                                CCTTCA
                    GAATTT

=====
(3259) JN944925
=====
PK1:  -13.555000(kcal/mol): PK_start=1480 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1508
(fs_start=1500)
                                A
GAAAAGAAGGACACCAAATGAAAGATTGT
                    GACA    GAGAGTC
                                TTTT TAGGG
GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1485 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1521
(fs_start=1500)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                    GATTTTTT A  ATCGGA
                                TGGCCTTC
                    GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1508 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1542
(fs_start=1500)
                                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA

```


CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA
PK4: -29.020000(kcal/mol): PK_start=1515 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1552
(fs_start=1500)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(3260) JN944926
=====

PK1: -13.555000(kcal/mol): PK_start=1480 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1508
(fs_start=1500)

A
GAAAAGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1485 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1521
(fs_start=1500)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1508 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1542
(fs_start=1500)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -29.020000(kcal/mol): PK_start=1515 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1552
(fs_start=1500)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(3261) JN944928
=====

PK1: -13.555000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2092
(fs_start=2084)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2105
(fs_start=2084)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=2092 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=2126
(fs_start=2084)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=2099 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2136
(fs_start=2084)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAACTT

=====
(3262) JN944930
=====

PK1: -13.555000(kcal/mol): PK_start=2095 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2123
(fs_start=2115)

A
GGAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2100 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2136
(fs_start=2115)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=2123 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2157
(fs_start=2115)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -28.540000(kcal/mol): PK_start=2130 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2167
(fs_start=2115)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTC
GGACCGGAGG GGAA
CCTTCA
GAACTT

PK4B: -30.395000(kcal/mol): PK_start=2130 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2193
(fs_start=2115)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAACTTCCTTCAGAGCAGGCCAGCCAACAG

=====
(3263) JN944931
=====

PK1: -13.555000(kcal/mol): PK_start=1482 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1510
(fs_start=1502)

A
GGAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1487 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1523
(fs_start=1502)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1510 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1544
(fs_start=1502)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -28.540000(kcal/mol): PK_start=1517 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1554
(fs_start=1502)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAACTT

PK4B: -30.395000(kcal/mol): PK_start=1517 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1580
(fs_start=1502)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAACTTCCTTCAGAGCAGGCCAGAGCCAACAG

=====
(3264) JN944932
=====

PK1: -13.555000(kcal/mol): PK_start=1481 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1509
(fs_start=1501)

A
GGAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1486 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1522
(fs_start=1501)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1509 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1543
(fs_start=1501)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -28.540000(kcal/mol): PK_start=1516 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1553
(fs_start=1501)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAACTT

PK4B: -30.395000(kcal/mol): PK_start=1516 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1579
(fs_start=1501)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAACTTCCTTCAGAGCAGGCCAGAGCCAACAG

=====
(3265) JN944933
=====

PK1: -13.555000(kcal/mol): PK_start=1482 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1510
(fs_start=1502)

A
GGAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1487 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1523
(fs_start=1502)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1510 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1544
(fs_start=1502)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -28.540000(kcal/mol): PK_start=1517 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1554
(fs_start=1502)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAACTT

PK4B: -30.395000(kcal/mol): PK_start=1517 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1580
(fs_start=1502)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAACTTCCTTCAGAGCAGGCCAGAGCCAACAG

=====
(3266) JN944934
=====

PK1: -13.555000(kcal/mol): PK_start=1482 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1510
(fs_start=1502)

A
GGAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1487 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1523
(fs_start=1502)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1510 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=1544
(fs_start=1502)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -28.540000(kcal/mol): PK_start=1517 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1554
(fs_start=1502)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAACTT

PK4B: -30.395000(kcal/mol): PK_start=1517 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=1580
(fs_start=1502)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAACTTCCTTCAGAGCAGGCCAGAGCCAACAG

=====
(3267) JN944936
=====

PK1: -13.595000(kcal/mol): PK_start=2088 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=2116
(fs_start=2108)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC

TTTTTAGGG
GCTAAT
PK2: -20.500000(kcal/mol): PK_start=2093 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2129
(fs_start=2108)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=2116 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=2150
(fs_start=2108)

A
TACTGAAAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
CCAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=2123 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2160
(fs_start=2108)

CTCC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=2123 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2186
(fs_start=2108)

TCCTCCAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCTTCAGAACAGACCAGAGCCAACAG

=====
(3268) JN944938
=====

PK1: -15.585000(kcal/mol): PK_start=2062 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2090
(fs_start=2082)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2067 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2103
(fs_start=2082)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT A ATCGGA

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                                TGGCCTTC
          GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=2090 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2124
(fs_start=2082)
                                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTCT
                                AGGCCAGGGA
          ACAAGGGA
PK4:  -29.020000(kcal/mol): PK_start=2097 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2134
(fs_start=2082)
                                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAAG   GGAA
                                CCTTCA
          GAATTT
=====
(3269) JN944939
=====
PK1:  -13.555000(kcal/mol): PK_start=2063 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2091
(fs_start=2083)
                                A
GAAAGGAAGGACATCAAATGAAAGATTGT
                                GACA   GAGAGTC
                                TTTTTAGGG
          GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=2068 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2104
(fs_start=2083)
                                C
GAAGGACATCAAATGAAAGATTGTACTGAGAGA
                                GATTTTTT   A   ATCGGA
                                TGGCCTTC
          GGAAGATC
PK3:  -25.440000(kcal/mol): PK_start=2091 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=2125
(fs_start=2083)
                                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                                CCCTTC   CGGTCT
                                GCCGGGGA
          ACAAGGGAAG
PK4:  -28.350000(kcal/mol): PK_start=2098 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2135
(fs_start=2083)
                                CCAC
AGACAGGCTAATTTTTTAGGGAAAGATCTGGCCTTC
                                GGGCCGGAAG   GGAA

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                                CCTTCA
                                GAATTT
=====
(3270) JN944940
=====
PK1:  -13.555000(kcal/mol): PK_start=2073 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2101
(fs_start=2093)
                                A
GAAGGGAAGGACATCAAATGAAAGATTGT
                                GACA    GAGAGTC
                                TTTTtaggg
                                GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=2078 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2114
(fs_start=2093)
                                C
GAAGGACATCAAATGAAAGATTGTACTGAGAGA
                                GATTTTTT A  ATCGGA
                                TGGCCTTC
                                GGAAAATC
PK3:  -18.320000(kcal/mol): PK_start=2102 sp=0 s1=4 s2=4 l1=5 l2=10 L3=0 PK_end=2132
(fs_start=2093)
                                AATCT
ACTGAGAGACAGGCTAATTTTTTAGGGAA
                                CCTT    CCGG
                                GGCCCG
                                AACAAAGGGGA
PK4:  -20.515000(kcal/mol): PK_start=2111 sp=10 s1=7 s2=4 l1=4 l2=9 L3=0 PK_end=2145
(fs_start=2093)
                                CAAC
CAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                                CCGGAGG    GGAA
                                TCTTCA
                                CGGGAATTT
PK4B:  -24.675000(kcal/mol): PK_start=2111 sp=10 s1=5 s2=4 l1=8 l2=35 L3=0
PK_end=2171 (fs_start=2093)
                                TCCAACAA
CAGGCTAATTTTTTAGGGAAAATCTGGCCT
                                CCGGA    GGGG
                                CCCCAC
                                CGGGAATTTCTTCAGAGCAGACCAGAGCCAACAG
=====
(3271) JN944941
=====
PK1:  -12.640000(kcal/mol): PK_start=2065 sp=0 s1=3 s2=7 l1=4 l2=18 L3=0 PK_end=2106
(fs_start=2099)
                                CAAA
CTGTTGAAATGTGGAAAGGAAGGACAC

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          GTG   AGAAAGT
                TTTTTTAGG
          CACTGAAAGACAGGCTAA

PK2:  -20.500000(kcal/mol): PK_start=2084 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2120
(fs_start=2099)
                C
GAAGGACACCAAATGAAAGAGTGCCTGAAAGA
                GATTTTTT A  ATCGGA
                                TGGCCTTC
          GGAAAATC

PK3:  -30.700000(kcal/mol): PK_start=2108 sp=0 s1=3 s2=10 l1=4 l2=3 L3=0 PK_end=2140
(fs_start=2099)
                AAAT
ACTGAAAGACAGGCTAATTTTTTAGGGA
                CCT   CCTTCCGGTC
                                GGAAGGCCAGGA
          AAG

PK4:  -26.715000(kcal/mol): PK_start=2114 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2151
(fs_start=2099)
                CTCC
AGACAGGCTAATTTTTTAGGAAAATCTGGCCTTC
                GGACCGGAAG   GGAA
                                TCTTCA
          AAATTT

=====
(3272) JN944942
=====
PK1:  -13.845000(kcal/mol): PK_start=2012 sp=0 s1=3 s2=8 l1=5 l2=16 L3=0 PK_end=2054
(fs_start=2047)
                TCAAA
GCTGTTGGAAATGTGGAAAGGAGGGGCA
                CGT   TAGAAAGT
                                ATTTTTTAGG
          ATTGAAAGACAGGCTA

PK2:  -18.470000(kcal/mol): PK_start=2032 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2068
(fs_start=2047)
                C
GAGGGGCATCAAATGAAAGATTGCATTGAAAGA
                GATTTTTT A  ATCGGA
                                TGGCCTTC
          GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=2055 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2089
(fs_start=2047)
                AAA
CATTGAAAGACAGGCTAATTTTTTAGGGA

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          CCCT   TCCGGTCT
                AGGCCAGGGA
ACAAGGGA

PK4:  -26.715000(kcal/mol): PK_start=2062 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2099
(fs_start=2047)
                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                GGACCGGAAG   GGAA
                TCTTCA
          GAATTT

=====
(3273) JN944943
=====
PK1:  -15.585000(kcal/mol): PK_start=2084 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2112
(fs_start=2104)
                A
GAAAGGAGGGACACCAAATGAAAGACTGT
                GACA   GAGAGTC
                TTTTTAGGG
          GCTAAT

PK2:  -21.600000(kcal/mol): PK_start=2089 sp=0 s1=7 s2=7 l1=1 l2=8 L3=2 PK_end=2125
(fs_start=2104)
                A
GAGGGACACCAAATGAAAGACTGTACTGAGAG
                GATTTTT TA  ATCGGAC
                TGGCCTGCC
          GGAAAATC

PK3:  -24.460000(kcal/mol): PK_start=2112 sp=0 s1=3 s2=8 l1=4 l2=8 L3=1 PK_end=2145
(fs_start=2104)
                AAAA
TACTGAGAGACAGGCTAATTTTTTAGGG
                CCC G  TCCGGTCT
                AGGCCAGGAA
          ACAAGGGG

PK4:  -22.195000(kcal/mol): PK_start=2119 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2156
(fs_start=2104)
                GCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                GGACCGGA   GGGGA
                TTCTTCA
          AAACT

PK4B:  -30.395000(kcal/mol): PK_start=2119 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2182
(fs_start=2104)
                GCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT

```

GGACCGGA GGGG
CCCCAC
AAACTTTCTTCAGAGCAGGCCAGAGCCAACAG

=====
(3274) JN944944
=====

PK1: -13.555000(kcal/mol): PK_start=2061 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2089
(fs_start=2081)

A
GAAAAGAAGGACACCAAATGAAAGATTGT

GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2066 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2102
(fs_start=2081)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=2089 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2123
(fs_start=2081)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -29.020000(kcal/mol): PK_start=2096 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2133
(fs_start=2081)

CCAC
AGACAGGCTAATTTTTTAGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(3275) JN944945
=====

PK1: -13.555000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2092
(fs_start=2084)

A
GAAAGGAAGGACACCAAATGAAAGATTGT

GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2105
(fs_start=2084)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=2092 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=2126
(fs_start=2084)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=2099 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2136
(fs_start=2084)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAACTT

=====
(3276) JN944946
=====

PK1: -13.555000(kcal/mol): PK_start=2095 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2123
(fs_start=2115)

A
GGAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2100 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2136
(fs_start=2115)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=2123 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2157
(fs_start=2115)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -28.540000(kcal/mol): PK_start=2130 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2167
(fs_start=2115)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAACTT

PK4B: -30.395000(kcal/mol): PK_start=2130 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2193
(fs_start=2115)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAACTTCCTTCAGAGCAGGCCAGAGCCAACAG

=====
(3277) JN944947
=====

PK1: -13.595000(kcal/mol): PK_start=2088 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2116
(fs_start=2108)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=2093 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2129
(fs_start=2108)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=2116 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=2150
(fs_start=2108)

A
TACTGAAAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
CCAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=2123 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2160
(fs_start=2108)

CTCC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=2123 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2186
(fs_start=2108)

TCCTCCAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCTTCAGAACAGACCAGGCCAACAG

=====
(3278) JN944948
=====

PK1: -15.585000(kcal/mol): PK_start=2062 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2090
(fs_start=2082)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2067 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2103
(fs_start=2082)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=2090 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2124
(fs_start=2082)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -29.020000(kcal/mol): PK_start=2097 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2134
(fs_start=2082)

CCAC
AGACAGGCTAATTTTTTAGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(3279) JQ292891
=====

PK1: -15.100000(kcal/mol): PK_start=1329 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1357
(fs_start=1349)

CA
GAAAGGAAGGCCATCAAATGAAAGACTG
GAC AGAGAGTC

TTTTTTAGGG

GCTAA

PK2: -21.940000(kcal/mol): PK_start=1334 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1371
(fs_start=1349)

C

GAAGGCCATCAAATGAAAGACTGCACTGAGAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAGAAT

PK3: -18.840000(kcal/mol): PK_start=1357 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1391
(fs_start=1349)

AA

CACTGAGAGACAGGCTAATTTTTTTAGGGAG

CCTTC CGGTTT

GCCAGGAA

AGCAAAGGGAG

PK4: -21.815000(kcal/mol): PK_start=1364 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1401
(fs_start=1349)

TCCAGCAA

AGACAGGCTAATTTTTTTAGGGAGAATTTGGCCT

GGACCGGA GGA

TCCTCA

AAATTT

=====
(3280) JQ292892
=====

PK1: -15.100000(kcal/mol): PK_start=1361 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1389
(fs_start=1381)

CA

GAAAGGAAGGCCATCAAATGAAAGACTG

GAC AGAGAGTC

TTTTTTAGGG

GCTAA

PK2: -21.940000(kcal/mol): PK_start=1366 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1403
(fs_start=1381)

C

GAAGGCCATCAAATGAAAGACTGCACTGAGAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1390 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1423
(fs_start=1381)

AAA

ACTGAGAGACAGGCTAATTTTTTTAGGGA

CCT TCCGGTTT


```

                                AGGCCAGGAA
                        AGCAAAGGG

PK4:  -21.815000(kcal/mol): PK_start=1396 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1433
(fs_start=1381)
                                TCCAGCAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
                                GGACCGGA    GGG
                                TCCTCA
                        AAATTT

=====
(3281) JQ292893
=====

PK1:  -15.100000(kcal/mol): PK_start=1521 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1549
(fs_start=1541)
                                CA
GAAAGGAAGGTCATCAAATGAAAGACTG
                                GAC    AGAGAGTC
                                TTTTTTAGGA
                        GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1526 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1563
(fs_start=1541)
                                C
GAAGGTCATCAAATGAAAGACTGCACTGAGAGA
                                GATTTTTT    AATCGGA
                                TTGGCCTTC
                        GAAGAAT

PK3:  -19.320000(kcal/mol): PK_start=1549 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1583
(fs_start=1541)
                                AA
CACTGAGAGACAGGCTAATTTTTTTAGGAAG
                                CCTTC    CGGTTT
                                GCCAGGAA
                        AGCAAGGGGAG

PK4:  -22.215000(kcal/mol): PK_start=1556 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1593
(fs_start=1541)
                                CCAGCA
AGACAGGCTAATTTTTTTAGGAAGAATTTGGCCTT
                                GGACCGGAG    GGG
                                TCCTCA
                        AAATTT

PK4B: -26.865000(kcal/mol): PK_start=1556 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1619
(fs_start=1541)
                                TCCAGCAA
AGACAGGCTAATTTTTTTAGGAAGAATTTGGCCT
                                GGACCGGA    GGG

```

CCCCAC
AAATTTTCCTCAGAGCAGACCAGAGCCATCAG

=====
(3282) JQ292894
=====

PK1: -15.100000(kcal/mol): PK_start=1519 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1547
(fs_start=1539)

CA
GAAGGGAAGGCCATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1524 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1561
(fs_start=1539)

C
GAAGGCCATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAGAAT

PK3: -18.840000(kcal/mol): PK_start=1547 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1581
(fs_start=1539)

AA
CACTGAGAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTTT
GCCAGGGA
AGCAAAGGGAG

PK4: -21.815000(kcal/mol): PK_start=1554 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1591
(fs_start=1539)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
GGACCGGA GGA
TCCTCA
GAATTT

=====
(3283) JQ292895
=====

PK1: -15.100000(kcal/mol): PK_start=1328 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1356
(fs_start=1348)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1333 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1370
(fs_start=1348)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA

```

                GATTTTTT   AATCGGA
                                TTGGCCTTC
        GGAGAAT
PK3:  -18.840000(kcal/mol): PK_start=1356 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1390
(fs_start=1348)
                AA
CACTGAGAGACAGGCTAATTTTTTTAGGGAG
                CCTTC   CGGTTT
                                GCCAGGAA
        AGCAAAGGGAG
PK4:  -21.815000(kcal/mol): PK_start=1363 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1400
(fs_start=1348)
                                TCCAGCAA
AGACAGGCTAATTTTTTTAGGGAGAATTTGGCCT
                GGACCGGA   GGA
                                TCCTCA
        AAATTT

=====
(3284) JQ292896
=====
PK1:  -15.100000(kcal/mol): PK_start=1513 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1541
(fs_start=1533)
                CA
GAAAGGAAGGCCATCAAATGAAAGACTG
                GAC   AGAGAGTC
                                TTTTTTAGGG
        GCTAA
PK2:  -21.940000(kcal/mol): PK_start=1518 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1555
(fs_start=1533)
                C
GAAGGCCATCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT   AATCGGA
                                TTGGCCTTC
        GGAAAAT
PK3:  -20.285000(kcal/mol): PK_start=1542 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1575
(fs_start=1533)
                AAA
ACTGAGAGACAGGCTAATTTTTTTAGGGA
                CCT   TCCGGTTT
                                AGGCCAGGAA
        AGCAAAGGG
PK4:  -21.815000(kcal/mol): PK_start=1548 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1585
(fs_start=1533)
                                TCCAGCAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT

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                GGACCGGA    GGA
                TCCTCA
AAATTT

=====
(3285) JQ292897
=====
PK1:  -15.10000(kcal/mol): PK_start=1509 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1537
(fs_start=1529)
                CA
GAAAGGAAGGCCATCAAATGAAAGACTG
                GAC    AGAGAGTC
                TTTTTTAGGG
GCTAA

PK2:  -21.94000(kcal/mol): PK_start=1514 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1551
(fs_start=1529)
                C
GAAGGCCATCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT    AATCGGA
                TTGGCCTTC
GAAAAT

PK3:  -20.28500(kcal/mol): PK_start=1538 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1571
(fs_start=1529)
                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                CCT    TCCGGTTT
                AGGCCAGGAA
AACAAGGGG

PK4:  -22.21500(kcal/mol): PK_start=1544 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1581
(fs_start=1529)
                CCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
                GGACCGGAG    GGA
                TCCTCA
AAATTT

PK4B:  -26.86500(kcal/mol): PK_start=1544 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1607
(fs_start=1529)
                TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA    GGG
                CCCAC
AAATTTTCCTCAGAGCAGACCAGAACCATCAG

=====
(3286) JQ292898
=====

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PK1: -15.10000(kcal/mol): PK_start=1512 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1540
(fs_start=1532)

CA
GAAAGGAAGGCCATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTTAGGG
GCTAA

PK2: -21.94000(kcal/mol): PK_start=1517 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1554
(fs_start=1532)

C
GAAGGCCATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAGAAT

PK3: -18.84000(kcal/mol): PK_start=1540 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1574
(fs_start=1532)

AA
CACTGAGAGACAGGCTAATTTTTTTAGGGAG
CCTTC CGGTTT
GCCAGGGA
AGCAAAGGGAG

PK4: -21.81500(kcal/mol): PK_start=1547 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1584
(fs_start=1532)

TCCAGCAA
AGACAGGCTAATTTTTTTAGGGAGAATTTGGCCT
GGACCGGA GGG
TCCTCA
GAATTT

=====
(3287) JQ292899
=====

PK1: -15.10000(kcal/mol): PK_start=1513 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1541
(fs_start=1533)

CA
GAAAGGAAGGCCATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTTAGGG
GCTAA

PK2: -21.94000(kcal/mol): PK_start=1518 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1555
(fs_start=1533)

C
GAAGGCCATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1542 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1575
(fs_start=1533)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AGCAAAGGG

PK4: -21.815000(kcal/mol): PK_start=1548 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1585
(fs_start=1533)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGA
TCCTCA
AAATTT

=====
(3288) JQ292900
=====

PK1: -15.100000(kcal/mol): PK_start=1513 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1541
(fs_start=1533)

CA
GAAAGGAAGGCCATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1518 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1555
(fs_start=1533)

C
GAAGGCCATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1542 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1575
(fs_start=1533)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AGCAAGGGG

PK4: -22.215000(kcal/mol): PK_start=1548 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1585
(fs_start=1533)

CCAGCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGAG GGGA
TCCTCA
AAATTT

PK4B: -26.865000(kcal/mol): PK_start=1548 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1611
(fs_start=1533)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTTCCTCAGAGCAGACCAGAACCATCAG

=====
(3289) JQ316126
=====

PK1: -13.555000(kcal/mol): PK_start=1750 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1778
(fs_start=1770)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCCAAT

PK2: -22.720000(kcal/mol): PK_start=1755 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1791
(fs_start=1770)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ACCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1778 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1812
(fs_start=1770)

AAA
TACTGAGAGACAGGCCAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=1785 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1822
(fs_start=1770)

CCAC
AGACAGGCCAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1785 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1848
(fs_start=1770)

TCCCACAA
AGACAGGCCAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCTTCAGAGCAGACCAGAGCCATCAG

=====
(3290) JQ316127
=====

PK1: -13.555000(kcal/mol): PK_start=2030 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2058
(fs_start=2050)

A
GAAGGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2035 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2071
(fs_start=2050)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=2058 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2092
(fs_start=2050)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.445000(kcal/mol): PK_start=2065 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2102
(fs_start=2050)

TCCCACA
AGACAGGCTAATTTTTTAGGAAAATCTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAACT

=====
(3291) JQ316128
=====

PK1: -13.555000(kcal/mol): PK_start=1742 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1770
(fs_start=1762)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1747 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1783
(fs_start=1762)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA


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                                TGGCCTTC
          GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1770 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1804
(fs_start=1762)
                                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTCT
                                AGGCCAGGGA
          ACAAGGGG
PK4:  -28.540000(kcal/mol): PK_start=1777 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1814
(fs_start=1762)
                                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAGG   GGAA
                                CCTTCA
          GAATTT
PK4B:  -30.395000(kcal/mol): PK_start=1777 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1840
(fs_start=1762)
                                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                                GGACCGGA   GGGG
                                CCCCAC
          GAATTTCTTCAGAGCAGACCAGGCCATCAG

=====
(3292) JQ316129
=====
PK1:  -13.555000(kcal/mol): PK_start=1743 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1771
(fs_start=1763)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                                GACA   GAGAGTC
                                TTTTTAGGG
          GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1748 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1784
(fs_start=1763)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                                GATTTTTT   A   ATCGGA
                                TGGCCTTC
          GGAAGATC
PK3:  -26.110000(kcal/mol): PK_start=1771 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1805
(fs_start=1763)
                                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                                CCCTTC   CGGTCT

```

GCCAGGGA

ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1778 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1815
(fs_start=1763)

CCAC

AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCTTC

GGACCGGAAG GGAA

TCTTCA

GAATTT

=====
(3293) JQ316130
=====

PK1: -15.585000(kcal/mol): PK_start=1750 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1778
(fs_start=1770)

A

GAAAGGAAGGACACCAAATGAAAGACTGT

GACA GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1755 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1791
(fs_start=1770)

C

GAAGGACACCAAATGAAAGACTGTACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1778 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1812
(fs_start=1770)

A

TACTGAGAGACAGGCTAATTTTTTTAGGGAAG

CCCTTC CGGTCT

GCCAGGGA

ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1785 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1822
(fs_start=1770)

CCAC

AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCTTC

GGACCGGAAG GGAA

TCTTCA

GAATTT

=====
(3294) JQ316131
=====

PK1: -10.725000(kcal/mol): PK_start=1747 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1775
(fs_start=1767)

A

GAAAGGAAGGACACCAAATGAAAGATTGT

GACA GAGAGTT
TTTTTAGGG
GCTAAT
PK2: -18.430000(kcal/mol): PK_start=1752 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1788
(fs_start=1767)

C
GAAGGACACCAAATGAAAGATTGTATTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1775 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1809
(fs_start=1767)

AAA
TATTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=1782 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1819
(fs_start=1767)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1782 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1845
(fs_start=1767)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCTTCAGAGCAGACCAGGCCATCAG

=====
(3295) JQ316132
=====

PK1: -13.555000(kcal/mol): PK_start=1983 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2011
(fs_start=2003)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1988 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2024
(fs_start=2003)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA
 TGGCCTTC
 GGAAAATC
 PK3: -27.275000(kcal/mol): PK_start=2011 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2045
 (fs_start=2003)
 AAA
 TACTGAGAGACAGGCTAATTTTTTAGGGA
 CCCT TCCGGTCT
 AGGCCAGGGA
 ACAAGGGA
 PK4: -26.445000(kcal/mol): PK_start=2018 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2055
 (fs_start=2003)
 TCCCACA
 AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
 GGACCGGA AGGGA
 TTCCTCA
 GAATT
 =====
 (3296) JQ316133
 =====
 PK1: -10.975000(kcal/mol): PK_start=2021 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=2048
 (fs_start=2041)
 AA
 GAAAGGAAGGACACCAAATGAAAGATTGT
 GACA GAGAGT
 TTTTTAGG
 GCCAAT
 PK2: -20.440000(kcal/mol): PK_start=2027 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=2062
 (fs_start=2041)
 C
 AAGGACACCAAATGAAAGATTGTAATGAGAGA
 ATTTTTT A ACCGGA
 TGGCCTTC
 GGGAGAATC
 PK3: -22.370000(kcal/mol): PK_start=2049 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=2083
 (fs_start=2041)
 AA
 TAATGAGAGACAGGCCAATTTTTTAGGGAG
 CCTTC CGGTCT
 GCCAGGGA
 CACAAGGGAAG
 PK4: -26.715000(kcal/mol): PK_start=2056 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2093
 (fs_start=2041)
 CCAC
 AGACAGGCCAATTTTTTAGGGAGAATCTGGCCTTC

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                GGACCGGAAG    GGAA
                                TCTTCA
          GAATTT
=====
(3297) JQ316134
=====
PK1:  -10.975000(kcal/mol): PK_start=2022 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=2049
(fs_start=2042)
                AA
GAAAAGAAGGACACCAAATGAAAGATTGT
                GACA    GAGAGT
                                TTTTTAGG
          GCCAAT
PK2:  -20.440000(kcal/mol): PK_start=2028 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=2063
(fs_start=2042)
                C
AAGGACACCAAATGAAAGATTGTAATGAGAGA
                ATTTTTT  A  ACCGGA
                                TGGCCTTC
          GGGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=2050 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2084
(fs_start=2042)
                AAA
TAATGAGAGACAGGCCAATTTTTTAGGGA
                CCCT    TCCGGTCT
                                AGGCCAGGGA
          ACAAGGGA
PK4:  -27.535000(kcal/mol): PK_start=2057 sp=7 s1=10 s2=6 l1=2 l2=3 L3=0 PK_end=2093
(fs_start=2042)
                CC
AGACAGGCCAATTTTTTAGGGAAAATCTGGCCTTC
                GGACCGGAAG    GGAACA
                                TTTTGTTT
          GAA
=====
(3298) JQ316135
=====
PK1:  -13.555000(kcal/mol): PK_start=2018 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2046
(fs_start=2038)
                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                GACA    GAGAGTC
                                TTTTTAGGG
          GCTAAT

```

PK2: -20.46000(kcal/mol): PK_start=2023 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2059
(fs_start=2038)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.11000(kcal/mol): PK_start=2046 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=2080
(fs_start=2038)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.71500(kcal/mol): PK_start=2053 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2090
(fs_start=2038)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(3299) JQ316136
=====

PK1: -15.58500(kcal/mol): PK_start=1776 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1804
(fs_start=1796)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -21.94000(kcal/mol): PK_start=1781 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1818
(fs_start=1796)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.28500(kcal/mol): PK_start=1805 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1838
(fs_start=1796)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AGCAAGGGG

PK4: -22.215000(kcal/mol): PK_start=1811 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1848
(fs_start=1796)

CCAGCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGAG GGGG
TCCTCA
AAATTT

PK4B: -26.865000(kcal/mol): PK_start=1811 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1874
(fs_start=1796)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGA GGGG
CCCCAC
AAATTTTCCTCAGAGCAGACAGGAACCAACAG

=====
(3300) JQ316137
=====

PK1: -15.585000(kcal/mol): PK_start=1776 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1804
(fs_start=1796)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -21.940000(kcal/mol): PK_start=1781 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1818
(fs_start=1796)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1805 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1838
(fs_start=1796)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AGCAAGGGG

PK4: -22.215000(kcal/mol): PK_start=1811 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1848
(fs_start=1796)

CCAGCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGAG GGGG
TCCTCA
AAATTT

PK4B: -26.865000(kcal/mol): PK_start=1811 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1874
(fs_start=1796)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTTCCTCAGAGCAGACAGGAACCAACAG

=====
(3301) JQ316138
=====

PK1: -13.555000(kcal/mol): PK_start=1623 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1651
(fs_start=1643)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -21.940000(kcal/mol): PK_start=1628 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1665
(fs_start=1643)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1652 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1685
(fs_start=1643)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AGCAAGGGG

PK4: -22.215000(kcal/mol): PK_start=1658 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1695
(fs_start=1643)

CCAGCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGAG GGGG
TCCTCA
AAATTT

PK4B: -26.865000(kcal/mol): PK_start=1658 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1721
(fs_start=1643)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTTCCTCAGAGCAGACAGGAACCAACAG

=====
(3302) JQ341411
=====

PK1: -13.555000(kcal/mol): PK_start=1730 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1758
(fs_start=1750)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1735 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1771
(fs_start=1750)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1758 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1792
(fs_start=1750)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -29.020000(kcal/mol): PK_start=1765 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1802
(fs_start=1750)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(3303) JQ403019
=====

PK1: -13.555000(kcal/mol): PK_start=1275 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1303
(fs_start=1295)

A
GAAGGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1280 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1316
(fs_start=1295)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA

```

                                TGGCCTTC
          GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1303 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1337
(fs_start=1295)
                                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTCT
                                AGGCCAGGGA
          ACAAGGGG
PK4:  -26.235000(kcal/mol): PK_start=1310 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1347
(fs_start=1295)
                                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAGG   GGAA
                                TCTTCA
          GAATTT
PK4B:  -30.395000(kcal/mol): PK_start=1310 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1373
(fs_start=1295)
                                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                                GGACCGGA   GGGG
                                CCCCAC
          GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(3304) JQ403021
=====
PK1:  -13.555000(kcal/mol): PK_start=1290 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1318
(fs_start=1310)
                                A
GAAGGGAAGGACATCAAATGAAAGATTGT
                                GACA   GAGAGTC
                                TTTTTAGGG
          GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1295 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1331
(fs_start=1310)
                                C
GAAGGACATCAAATGAAAGATTGTACTGAGAGA
                                GATTTTTT   A   ATCGGA
                                TGGCCTTC
          GGAAGATC
PK3:  -26.110000(kcal/mol): PK_start=1318 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1352
(fs_start=1310)
                                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                                CCCTTC   CGGTCT

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GCCAGGGA

ACAAGGGAAG

PK4: -29.020000(kcal/mol): PK_start=1325 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1362
(fs_start=1310)

CCAC

AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCTTC

GGACCGGAAG GGAA

CCTTCA

GAATTT

=====
(3305) JQ403022
=====

PK1: -13.555000(kcal/mol): PK_start=1275 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1303
(fs_start=1295)

A

GAAGAGAAGGACATCAGATGAAGGATTGT

GACA GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1280 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1316
(fs_start=1295)

C

GAAGGACATCAGATGAAGGATTGTTACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAAATC

PK3: -30.700000(kcal/mol): PK_start=1304 sp=0 s1=3 s2=10 l1=4 l2=3 L3=0 PK_end=1336
(fs_start=1295)

AAAT

ACTGAGAGACAGGCTAATTTTTTTAGGGA

CCT CCTTCCGGTC

GGAAGGCCAGGG

AAG

PK4: -26.715000(kcal/mol): PK_start=1310 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1347
(fs_start=1295)

CTCC

AGACAGGCTAATTTTTTTAGGAAAATCTGGCCTTC

GGACCGGAAG GGAA

TCTTCA

GAATTT

=====
(3306) JQ403023
=====

PK1: -13.595000(kcal/mol): PK_start=1272 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1300
(fs_start=1292)

A

GACAGGAAGGACACCAAATGAAAGATTGT

GACA GAAAGTC
TTTTTAGGG
GCTAAT
PK2: -20.500000(kcal/mol): PK_start=1277 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1313
(fs_start=1292)
C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA

GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC
PK3: -27.275000(kcal/mol): PK_start=1300 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1334
(fs_start=1292)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -29.020000(kcal/mol): PK_start=1307 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1344
(fs_start=1292)
CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(3307) JQ403024
=====

PK1: -13.345000(kcal/mol): PK_start=1276 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1303
(fs_start=1295)
A
AAAGGAAGGACACCAAATGAAAGAATGT

ACA GAAAGTC
TTTTTAGGG
GGCTAAT
PK2: -20.500000(kcal/mol): PK_start=1280 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1316
(fs_start=1295)
C
GAAGGACACCAAATGAAAGAATGTACTGAAAGA

GATTTTTT A ATCGGA
TGGCCTCC
GGAAACTC
PK3: -32.390000(kcal/mol): PK_start=1301 sp=0 s1=6 s2=8 l1=2 l2=8 L3=0 PK_end=1338
(fs_start=1295)

AA
TGTACTGAAAGACAGGCTAATTTTTTAGGGA

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                ATCCCT   CCGGTCTC
                    GGCCAGGGAA
            CAAGGGAA

PK4:  -26.375000(kcal/mol): PK_start=1309 sp=6 s1=9 s2=5 l1=7 l2=4 L3=0 PK_end=1347
(fs_start=1295)
                    CCCTACA
AAGACAGGCTAATTTTTTAGGGAACTCTGGCCT
                    GGGACCGGA   AGGGA
                                TTCTTCA
                AATT

=====
(3308) JQ403025
=====
PK1:  -10.640000(kcal/mol): PK_start=1267 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1305
(fs_start=1298)
                A
TTGGAAATGTGGACAGGAAGGACACCAA
                    GTT   AGAAAGT
                                TTTTTTAGG
                CACTGAGAGACAGGCTAA

PK2:  -20.460000(kcal/mol): PK_start=1283 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1319
(fs_start=1298)
                C
GAAGGACACCAAATGAAAGATTGCACTGAGAGA
                    GATTTTTT   A   ATCGGA
                                TGGCCTTC
                GGAGAATC

PK3:  -22.370000(kcal/mol): PK_start=1306 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1340
(fs_start=1298)
                AA
CACTGAGAGACAGGCTAATTTTTTAGGGAG
                    CCTTC   CGGTCT
                                GCCAGGGA
                CACAAGGGAAG

PK4:  -24.995000(kcal/mol): PK_start=1313 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1350
(fs_start=1298)
                    TCCCACAA
AGACAGGCTAATTTTTTAGGGAGAATCTGGCCT
                    GGACCGGA   AGGG
                                TCTCCA
                GAATTT

=====
(3309) JQ403026
=====

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PK1: -13.555000(kcal/mol): PK_start=1275 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1303
(fs_start=1295)

A
GAAAGGAAGGACATCAAATGAAGGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -17.820000(kcal/mol): PK_start=1280 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1316
(fs_start=1295)

C
GAAGGACATCAAATGAAGGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGTCTTC
GGAAGATC

PK3: -24.335000(kcal/mol): PK_start=1303 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1337
(fs_start=1295)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC TGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -24.075000(kcal/mol): PK_start=1310 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1347
(fs_start=1295)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGTCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(3310) JQ403028
=====

PK1: -15.100000(kcal/mol): PK_start=1269 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1297
(fs_start=1289)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -20.460000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1310
(fs_start=1289)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAGAATC

PK3: -22.370000(kcal/mol): PK_start=1297 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1331
(fs_start=1289)

AA
CACTGAGAGACAGGCTAATTTTTTTAGGGAG
CCTTC CGGTCT
GCCAGGGA
AACAAGGGGAG

PK4: -25.745000(kcal/mol): PK_start=1304 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1341
(fs_start=1289)

CCAACA
AGACAGGCTAATTTTTTTAGGGAGAATCTGGCCTT
GGACCGGAG GGGA
TCCTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1304 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1367
(fs_start=1289)

TCCAACAA
AGACAGGCTAATTTTTTTAGGGAGAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCCTCAGAACAGACTGGAGCCAACAG

=====
(3311) JQ403029
=====

PK1: -13.070000(kcal/mol): PK_start=1272 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1300
(fs_start=1292)

CA
GAAAGGAAGGACACCAAATGAAGGATTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -20.460000(kcal/mol): PK_start=1277 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1313
(fs_start=1292)

C
GAAGGACACCAAATGAAGGATTGCACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.440000(kcal/mol): PK_start=1300 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1334
(fs_start=1292)

A
CACTGAGAGACAGGCTAATTTTTTTAGGGAAG
CCCTTC CGGTCT
GCCGGGGA
ACAAGGGAAG

PK4: -28.35000(kcal/mol): PK_start=1307 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1344 (fs_start=1292)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGGCCGGAAG GGAA
CCTTCA
GAATTT

=====
(3312) JQ403030
=====

PK1: -7.965000(kcal/mol): PK_start=1272 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1300 (fs_start=1292)

A
GAAAGGAAGGACACCAAATGAGAGATTGT
GACA GGGAGTT
TTTTTAGGG
GCTAAT

PK2: -15.670000(kcal/mol): PK_start=1277 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1313 (fs_start=1292)

C
GAAGGACACCAAATGAGAGATTGTATTGAGGGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1300 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=1334 (fs_start=1292)

AAA
TATTGAGGGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -28.540000(kcal/mol): PK_start=1307 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1344 (fs_start=1292)

CCAC
GGACAGGCTAATTTTTTAGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1307 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=1370 (fs_start=1292)

TCCCACAA
GGACAGGCTAATTTTTTAGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCTTCAGAGCAGACCAGAGCCATCAG

=====
(3313) JQ403031
=====

PK1: -7.965000(kcal/mol): PK_start=1272 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1300
(fs_start=1292)

A
GAAAGGAAGGACACCAAATGAGAGATTGT
GACA GGGAGTT
TTTTTAGGG
GCTAAT

PK2: -15.670000(kcal/mol): PK_start=1277 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1313
(fs_start=1292)

C
GAAGGACACCAAATGAGAGATTGTATTGAGGGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1300 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1334
(fs_start=1292)

AAA
TATTGAGGGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -28.540000(kcal/mol): PK_start=1307 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1344
(fs_start=1292)

CCAC
GGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1307 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1370
(fs_start=1292)

TCCCACAA
GGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCTTCAGAGCAGGCCAGAGCCATCAG

=====
(3314) JQ403032
=====

PK1: -7.965000(kcal/mol): PK_start=1272 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1300
(fs_start=1292)

A
GAAAGGAAGGACACCAAATGAGAGATTGT
GACA GGGAGTT

TTTTTAGGG
GCTAAT
PK2: -15.670000(kcal/mol): PK_start=1277 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1313
(fs_start=1292)

C
GAAGGACACCAAATGAGAGATTGTATTGAGGGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1300 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1334
(fs_start=1292)

AAA
TATTGAGGGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -28.540000(kcal/mol): PK_start=1307 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1344
(fs_start=1292)

CCAC
GGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1307 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1370
(fs_start=1292)

TCCCACAA
GGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCTTCAGAGCAGGCCAGGCCATCAG

=====
(3315) JQ403033
=====

PK1: -7.965000(kcal/mol): PK_start=1272 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1300
(fs_start=1292)

A
GAAAGGAAGGACACCAAATGAGAGATTGT
GACA GGGAGTT
TTTTTAGGG
GCTAAT

PK2: -15.670000(kcal/mol): PK_start=1277 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1313
(fs_start=1292)

C
GAAGGACACCAAATGAGAGATTGTATTGAGGGA
GATTTTTT A ATCGGA

```

                                TGGCCTTC
          GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1300 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1334
(fs_start=1292)
                                AAA
TATTGAGGGACAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTCT
                                AGGCCAGGGA
          ACAAGGGG
PK4:  -28.540000(kcal/mol): PK_start=1307 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1344
(fs_start=1292)
                                CCAC
GGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAGG   GGAA
                                CCTTCA
          GAATTT
PK4B:  -30.395000(kcal/mol): PK_start=1307 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1370
(fs_start=1292)
                                TCCCACAA
GGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                                GGACCGGA   GGGG
                                CCCCAC
          GAATTTCTTCAGAGCAGGCCAGGCCATCAG

=====
(3316) JQ403034
=====
PK1:  -7.965000(kcal/mol): PK_start=1272 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1300
(fs_start=1292)
                                A
GAAAGGAAGGACACCAAATGAGAGATTGT
                                GACA   GGGAGTT
                                TTTTTAGGG
          GCTAAT
PK2:  -15.670000(kcal/mol): PK_start=1277 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1313
(fs_start=1292)
                                C
GAAGGACACCAAATGAGAGATTGTATTGAGGGA
                                GATTTTTT   A   ATCGGA
                                TGGCCTTC
          GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1300 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1334
(fs_start=1292)
                                AAA
TATTGAGGGACAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTCT

```

AGGCCAGGGA

ACAAGGGG

PK4: -28.540000(kcal/mol): PK_start=1307 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1344
(fs_start=1292)

CCAC

GGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAGG GGAA

CCTTCA

GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1307 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1370
(fs_start=1292)

TCCCACAA

GGACAGGCTAATTTTTTAGGGAAAATCTGGCCT

GGACCGGA GGGG

CCCCAC

GAATTTCTTCAGAGCAGGCCAGAGCCATCAG

=====
(3317) JQ403035
=====

PK1: -10.440000(kcal/mol): PK_start=1270 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1308
(fs_start=1301)

A

TTGGAAATGTGGAAAGGAAGGACATCAA

GTT AGAAAGT

TTTTTTTAGG

CACTGAGAGACAGGCTAA

PK2: -20.460000(kcal/mol): PK_start=1286 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1322
(fs_start=1301)

C

GAAGGACATCAAATGAAAGATTGCACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1309 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1343
(fs_start=1301)

AAA

CACTGAGAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT

AGGCCAGGGA

ACAAGGGA

PK4: -29.020000(kcal/mol): PK_start=1316 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1353
(fs_start=1301)

CCAC

AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAAG GGAA

CCTTCA

GAATTT

=====
(3318) JQ403036
=====

PK1: -10.440000(kcal/mol): PK_start=1270 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1308
(fs_start=1301)

A

TTGGAAATGTGGAAAGGAAGGACATCAA

GTT AGAAAGT

TTTTTTTAGG

CACTGAGAGACAGGCTAA

PK2: -20.460000(kcal/mol): PK_start=1286 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1322
(fs_start=1301)

C

GAAGGACATCAAATGAAAGATTGCACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1309 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1343
(fs_start=1301)

AAA

CACTGAGAGACAGGCTAATTTTTTTAGGGA

CCCT TCCGGTCT

AGGCCAGGGA

ACAAGGGA

PK4: -29.020000(kcal/mol): PK_start=1316 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1353
(fs_start=1301)

CCAC

AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAAG GGAA

CCTTCA

GAATTT

=====
(3319) JQ403037
=====

PK1: -11.665000(kcal/mol): PK_start=1284 sp=0 s1=3 s2=8 l1=5 l2=19 L3=0 PK_end=1329
(fs_start=1322)

TCAAA

GCTGTTGGAAATGTGGAAAGGACGGACA

TGT TAGGAAGT

ATTTTTTTAGG

ACCACAGAGAGACAGGCTA

PK2: -17.180000(kcal/mol): PK_start=1309 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=1343
(fs_start=1322)

C

ACATCAAATGAAGGATTGTACCACAGAGAGA

```

          TTTTTT A ATCGGA
                    TGGCCTTC
AGGGAAGATC
PK3:  -25.060000(kcal/mol): PK_start=1330 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1364
(fs_start=1322)
          A
CACAGAGAGACAGGCTAATTTTTTTAGGGAAG
          TCCTTC   CGGTCT
                    GCCAGGGA
          ACAAGGGAAG
PK4:  -24.995000(kcal/mol): PK_start=1337 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1374
(fs_start=1322)
                    TCCTACAA
AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCT
          GGACCGGA   AGGG
                    TCTCCA
          GAATTT
PK4B:  -24.150000(kcal/mol): PK_start=1337 sp=7 s1=7 s2=4 l1=1 l2=41 L3=9 PK_end=1400
(fs_start=1322)
          T
AGACAGGCTAATTTTTTTAGGGAAGATCTGGCC
          GGACCGG  AAGGGAACA  TCCT
                    AGGAGA
          GAATTTTCTCCAGAGCAGACCAGAGCCAACAGCCCCACCAG
=====
(3320) JQ403038
=====
PK1:  -11.665000(kcal/mol): PK_start=1284 sp=0 s1=3 s2=8 l1=5 l2=16 L3=0 PK_end=1326
(fs_start=1319)
          CAAA
GCTGTTGGAAATGTGGAAAGGAAGGACA
          TGT   TAGGAAGT
                    ATTTTTTAGG
          ACCGAGAGACAGGCTA
PK2:  -17.180000(kcal/mol): PK_start=1306 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=1340
(fs_start=1319)
          C
AGGACACCAAATGAAGGATTGTACCGAGAGA
          TTTTTT A ATCGGA
                    TGGCCTTC
          AGGGAAGATC
PK3:  -25.060000(kcal/mol): PK_start=1327 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1361
(fs_start=1319)
          A
TACCGAGAGACAGGCTAATTTTTTTAGGGAAG

```

```

          TCCTTC   CGGTCT
                    GCCAGGGA
          ACAAGGGAAG

PK4:  -24.995000(kcal/mol): PK_start=1334 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1371
(fs_start=1319)
                    TCCTACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
                    GGACCGGA   AGGG
                    TCTCCA
          GAATTT

PK4B:  -24.150000(kcal/mol): PK_start=1334 sp=7 s1=7 s2=4 l1=1 l2=41 L3=9 PK_end=1397
(fs_start=1319)
                    T
AGACAGGCTAATTTTTTAGGGAAGATCTGGCC
                    GGACCGG  AAGGGAACA  TCCT
                    AGGAGA
          GAATTTTCTCCAGAGCAGACCAGAGCCAACAGCCCCACCAG

=====
(3321) JQ403039
=====
PK1:  -11.665000(kcal/mol): PK_start=1284 sp=0 s1=3 s2=8 l1=5 l2=16 L3=0 PK_end=1326
(fs_start=1319)
                    TCAAA
GCTGTTGGAAATGTGGAAAGGACGGACA
                    TGT   TAGGAAGT
                    ATTTTTTAGG
          ACCGAGAGACAGGCTA

PK2:  -17.180000(kcal/mol): PK_start=1306 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=1340
(fs_start=1319)
                    C
CGGACATCAAATGAAGGATTGTACCGAGAGA
                    TTTTTT  A  ATCGGA
                    TGGCCTTC
          AGGGAAGATC

PK3:  -25.060000(kcal/mol): PK_start=1327 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1361
(fs_start=1319)
                    A
TACCGAGAGACAGGCTAATTTTTTAGGGAAG
                    TCCTTC   CGGTCT
                    GCCAGGGA
          ACAAGGGAAG

PK4:  -24.995000(kcal/mol): PK_start=1334 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1371
(fs_start=1319)
                    TCCTACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT

```

GGACCGGA AGGG
TCTCCA
GAATTT

PK4B: -24.150000(kcal/mol): PK_start=1334 sp=7 s1=7 s2=4 l1=1 l2=41 L3=9 PK_end=1397
(fs_start=1319)

T
AGACAGGCTAATTTTTTAGGGAAGATCTGGCC

GGACCGG AAGGGAACA TCCT
AGGAGA
GAATTTTCTCCAGAGCAGACCAGAGCCAACAGCCCCACCAG

=====
(3322) JQ403040
=====

PK1: -13.555000(kcal/mol): PK_start=1275 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1303
(fs_start=1295)

A
GAAAGGAAGGACACCAAATGAAAGATTGT

GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1280 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1316
(fs_start=1295)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1303 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1337
(fs_start=1295)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG

CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1310 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1347
(fs_start=1295)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC

GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(3323) JQ403042
=====

PK1: -13.555000(kcal/mol): PK_start=1275 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1303
(fs_start=1295)

A
GAAAAGAGGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1280 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1316
(fs_start=1295)

C
GAGGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -24.395000(kcal/mol): PK_start=1303 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1337
(fs_start=1295)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CTCT TCCGGTCT
AGGCCAGGGA
AGAGGGGG

PK4: -30.125000(kcal/mol): PK_start=1310 sp=7 s1=11 s2=4 l1=2 l2=7 L3=0 PK_end=1348
(fs_start=1295)

CA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTCT
GGACCGGAGGG GGAG
CTTCAG
GAATTTTT

=====
(3324) JQ403045
=====

PK1: -15.585000(kcal/mol): PK_start=1389 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1417
(fs_start=1409)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -21.940000(kcal/mol): PK_start=1394 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1431
(fs_start=1409)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAGGAT

PK3: -22.230000(kcal/mol): PK_start=1417 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1451
(fs_start=1409)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAGG
CCCTTC CGGTTC
GCCAGGGA
ACAAGGGAAG

PK4: -23.185000(kcal/mol): PK_start=1424 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1461
(fs_start=1409)

CCAC
AGACAGGCTAATTTTTTAGGGAGGATTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(3325) JQ403048
=====

PK1: -15.625000(kcal/mol): PK_start=1286 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1314
(fs_start=1306)

A
GAAAAGAAGGACACCAAATGAAAGACTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1291 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1327
(fs_start=1306)

C
GAAGGACACCAAATGAAAGACTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1314 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1348
(fs_start=1306)

A
TACTGAAAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1321 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1358
(fs_start=1306)

CTAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT


```

                TTTT TAGGG
      GCTAAT
PK2:  -20.500000(kcal/mol): PK_start=1283 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1319
(fs_start=1298)
                C
GATGGACACCAAATGAAAGATTGTACTGAGAAA
                GATTTTTT A ATCGGA
                TGGCCTTC
      GGAGAATC
PK3:  -22.370000(kcal/mol): PK_start=1306 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1340
(fs_start=1298)
                AA
TACTGAGAAACAGGCTAATTTTTTAGGGAG
                CCTTC   CGGTCT
                GCCAGGGA
      CACAAGGGAAG
PK4:  -29.020000(kcal/mol): PK_start=1313 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1350
(fs_start=1298)
                CCAC
AAACAGGCTAATTTTTTAGGGAGAATCTGGCCTTC
                GGACCGGAAG   GGAA
                CCTTCA
      GAATTT
=====
(3328) JQ403051
=====
PK1:  -13.765000(kcal/mol): PK_start=1278 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1306
(fs_start=1298)
                A
GAAAGGATGGACACCAAATGAAAGATTGT
                GACA   AAGAGTC
                TTTT TAGGG
      GCTAAT
PK2:  -20.500000(kcal/mol): PK_start=1283 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1319
(fs_start=1298)
                C
GATGGACACCAAATGAAAGATTGTACTGAGAAA
                GATTTTTT A ATCGGA
                TGGCCTTC
      GGAGAATC
PK3:  -22.370000(kcal/mol): PK_start=1306 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1340
(fs_start=1298)
                AA
TACTGAGAAACAGGCTAATTTTTTAGGGAG
                CCTTC   CGGTCT

```

GCCAGGGA

CACAAAGGAAG

PK4: -29.020000(kcal/mol): PK_start=1313 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1350
(fs_start=1298)

CCAC

AAACAGGCTAATTTTTTTAGGGAGAATCTGGCCTTC

GGACCGGAAG GGAA

CCTTCA

GAATTT

=====
(3329) JQ403052
=====

PK1: -13.765000(kcal/mol): PK_start=1278 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1306
(fs_start=1298)

A

GAAAGGATGGACACCAAATGAAAGATTGT

GACA AAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1283 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1319
(fs_start=1298)

C

GATGGACACCAAATGAAAGATTGTACTGAGAAA

GATTTTTT A ATCGGA

TGGCCTTC

GGAGAATC

PK3: -22.370000(kcal/mol): PK_start=1306 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1340
(fs_start=1298)

AA

TACTGAGAAACAGGCTAATTTTTTTAGGGAG

CCTTC CGGTCT

GCCAGGGA

CACAAAGGAAG

PK4: -29.020000(kcal/mol): PK_start=1313 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1350
(fs_start=1298)

CCAC

AAACAGGCTAATTTTTTTAGGGAGAATCTGGCCTTC

GGACCGGAAG GGAA

CCTTCA

GAATTT

=====
(3330) JQ403053
=====

PK1: -13.765000(kcal/mol): PK_start=1278 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1306
(fs_start=1298)

A

GAAAGGATGGACACCAAATGAAAGATTGT

```

          GACA    AAGAGTC
                TTTTtaggg
    GCTAAT
PK2:  -20.50000(kcal/mol): PK_start=1283 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1319
(fs_start=1298)
                C
GATGGACACCAAATGAAAGATTGTACTGAGAAA
                GATTTTTT  A  ATCGGA
                                TGGCCTTC
                GGAGAATC
PK3:  -22.37000(kcal/mol): PK_start=1306 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1340
(fs_start=1298)
                AA
TACTGAGAAACAGGCTAATTTTTAGGGAG
                CCTTC    CGGTCT
                                GCCAGGGA
                CACAAGGAAG
PK4:  -29.02000(kcal/mol): PK_start=1313 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1350
(fs_start=1298)
                CCAC
AAACAGGCTAATTTTTAGGGAGAATCTGGCCTTC
                GGACCGGAAG    GGAA
                                CCTTCA
                GAATTT
=====
(3331) JQ403054
=====
PK1:  -13.76500(kcal/mol): PK_start=1278 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1306
(fs_start=1298)
                A
GAAAGGATGGACACCAAATGAAAGATTGT
                GACA    AAGAGTC
                TTTTtaggg
    GCTAAT
PK2:  -20.50000(kcal/mol): PK_start=1283 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1319
(fs_start=1298)
                C
GATGGACACCAAATGAAAGATTGTACTGAGAAA
                GATTTTTT  A  ATCGGA
                                TGGCCTTC
                GGAGAATC
PK3:  -22.37000(kcal/mol): PK_start=1306 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1340
(fs_start=1298)
                AA
TACTGAGAAACAGGCTAATTTTTAGGGAG

```

CCTTC CGGTCT
GCCAGGGA
CACAAAGGAAG
PK4: -29.020000(kcal/mol): PK_start=1313 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1350
(fs_start=1298)

CCAC
AAACAGGCTAATTTTTTAGGGAGAATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(3332) JQ403055
=====

PK1: -13.555000(kcal/mol): PK_start=1278 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1306
(fs_start=1298)

A
GAAAGGATGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1283 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1319
(fs_start=1298)

C
GATGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAGAATC

PK3: -22.370000(kcal/mol): PK_start=1306 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1340
(fs_start=1298)

AA
TACTGAGAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTCT
GCCAGGGA
CACAAAGGAAG

PK4: -22.235000(kcal/mol): PK_start=1313 sp=7 s1=8 s2=4 l1=8 l2=3 L3=0 PK_end=1347
(fs_start=1298)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAGAATCTGGCCT
GGACCGGA AGGG
TTTCAT
GAA

=====
(3333) JQ403056
=====

PK1: -10.795000(kcal/mol): PK_start=1275 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1303
(fs_start=1295)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGGGTC
TTTTTAGGG
GCTAAT

PK2: -18.840000(kcal/mol): PK_start=1280 sp=0 s1=7 s2=7 l1=1 l2=8 L3=2 PK_end=1316
(fs_start=1295)

A
GAAGGACACCAAATGAAAGATTGTACTGGGAG
GATTTTT TA ATCGGAC
TGGCCTGCC
GGAAAATC

PK3: -28.280000(kcal/mol): PK_start=1303 sp=0 s1=3 s2=9 l1=4 l2=7 L3=0 PK_end=1337
(fs_start=1295)

AAAA
TACTGGGAGACAGGCTAATTTTTTAGGG
CCC GTCCGGTCT
CAGGCCAGGGA
ACAGGGA

PK4: -26.530000(kcal/mol): PK_start=1310 sp=7 s1=9 s2=5 l1=5 l2=5 L3=0 PK_end=1347
(fs_start=1295)

CCCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTG
GGACCGGAC AGGGA
TTCTTCA
GAATT

=====
(3334) JQ403059
=====

PK1: -13.555000(kcal/mol): PK_start=1275 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1303
(fs_start=1295)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1280 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1316
(fs_start=1295)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1303 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1337
(fs_start=1295)

AAA
TACTGAGAGACAGGCTAATTTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -28.540000(kcal/mol): PK_start=1310 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1347
(fs_start=1295)

CCAC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1310 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1373
(fs_start=1295)

TCCCACAA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCCTTCAGAGCAGACCGGAGCCAACAG

=====
(3335) JQ403060
=====

PK1: -13.555000(kcal/mol): PK_start=1299 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1327
(fs_start=1319)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1304 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1340
(fs_start=1319)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1327 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1361
(fs_start=1319)

A
TACTGAGAGACAGGCTAATTTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1334 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1371
(fs_start=1319)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -27.515000(kcal/mol): PK_start=1334 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=1397
(fs_start=1319)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CTCCGC
GAATTTTCTTCAGAGCAGGCCAGAACCATCAG

=====
(3336) JQ403061
=====

PK1: -13.555000(kcal/mol): PK_start=1272 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1300
(fs_start=1292)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1277 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1313
(fs_start=1292)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -26.605000(kcal/mol): PK_start=1300 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=1334
(fs_start=1292)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCGGGGA
ACAGGGGA

PK4: -25.695000(kcal/mol): PK_start=1307 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1344
(fs_start=1292)

CCAC
AGACAGGCTAATTTTTTAGGAAAATCTGGCCTTC
GGGCCGGAAG GGGA
TCTTCA
GAATTT

PK4B: -30.655000(kcal/mol): PK_start=1307 sp=7 s1=9 s2=4 l1=6 l2=32 L3=0 PK_end=1370
(fs_start=1292)

CCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT
GGGCCGGAA GGGG
CCCCAC
GAATTTTCTTCAGAACAGACCAGGCCATCAG

=====
(3337) JQ403062
=====

PK1: -10.640000(kcal/mol): PK_start=1267 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1305
(fs_start=1298)

A
TTGGAAATGTGGAAAGGAAGGACACCAA
GTT AGAAAGT
TTTTTTAGG
CACTGAAAGACAGGCTAA

PK2: -20.500000(kcal/mol): PK_start=1283 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1319
(fs_start=1298)

C
GAAGGACACCAAATGAAAGATTGCACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1306 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1340
(fs_start=1298)

AAA
CACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.445000(kcal/mol): PK_start=1313 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1350
(fs_start=1298)

TCCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(3338) JQ403064
=====

PK1: -13.595000(kcal/mol): PK_start=1284 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1312
(fs_start=1304)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC

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                TTTT TAGGG
      GCTAAT
PK2:  -20.50000(kcal/mol): PK_start=1289 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1325
(fs_start=1304)
                C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
                GATTTTTT A  ATCGGA
                TGGCCTTC
      GGAAGATC
PK3:  -26.11000(kcal/mol): PK_start=1312 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1346
(fs_start=1304)
                A
TACTGAAAGACAGGCTAATTTTTTAGGGAAG
                CCCTTC  CGGTCT
                GCCAGGGA
      ACAAGGGAAG
PK4:  -26.71500(kcal/mol): PK_start=1319 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1356
(fs_start=1304)
                CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
                GGACCGGAAG  GGAA
                TCTTCA
      GAATTT

=====
(3339) JQ403066
=====
PK1:  -13.06500(kcal/mol): PK_start=1278 sp=0 s1=3 s2=8 l1=5 l2=19 L3=0 PK_end=1323
(fs_start=1316)
                CCAAA
GCTGTTGGAAATGTGGAAAGGAAGGACA
                TGT  TAGAAAGT
                ATTTTTTAGG
      ACTAATGAGAGGCAGGCTA
PK2:  -16.44000(kcal/mol): PK_start=1302 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1337
(fs_start=1316)
                C
GACACCAAATGAAAGATTGTACTAATGAGAGG
                ATTTTTT A  ATCGGA
                TGGCCTTC
      GGAAGATC
PK3:  -26.11000(kcal/mol): PK_start=1324 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1358
(fs_start=1316)
                A
TAATGAGAGGCAGGCTAATTTTTTAGGGAAG
                CCCTTC  CGGTCT

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GCCAGGGA

ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1331 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1368
(fs_start=1316)

CCAC

AGGCAGGCTAATTTTTTTAGGGAAGATCTGGCCTTC

GGACCGGAGG GGAA

TCTTCA

GAACTT

PK4B: -30.395000(kcal/mol): PK_start=1331 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1394
(fs_start=1316)

TCCCACAA

AGGCAGGCTAATTTTTTTAGGGAAGATCTGGCCT

GGACCGGA GGGG

CCCCAC

GAACTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(3340) JQ403067
=====

PK1: -13.595000(kcal/mol): PK_start=1278 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1306
(fs_start=1298)

A

GAAAGGAAGGACACCAAATGAAAGATTGT

GACA GAAAGTC

TTTTTAGGG

GCTAAT

PK2: -19.120000(kcal/mol): PK_start=1283 sp=0 s1=8 s2=5 l1=2 l2=8 L3=1 PK_end=1318
(fs_start=1298)

CA

GAAGGACACCAAATGAAAGATTGTACTGAAAGA

GATTTTTT A ATCGG

TGGCCCT

GGAAAATC

PK3: -24.730000(kcal/mol): PK_start=1306 sp=0 s1=4 s2=7 l1=3 l2=9 L3=1 PK_end=1339
(fs_start=1298)

AAA

TACTGAAAGACAGGCTAATTTTTTTAGGGA

CCCT C CCGGTCT

GGCCAGGGA

ACAAGGAGA

PK4: -25.630000(kcal/mol): PK_start=1313 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=1351
(fs_start=1298)

CTCCCACAA

AGACAGGCTAATTTTTTTAGGGAAAATCTGGCC

GGACCGG AGAGG

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                                TCTTCAG
                                GAACTT

=====
(3341) JQ403068
=====
PK1:  -13.205000(kcal/mol): PK_start=1279 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1306
(fs_start=1298)
                                A
AAAGGAAGGACACCAAATGAAAGAGTGT
                                ACA    GAGAGTC
                                TTTTTAGGG
                                GGCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1283 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1319
(fs_start=1298)
                                C
GAAGGACACCAAATGAAAGAGTGTACTGAGAGA
                                GATTTTTT A  ATCGGA
                                TGGCCTTC
                                GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1306 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1340
(fs_start=1298)
                                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTCT
                                AGGCCAGGGA
                                ACAAGGGG

PK4:  -27.515000(kcal/mol): PK_start=1313 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1351
(fs_start=1298)
                                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                                GGACCGGA   GGGG
                                CTCCAG
                                GAATTTTC

PK4B:  -30.395000(kcal/mol): PK_start=1313 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1376
(fs_start=1298)
                                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                                GGACCGGA   GGGG
                                CCCCAC
                                GAATTTCTCCAGAGCAGGCCAGAGCCAACAG

=====
(3342) JQ403069
=====
PK1:  -13.305000(kcal/mol): PK_start=1279 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1306
(fs_start=1298)
                                A
AAAGGAAGGACACCAAATGAAAGAATGT

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          ACA   GAGAGTC
                TTTTTAGGG
      GGCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1283 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1319
(fs_start=1298)
                C
GAAGGACACCAAATGAAAGAATGTACTGAGAGA
                GATTTTTT A  ATCGGA
                                TGGCCTTC
      GGAAAATC
PK3:  -26.605000(kcal/mol): PK_start=1306 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1340
(fs_start=1298)
                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTCT
                                AGGCCGGGGA
      ACAAGGGA
PK4:  -26.045000(kcal/mol): PK_start=1313 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1350
(fs_start=1298)
                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                GGGCCGGAAG   GGAA
                                TCTTCA
      GAATTT
=====
(3343) JQ403070
=====
PK1:  -17.225000(kcal/mol): PK_start=1275 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1303
(fs_start=1295)
                A
GAAAAGAAGGACACCAAATGAAAGACTGC
                GACG   GAAAGTC
                                TTTTTAGGG
      GCTAAT
PK2:  -18.760000(kcal/mol): PK_start=1280 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1316
(fs_start=1295)
                C
GAAGGACACCAAATGAAAGACTGCACTGAAAGG
                GATTTTTT A  ATCGGA
                                TGGCCTTC
      GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1303 sp=0 s1=4 s2=8 l1=3 l2=11 L3=0 PK_end=1340
(fs_start=1295)
                AAA
CACTGAAAGGCAGGCTAATTTTTTAGGGA

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          CCCT   TCCGGTCT
                AGGCCAGGGA
ACAAGGGGggg
PK4:  -32.405000(kcal/mol): PK_start=1310 sp=7 s1=12 s2=4 l1=3 l2=6 L3=0 PK_end=1350
(fs_start=1295)
                ACA
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTCCC
                GGACCGGAgggG   GGGA
                                TCTTCA
                GAATTT

PK4B:  -36.910000(kcal/mol): PK_start=1310 sp=7 s1=11 s2=4 l1=5 l2=32 L3=0
PK_end=1376 (fs_start=1295)
                CACAA
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTCC
                GGACCGGAggg   GGGG
                                CCCCAC
                GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(3344) JQ403071
=====
PK1:  -13.555000(kcal/mol): PK_start=1278 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1306
(fs_start=1298)
                A
GACAGGAAGGACACCAAATGAAAGATTGT
                GACA   GAGAGTC
                                TTTTTAGGG
                GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1283 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1319
(fs_start=1298)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT   A   ATCGGA
                                TGGCCTTC
                GGAAACTC

PK3:  -27.275000(kcal/mol): PK_start=1306 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1340
(fs_start=1298)
                AAC
TACTGAGAGACAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTCT
                                AGGCCAGGAA
                ACAGAGGA

PK4:  -27.265000(kcal/mol): PK_start=1313 sp=7 s1=8 s2=5 l1=7 l2=6 L3=0 PK_end=1351
(fs_start=1298)
                TCCCACA
AGACAGGCTAATTTTTTAGGGAAACTCTGGCCT

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                GGACCGGA    AGGAG
                    TCTTCAG
AAATTT
=====
(3345) JQ403074
=====
PK1:  -13.555000(kcal/mol): PK_start=1284 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1312
(fs_start=1304)
                    A
GAAGAGAAGGACACCAAATGAAAGATTGT
                GACA    GAGAGTC
                    TTTTtaggg
GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1289 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1325
(fs_start=1304)
                    C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT  A  ATCGGA
                    TGGCCTTC
GAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1312 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1346
(fs_start=1304)
                    AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                CCCT    TCCGGTCT
                    AGGCCAGGGA
ACAAGGGA

PK4:  -26.715000(kcal/mol): PK_start=1319 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1356
(fs_start=1304)
                    CCAC
AGACAGGCTAATTTTTTAGGAAAATCTGGCCTTC
                GGACCGGAAG    GGAA
                    TCTTCA
GAATTT

=====
(3346) JQ403078
=====
PK1:  -13.555000(kcal/mol): PK_start=1275 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1303
(fs_start=1295)
                    A
GAAAGGAAGGACACCAAATGAAAGATTGT
                GACA    GAGAGTC
                    TTTTtaggg
GCTAAT

```

PK2: -20.460000(kcal/mol): PK_start=1280 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1316
(fs_start=1295)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1303 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1337
(fs_start=1295)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1310 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1347
(fs_start=1295)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1310 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1373
(fs_start=1295)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCTTCAGAGCAGGCCAGAGCCAACAG

=====
(3347) JQ403079
=====

PK1: -12.640000(kcal/mol): PK_start=1264 sp=0 s1=3 s2=7 l1=4 l2=18 L3=0 PK_end=1305
(fs_start=1298)

CAAA
CTGTTGAAATGTGGAAAAGAAGGACAC
GTG AGAAAGT
TTTTTTAGG
CACTGAAAGACAGGCTAA

PK2: -21.980000(kcal/mol): PK_start=1283 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1320
(fs_start=1298)

C
GAAGGACACCAAATGAAAGACTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAGAAT

PK3: -18.840000(kcal/mol): PK_start=1306 sp=0 s1=5 s2=6 l1=2 l2=11 l3=0 PK_end=1340
(fs_start=1298)

AA
CACTGAAAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTTT
GCCAGGGA
CACAAAGGAAG

PK4: -25.490000(kcal/mol): PK_start=1313 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1350
(fs_start=1298)

CCAC
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAACTT

=====
(3348) JQ403082
=====

PK1: -13.065000(kcal/mol): PK_start=1257 sp=0 s1=3 s2=8 l1=5 l2=19 l3=0 PK_end=1302
(fs_start=1295)

CCAAA
GCTGTTGGAAATGTGGAAAGGAAGGACA
TGT TAGAAAGT
ATTTTTTAGG
AGTAATGAGAGACAGGCTA

PK2: -16.800000(kcal/mol): PK_start=1281 sp=0 s1=7 s2=5 l1=2 l2=9 l3=1 PK_end=1315
(fs_start=1295)

CA
GACACCAAATGAAAGATTGTAGTAATGAGAGA
ATTTTTT A ATCGG
TGGCCCT
GGGAAAATC

PK3: -24.730000(kcal/mol): PK_start=1303 sp=0 s1=4 s2=7 l1=3 l2=9 l3=1 PK_end=1336
(fs_start=1295)

AAA
TAATGAGAGACAGGCTAATTTTTTAGGGA
CCCT C CCGGTCT
GGCCAGGGA
ACAAGGGA

PK4: -23.190000(kcal/mol): PK_start=1310 sp=7 s1=7 s2=6 l1=8 l2=4 l3=0 PK_end=1347
(fs_start=1295)

CTCCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCC
GGACCGG AAGGGA
TTTCTTCA
GAAT

=====
(3349) JQ403083
=====

PK1: -10.425000(kcal/mol): PK_start=1284 sp=0 s1=4 s2=6 l1=2 l2=5 L3=0 PK_end=1310
(fs_start=1304)

AC
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGA
TTTTTTAG
GCTAA

PK2: -17.180000(kcal/mol): PK_start=1291 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=1325
(fs_start=1304)

C
AGGACACCAAATGAAAGATTGTACAGAGAGA
TTTTTT A ATCGGA
TGGCCTC
AGGGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1312 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1346
(fs_start=1304)

AAA
TACAGAGAGACAGGCTAATTTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=1319 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1356
(fs_start=1304)

CCAC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTC
GGACCGGAGG GGAA
TCTTCA
GAACTT

PK4B: -30.395000(kcal/mol): PK_start=1319 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1382
(fs_start=1304)

TCCCACAA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAACTTTCTTCAGAGCAGGCCAGAGCCAACAG

=====
(3350) JQ403085
=====

PK1: -13.555000(kcal/mol): PK_start=1284 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1312
(fs_start=1304)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC

TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1289 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1325
(fs_start=1304)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.440000(kcal/mol): PK_start=1312 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1346
(fs_start=1304)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG

CCCTTC CGGTCT
GCCGGGA
ACAAGGGAAG

PK4: -26.045000(kcal/mol): PK_start=1319 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1356
(fs_start=1304)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC

GGGCCGGAAG GGAA
TCTTCA
GAATTT

=====
(3351) JQ403086
=====

PK1: -10.440000(kcal/mol): PK_start=1270 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1308
(fs_start=1301)

A
TTGGAATGTGGAAAGGAAGGACATCAA

GTT AGAAAGT
TTTTTTAGG
CATTGAGAGACAGGCTAA

PK2: -18.430000(kcal/mol): PK_start=1286 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1322
(fs_start=1301)

C
GAAGGACATCAAATGAAAGATTGCATTGAGAGA

GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1309 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1343
(fs_start=1301)

AAA
CATTGAGAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT

AGGCCAGGGA

ACAAGGGG

PK4: -28.540000(kcal/mol): PK_start=1316 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1353
(fs_start=1301)

CCAC

AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAGG GGAA

CCTTCA

GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1316 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1379
(fs_start=1301)

TCCCACAA

AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT

GGACCGGA GGGG

CCCCAC

GAATTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(3352) JQ403087
=====

PK1: -13.065000(kcal/mol): PK_start=1266 sp=0 s1=3 s2=8 l1=5 l2=19 L3=0 PK_end=1311
(fs_start=1304)

CCAAA

GCTGTTGGAAATGTGGAAAGGAAGGACA

TGT TAGAAAGT

ATTTTTTAGG

ACTaatGAGAGACAGGCTA

PK2: -18.180000(kcal/mol): PK_start=1290 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1325
(fs_start=1304)

C

GACACCAAATGAAAGATTGTACTaatGAGAGA

ATTTTTT A ATCGGA

TGGCCTTC

GGGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1312 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1346
(fs_start=1304)

AAA

TaatGAGAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT

AGGCCAGGGA

ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1319 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1356
(fs_start=1304)

CCAC

AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAAG GGAA

TCTTCA

GAATTT

PK4B: -29.620000(kcal/mol): PK_start=1319 sp=7 s1=10 s2=4 l1=4 l2=32 L3=0
 PK_end=1382 (fs_start=1304)

CCAC

AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAAG GGAA

ccTTAG

GAATTTTCTTCAGAGCAGAccagggccaacag

=====

(3353) JQ403088

=====

PK1: -10.640000(kcal/mol): PK_start=1264 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1302
 (fs_start=1295)

A

TTGGAAATGTGGAAAGGAAGGACACCAA

GTT AGAAAGT

TTTTTTTAGG

CACTGAAAGACAGGCTAA

PK2: -20.500000(kcal/mol): PK_start=1280 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1316
 (fs_start=1295)

C

GAAGGACACCAAATGAAAGATTGCACTGAAAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1303 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1337
 (fs_start=1295)

A

CACTGAAAGACAGGCTAATTTTTTTAGGGAAG

TCCTTC CGGTCT

GCCAGGGA

ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1310 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1347
 (fs_start=1295)

CTAC

AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCTTC

GGACCGGAGG GGAA

TCTTCA

GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1310 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1373
 (fs_start=1295)

TCCTACAA

AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCT

GGACCGGA GGGG

CCCCAC
GAATTTTCTTCAGAGCAGACCAGAACCAACAG

=====
(3354) JQ403091
=====

PK1: -8.215000(kcal/mol): PK_start=1278 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=1305
(fs_start=1298)

AA
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GGGAGT
TTTTTAGG
GCTAAT

PK2: -15.420000(kcal/mol): PK_start=1284 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1319
(fs_start=1298)

C
AAGGACACCAAATGAAAGATTGTAATGAGGGA
ATTTTTT A ATCGGA
TGGCCTTC
GGGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1306 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1340
(fs_start=1298)

AAA
TAATGAGGGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1313 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1350
(fs_start=1298)

CCAC
GGACAGGCTAATTTTTTAGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(3355) JQ403092
=====

PK1: -13.555000(kcal/mol): PK_start=1275 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1303
(fs_start=1295)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1280 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1316
(fs_start=1295)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA


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          GATTTTTT A ATCGGA
                    TGGCCTTC
          GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1303 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1337
(fs_start=1295)
                    AAA
TACTGAGAGACAGGCTAATTTTTTTAGGGA
                    CCCT   TCCGGTCT
                    AGGCCAGGGA
          ACAAGGGA

PK4:  -24.995000(kcal/mol): PK_start=1310 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1347
(fs_start=1295)
                    TCCCACAA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT
                    GGACCGGA   AGGG
                    TCTCCA
          GAATTT

=====
(3356) JQ403093
=====

PK1:  -10.640000(kcal/mol): PK_start=1261 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1299
(fs_start=1292)
                    A
TTGGAAATGTGGAAAGGAAGGACACCAA
                    GTT   AGAAAGT
                    TTTTTTAGG
          CACTGAGAGACAGGCTAA

PK2:  -20.460000(kcal/mol): PK_start=1277 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1313
(fs_start=1292)
                    C
GAAGGACACCAAATGAAAGATTGCACTGAGAGA
                    GATTTTTT A ATCGGA
                    TGGCCTTC
          GGAAGATC

PK3:  -26.110000(kcal/mol): PK_start=1300 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1334
(fs_start=1292)
                    A
CACTGAGAGACAGGCTAATTTTTTTAGGGAAG
                    CCCTTC   CGGTCT
                    GCCAGGGA
          ACAAGGGAAG

PK4:  -29.020000(kcal/mol): PK_start=1307 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1344
(fs_start=1292)
                    CCAC
AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCTTC

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                GGACCGGAAG    GGAA
                                CCTTCA
          GAATTT

=====
(3357) JQ403094
=====
PK1:  -13.555000(kcal/mol): PK_start=1284 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1312
(fs_start=1304)
                A
GGAGGGAAGGACACCAAATGAAAGATTGT
                GACA    GAGAGTC
                                TTTTATAGGG
          GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1289 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1325
(fs_start=1304)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT    A    ATCGGA
                                TGGCCTTC
          GGAAAATA

PK3:  -24.465000(kcal/mol): PK_start=1312 sp=0 s1=4 s2=6 l1=5 l2=8 L3=0 PK_end=1344
(fs_start=1304)
                AAATA
TACTGAGAGACAGGCTAATTTTTATAGGGA
                CCCT    TCCGGT
                                AGGCCAGG
          ACAAGGGG

PK4:  -25.230000(kcal/mol): PK_start=1321 sp=9 s1=8 s2=4 l1=4 l2=8 L3=0 PK_end=1356
(fs_start=1304)
                CCAC
ACAGGCTAATTTTTATAGGAAAAATATGGCCTTC
                ACCGAGG    GGAA
                                CCTTCA
          GGGAACCT

PK4B:  -27.085000(kcal/mol): PK_start=1321 sp=9 s1=6 s2=4 l1=8 l2=34 L3=0 PK_end=1382
(fs_start=1304)
                TCCCACAA
ACAGGCTAATTTTTATAGGAAAAATATGGCCT
                ACCGGA    GGGG
                                CCCCAC
          GGGAACCTCCTTCAGAACAGGCCAGCCAACAG

=====
(3358) JQ403095
=====

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PK1: -13.555000(kcal/mol): PK_start=1275 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1303
(fs_start=1295)

A
GAAGGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1280 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1316
(fs_start=1295)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.440000(kcal/mol): PK_start=1303 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1337
(fs_start=1295)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCGGGA
ACAAGGGAAG

PK4: -26.045000(kcal/mol): PK_start=1310 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1347
(fs_start=1295)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGGCCGGAAG GGAA
TCTTCA
GAATTT

=====
(3359) JQ403096
=====

PK1: -13.555000(kcal/mol): PK_start=1281 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1309
(fs_start=1301)

A
GAAAGGAAGGCCACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -21.940000(kcal/mol): PK_start=1286 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1323
(fs_start=1301)

C
GAAGGCCACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAGAT

PK3: -22.58000(kcal/mol): PK_start=1309 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1343 (fs_start=1301)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTTC
GCCAGGGA
ACAAGGGGAG

PK4: -22.705000(kcal/mol): PK_start=1316 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1353 (fs_start=1301)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1316 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=1379 (fs_start=1301)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCTTCAGAGCAGGCCAGCCAACAG

=====
(3360) JQ403097
=====

PK1: -13.555000(kcal/mol): PK_start=1275 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1303 (fs_start=1295)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1280 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1316 (fs_start=1295)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1303 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1337 (fs_start=1295)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGAA
ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1310 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1347
(fs_start=1295)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
AAACTT

PK4B: -30.395000(kcal/mol): PK_start=1310 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1373
(fs_start=1295)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CCCCAC
AAACTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(3361) JQ403099
=====

PK1: -10.440000(kcal/mol): PK_start=1282 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1320
(fs_start=1313)

A
TTGGAAATGTGGAAAGGAAGGACATCAA
GTT AGAAAGT
TTTTTTAGG
CACTGAGAGACAGGCTAA

PK2: -20.460000(kcal/mol): PK_start=1298 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1334
(fs_start=1313)

C
GAAGGACATCAAATGAAAGATTGCACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1321 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1355
(fs_start=1313)

AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -29.020000(kcal/mol): PK_start=1328 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1365
(fs_start=1313)

CCAC
AGACAGGCTAATTTTTTAGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(3362) JQ403100
=====

PK1: -12.955000(kcal/mol): PK_start=1288 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1316
(fs_start=1308)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -18.720000(kcal/mol): PK_start=1293 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1329
(fs_start=1308)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1316 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=1350
(fs_start=1308)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=1323 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1360
(fs_start=1308)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1323 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=1386
(fs_start=1308)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCTTCAGAGCAGACCAGAGCCATCAG

=====
(3363) JQ403101
=====

PK1: -10.975000(kcal/mol): PK_start=1300 sp=0 s1=4 s2=6 l1=2 l2=12 l3=0 PK_end=1333
(fs_start=1326)

AA
GAAAGGAAGGACACCAGATGAAAGATTGT
GACA GAGAGT

```

                                TTTT TAGG
                                GGACAGGCTAAT

PK2:  -13.150000(kcal/mol): PK_start=1314 sp=0 s1=5 s2=6 l1=1 l2=11 l3=1 PK_end=1347
(fs_start=1326)
                                C
CAGATGAAAGATTGTAATGAGAGACAGGGA

                                TTTTT A  ATCGGA
                                TGGCCTTC
                                TAGGGAAGATC

PK3:  -25.060000(kcal/mol): PK_start=1334 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1368
(fs_start=1326)
                                A
GAGACAGGGACAGGCTAATTTTTTAGGGAAG

                                TCCTTC  CGGTCT
                                GCCAGGGA
                                ACAAGGGAAG

PK4:  -23.815000(kcal/mol): PK_start=1341 sp=7 s1=8 s2=4 l1=8 l2=5 l3=0 PK_end=1377
(fs_start=1326)
                                TCCTACAA
GGACAGGCTAATTTTTTAGGGAAGATCTGGCCT

                                GGACCGGA  AGGG
                                TTCTAC
                                GAATT

=====
(3364) JQ403102
=====
PK1:  -13.555000(kcal/mol): PK_start=1285 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1313
(fs_start=1305)
                                A
GGAAGGAAGGACACCAAATGAAAGATTGT

                                GACA  GAGAGTC
                                TTTTTAGGG
                                GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1290 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1326
(fs_start=1305)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA

                                GATTTTTT A  ATCGGA
                                TGGCCTTC
                                GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1313 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=1347
(fs_start=1305)
                                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA

                                CCCT  TCCGGTCT

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                                AGGCCAGGGA
ACAAGGGA
PK4:  -26.715000(kcal/mol): PK_start=1320 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1357
(fs_start=1305)
                                CCAC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAAG    GGAA
                                TCTTCA
GAATTT
PK4B:  -28.545000(kcal/mol): PK_start=1320 sp=7 s1=9 s2=4 l1=6 l2=33 L3=0 PK_end=1384
(fs_start=1305)
                                CCCACA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAA    GGGA
                                CCCTCC
GAATTTTCTTCAGAGCAGACCAGAGCCAACAGC

=====
(3365) JQ403104
=====
PK1:  -13.555000(kcal/mol): PK_start=1299 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1327
(fs_start=1319)
                                A
GAAAAGAAGGACACCAAATGAAAGATTGT
                                GACA    GAGAGTC
                                TTTTtaggg
GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1304 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1340
(fs_start=1319)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                                GATTTTTT A  ATCGGA
                                TGGCCTTC
GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1327 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1361
(fs_start=1319)
                                AAA
TACTGAGAGACAGGCTAATTTTTTTAGGGA
                                CCCT    TCCGGTCT
                                AGGCCAGGGA
ACAAGGGG
PK4:  -28.540000(kcal/mol): PK_start=1334 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1371
(fs_start=1319)
                                CCAC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAGG    GGAA

```


CCTTCA

GAACTT

PK4B: -30.395000(kcal/mol): PK_start=1334 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1397
(fs_start=1319)

TCCCACAA

AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT

GGACCGGA GGGG

CCCCAC

GAACTTCCTTCAGAGCAGACCAGAGCCATCAG

=====

(3366) JQ403105

=====

PK1: -13.555000(kcal/mol): PK_start=1297 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1325
(fs_start=1317)

A

GAAAGGAAGGACACCAAATGAAAGATTGT

GACA GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1302 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1338
(fs_start=1317)

C

GAAGGACACCAAATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1325 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1359
(fs_start=1317)

AAA

TACTGAGAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT

AGGCCAGGGA

ACAAGGGG

PK4: -25.745000(kcal/mol): PK_start=1332 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1369
(fs_start=1317)

CCCACA

AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT

GGACCGGAG GGGG

TCCTCA

GAACTT

PK4B: -30.395000(kcal/mol): PK_start=1332 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1395
(fs_start=1317)

TCCCACAA

AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT

GGACCGGA GGGG

CCCCAC
GAACTTTCCTCAGAGCAGACCAGAGCCATCAG

=====
(3367) JQ403107
=====

PK1: -15.585000(kcal/mol): PK_start=1324 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1352
(fs_start=1344)

A
GAAAGGAAGGACACCAGATGAAAGACTGT

GACA GAGAGTC
TTTTTAGGG
GTTAAT

PK2: -16.970000(kcal/mol): PK_start=1329 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1365
(fs_start=1344)

C
GAAGGACACCAGATGAAAGACTGTACTGAGAGA

GATTTTTT A ATTGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1352 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1386
(fs_start=1344)

AAA
TACTGAGAGACAGGTTAATTTTTTAGGGA

CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1359 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1396
(fs_start=1344)

CCAC
AGACAGGTTAATTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(3368) JQ416158
=====

PK1: -13.765000(kcal/mol): PK_start=1278 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1306
(fs_start=1298)

A
GAAAGGATGGACACCAAATGAAAGATTGT

GACA AAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1283 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1319
(fs_start=1298)

C
GATGGACACCAAATGAAAGATTGTACTGAGAAA

GATTTTTT A ATCGGA
 TGGCCTTC
 GGAGAATC
 PK3: -22.370000(kcal/mol): PK_start=1306 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1340
 (fs_start=1298)
 AA
 TACTGAGAAACAGGCTAATTTTTTAGGGAG
 CCTTC CGGTCT
 GCCAGGGA
 CACAAGGGAAG
 PK4: -29.020000(kcal/mol): PK_start=1313 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1350
 (fs_start=1298)
 CCAC
 AAACAGGCTAATTTTTTAGGGAGAATCTGGCCTTC
 GGACCGGAAG GGAA
 CCTTCA
 GAATTT
 =====
 (3369) JQ416159
 =====
 PK1: -13.765000(kcal/mol): PK_start=1278 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1306
 (fs_start=1298)
 A
 GAAAGGATGGACACCAAATGAAAGATTGT
 GACA AAGAGTC
 TTTTTAGGG
 GCTAAT
 PK2: -20.500000(kcal/mol): PK_start=1283 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1319
 (fs_start=1298)
 C
 GATGGACACCAAATGAAAGATTGTACTGAGAAA
 GATTTTTT A ATCGGA
 TGGCCTTC
 GGAGAATC
 PK3: -22.370000(kcal/mol): PK_start=1306 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1340
 (fs_start=1298)
 AA
 TACTGAGAAACAGGCTAATTTTTTAGGGAG
 CCTTC CGGTCT
 GCCAGGGA
 CACAAGGGAAG
 PK4: -29.020000(kcal/mol): PK_start=1313 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1350
 (fs_start=1298)
 CCAC
 AAACAGGCTAATTTTTTAGGGAGAATCTGGCCTTC

```

                GGACCGGAAG    GGAA
                                CCTTCA
          GAATTT

=====
(3370) JQ416160
=====
PK1:  -13.765000(kcal/mol): PK_start=1278 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1306
(fs_start=1298)
                A
GAAAGGATGGACACCAAATGAAAGATTGT

                GACA    AAGAGTC
                                TTTTTAGGG
          GCTAAT

PK2:  -20.500000(kcal/mol): PK_start=1283 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1319
(fs_start=1298)
                C
GATGGACACCAAATGAAAGATTGTACTGAGAAA

                GATTTTTT  A  ATCGGA
                                TGGCCTTC
          GGAGAATC

PK3:  -22.370000(kcal/mol): PK_start=1306 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1340
(fs_start=1298)
                AA
TACTGAGAAACAGGCTAATTTTTTAGGGAG

                CCTTC    CGGTCT
                                GCCAGGGA
          CACAAGGGAAG

PK4:  -29.020000(kcal/mol): PK_start=1313 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1350
(fs_start=1298)
                CCAC
AAACAGGCTAATTTTTTAGGGAGAATCTGGCCTTC

                GGACCGGAAG    GGAA
                                CCTTCA
          GAATTT

=====
(3371) JQ416161
=====
PK1:  -13.765000(kcal/mol): PK_start=1278 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1306
(fs_start=1298)
                A
GAAAGGATGGACACCAAATGAAAGATTGT

                GACA    AAGAGTC
                                TTTTTAGGG
          GCTAAT

```

PK2: -20.50000(kcal/mol): PK_start=1283 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1319
(fs_start=1298)

C
GATGGACACCAAATGAAAGATTGTACTGAGAAA
GATTTTTT A ATCGGA
TGGCCTTC
GGAGAATC

PK3: -22.37000(kcal/mol): PK_start=1306 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1340
(fs_start=1298)

AA
TACTGAGAAACAGGCTAATTTTTTAGGGAG
CCTTC CGGTCT
GCCAGGGA
CACAAAGGAAG

PK4: -29.02000(kcal/mol): PK_start=1313 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1350
(fs_start=1298)

CCAC
AAACAGGCTAATTTTTTAGGGAGAATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(3372) JQ416162
=====

PK1: -13.76500(kcal/mol): PK_start=1278 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1306
(fs_start=1298)

A
GAAAGGATGGACACCAAATGAAAGATTGT
GACA AAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.50000(kcal/mol): PK_start=1283 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1319
(fs_start=1298)

C
GATGGACACCAAATGAAAGATTGTACTGAGAAA
GATTTTTT A ATCGGA
TGGCCTTC
GGAGAATC

PK3: -22.37000(kcal/mol): PK_start=1306 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1340
(fs_start=1298)

AA
TACTGAGAAACAGGCTAATTTTTTAGGGAG
CCTTC CGGTCT
GCCAGGGA
CACAAAGGAAG

PK4: -29.020000(kcal/mol): PK_start=1313 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1350
(fs_start=1298)

CCAC
AAACAGGCTAATTTTTTAGGGAGAATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(3373) JQ423923
=====

PK1: -13.555000(kcal/mol): PK_start=1396 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1424
(fs_start=1416)

A
GAAAAGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCCAAT

PK2: -21.340000(kcal/mol): PK_start=1401 sp=0 s1=8 s2=5 l1=2 l2=8 L3=1 PK_end=1436
(fs_start=1416)

CA
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ACCGG
TGGCCCT
GGAAAATC

PK3: -24.730000(kcal/mol): PK_start=1424 sp=0 s1=4 s2=7 l1=3 l2=9 L3=1 PK_end=1457
(fs_start=1416)

AAA
TACTGAGAGACAGGCCAATTTTTTAGGGA
CCCT C CCGGTCT
GGCCAGGGA
ACTCGGGAA

PK4: -22.640000(kcal/mol): PK_start=1431 sp=7 s1=7 s2=5 l1=9 l2=4 L3=0 PK_end=1467
(fs_start=1416)

CTCCCACTC
AGACAGGCCAATTTTTTAGGGAAAATCTGGCC
GGACCGG AAGGG
TTTCTTC
GAAT

=====
(3374) JQ429433
=====

PK1: -13.555000(kcal/mol): PK_start=1724 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1752
(fs_start=1744)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC

TTTTTAGGG

GCCAAT

PK2: -22.720000(kcal/mol): PK_start=1729 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1765
(fs_start=1744)

C

GAAGGACACCAAATGAAAGATTGTACTGAGAGA

GATTTTTT A ACCGGA

TGGCCTTC

GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1752 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1786
(fs_start=1744)

A

TACTGAGAGACAGGCCAATTTTTTAGGGAAG

CCCTTC CGGTCT

GCCAGGGA

ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1759 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1796
(fs_start=1744)

CCAC

AGACAGGCCAATTTTTTAGGGAAGATCTGGCCTTC

GGACCGGAAG GGAA

TCTTCA

GAATTT

=====
(3375) JX140646
=====

PK1: -15.140000(kcal/mol): PK_start=1429 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1457
(fs_start=1449)

CA

GGAAGGAGGGACACCAAATGAAAGACTG

GAC AGAAAGTC

TTTTTTAGGG

GCTAA

PK2: -20.500000(kcal/mol): PK_start=1434 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1470
(fs_start=1449)

C

GAGGGACACCAAATGAAAGACTGCACTGAAAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAAATC

PK3: -23.815000(kcal/mol): PK_start=1458 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1491
(fs_start=1449)

AAA

ACTGAAAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTCT

```

                                AGGCCAGGAA
          AGCAAGGGG
PK4:  -25.745000(kcal/mol): PK_start=1464 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1501
(fs_start=1449)
                                CCAGCA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTT
                                GGACCGGAG    GGGA
                                TCCTCA
          AAACTT

PK4B:  -30.395000(kcal/mol): PK_start=1464 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1527
(fs_start=1449)
                                TCCAGCAA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTT
                                GGACCGGA    GGGG
                                CCCCCG
          AAACCTTCCTCAGAGCAGACCAGAGCCATCAG

=====
(3376) JX140647
=====
PK1:  -15.585000(kcal/mol): PK_start=1422 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1450
(fs_start=1442)
                                A
GAAAGGAAGGACACCAAATGAAAGACTGT
                                GACA    GAGAGTC
                                TTTTTAGGG
          GCTAAT

PK2:  -21.940000(kcal/mol): PK_start=1427 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1464
(fs_start=1442)
                                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
                                GATTTTTT    AATCGGA
                                TTGGCCTTC
          GGAGAAT

PK3:  -18.840000(kcal/mol): PK_start=1450 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1484
(fs_start=1442)
                                AA
TACTGAGAGACAGGCTAATTTTTTTAGGGAG
                                CCTTC    CGGTTT
                                GCCAGGAA
          AGCAAGGGGAG

PK4:  -22.215000(kcal/mol): PK_start=1457 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1494
(fs_start=1442)
                                CCAGCA
AGACAGGCTAATTTTTTTAGGGAGAATTTGGCCTT
                                GGACCGGAG    GGGA

```


TCCTCA

AAACTT

PK4B: -26.865000(kcal/mol): PK_start=1457 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1520
(fs_start=1442)

TCCAGCAA

AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT

GGACCGGA GGGG

CCCCAC

AAACTTTCCTCAGAGCAGACCAGAACCAACAG

=====
(3377) JX140648
=====

PK1: -15.100000(kcal/mol): PK_start=1444 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1472
(fs_start=1464)

CA

GAAAGGAAGGACATCAAATGAAAGACTG

GAC AGAGAGTC

TTTTTTAGGG

GCTAA

PK2: -20.460000(kcal/mol): PK_start=1449 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1485
(fs_start=1464)

C

GAAGGACATCAAATGAAAGACTGCACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAGAATG

PK3: -21.005000(kcal/mol): PK_start=1473 sp=0 s1=3 s2=6 l1=5 l2=9 L3=0 PK_end=1504
(fs_start=1464)

GAATG

ACTGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGT

AGGCCAGG

AGCAAAGGG

PK4: -20.695000(kcal/mol): PK_start=1481 sp=9 s1=8 s2=4 l1=4 l2=5 L3=0 PK_end=1513
(fs_start=1464)

CAGC

ACAGGCTAATTTTTTAGGGAGAATGTGGCCTTC

ACCGGAGG GAAA

TTTTCT

GGGAA

=====
(3378) JX140649
=====

PK1: -11.420000(kcal/mol): PK_start=1323 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=1349
(fs_start=1343)

CACA

GAAAGGAGGGACATCAAATGAAAGACTG

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          GAC   AGAGAG
                TTTTTTAG
    GCTAA
PK2:  -18.660000(kcal/mol): PK_start=1330 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1365
(fs_start=1343)
                C
    GGGACATCAAATGAAAGACTGCACAGAGAGA
                TTTTTT   AATCGGA
                TTGGCCTTC
    AGGGAGAAT
PK3:  -18.840000(kcal/mol): PK_start=1351 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1385
(fs_start=1343)
                AA
    CACAGAGAGACAGGCTAATTTTTTAGGGAG
                CCTTC   CGGTTT
                GCCAGGGA
    AGCAAGGGGAG
PK4:  -27.000000(kcal/mol): PK_start=1358 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=1396
(fs_start=1343)
                TTCCAGCAA
    AGACAGGCTAATTTTTTAGGGAGAATTTGGCC
                GGACCGG   AGGGG
                TCCCCAG
    GAATTT
PK4B:  -24.080000(kcal/mol): PK_start=1359 sp=8 s1=6 s2=4 l1=9 l2=33 L3=1 PK_end=1420
(fs_start=1343)
                TTCCAGCAA
    GACAGGCTAATTTTTTAGGGAGAATTTGGCC
                GACCGG   A   GGGG
                CCCCAC
    GGAATTTTCCCCAGAACAGGCTAGAGCCAACAG

=====
(3379) JX140650
=====
PK1:  -15.140000(kcal/mol): PK_start=1415 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1443
(fs_start=1435)
                CA
    GGAAAGAAGGACATCAAATGAAGGACTG
                GAC   AGAAAGTC
                TTTTTTAGGG
    GCTAA
PK2:  -21.980000(kcal/mol): PK_start=1420 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1457
(fs_start=1435)
                C
    GAAGGACATCAAATGAAGGACTGCACTGAAAGA

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                GATTTTTT   AATCGGA
                TTGGCCTTC
    GGAGAAT
PK3:  -18.840000(kcal/mol): PK_start=1443 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1477
(fs_start=1435)
                AA
    CACTGAAAGACAGGCTAATTTTTTAGGGAG
                CCTTC   CGGTTT
                GCCAGGAA
    AGCAAGGGGAG
PK4:  -24.595000(kcal/mol): PK_start=1450 sp=7 s1=8 s2=4 l1=8 l2=5 L3=0 PK_end=1486
(fs_start=1435)
                TCCAGCAA
    AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
                GGACCGGA   GGGG
                TCCCAC
    AAATT
PK4B:  -26.865000(kcal/mol): PK_start=1450 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1513
(fs_start=1435)
                TCCAGCAA
    AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
                GGACCGGA   GGGG
                CCCCAC
    AAATTTCCACAGAGCAGACCAGAGCCATCAG

=====
(3380) JX140651
=====
PK1:  -15.140000(kcal/mol): PK_start=1305 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1333
(fs_start=1325)
                CA
    GGAAAGAGGGACACCAAATGAAAGACTG
                GAC   AGAAAGTC
                TTTTTTAGGG
    GCTAA
PK2:  -21.980000(kcal/mol): PK_start=1310 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1347
(fs_start=1325)
                C
    GAGGGACACCAAATGAAAGACTGCACTGAAAGA
                GATTTTTT   AATCGGA
                TTGGCCTTC
    GGAAAAT
PK3:  -29.090000(kcal/mol): PK_start=1333 sp=0 s1=3 s2=10 l1=5 l2=3 L3=0 PK_end=1366
(fs_start=1325)
                AAAAT
    CACTGAAAGACAGGCTAATTTTTTAGGG

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          CCC      CCTTCCGGTT
                GGGAGGCCAGGC
    AAG
PK4:  -22.215000(kcal/mol): PK_start=1340 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1377
(fs_start=1325)
                CCCCCA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTT
                GGACCGGAG      GGGA
                                TCCTCA
                CAATTT

PK4B:  -26.865000(kcal/mol): PK_start=1340 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1403
(fs_start=1325)
                TCCCCCAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
                GGACCGGA      GGGG
                                CCCAC
                CAATTTTCCTCAGAACAGACTGGAGCCAACAG

=====
(3381) JX140652
=====
PK1:  -13.555000(kcal/mol): PK_start=1433 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1461
(fs_start=1453)
                A
GAAAGGAAGGACACCAGATGAAAGATTGT
                GACA      GAGAGTC
                                TTTTTAGGG
                GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1438 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1474
(fs_start=1453)
                C
GAAGGACACCAGATGAAAGATTGTACTGAGAGA
                GATTTTTT  A  ATCGGA
                                TGGCCTTC
                GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1461 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1495
(fs_start=1453)
                AAA
TACTGAGAGACAGGCTAATTTTTTTAGGGA
                CCCT      TCCGGTCT
                                AGGCCAGGGA
                ACAAGGGA

PK4:  -26.715000(kcal/mol): PK_start=1468 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1505
(fs_start=1453)
                CCAC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC

```

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                GGACCGGAAG    GGAA
                                TCTTCA
          GAATTT
=====
(3382) JX140653
=====
PK1:  -13.555000(kcal/mol): PK_start=1435 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1463
(fs_start=1455)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                GACA    GAGAGTC
                                TTTTTAGGG
          GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1440 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1476
(fs_start=1455)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT    A    ATCGGA
                                TGGCCTTC
          GGAAGATC
PK3:  -25.060000(kcal/mol): PK_start=1463 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1497
(fs_start=1455)
                                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                TCCTTC    CGGTCT
                                GCCAGGGA
          ACAAGGGAAG
PK4:  -24.995000(kcal/mol): PK_start=1470 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1507
(fs_start=1455)
                                TCCTACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
                GGACCGGA    AGGG
                                TCTCCA
          GAATTT
PK4B:  -24.150000(kcal/mol): PK_start=1470 sp=7 s1=7 s2=4 l1=1 l2=41 L3=9 PK_end=1533
(fs_start=1455)
                                T
AGACAGGCTAATTTTTTAGGGAAGATCTGGCC
                GGACCGG    AAGGGAACA    TCCT
                                AGGAGA
          GAATTTTCTCCAGAGCAGACCAGAGCCAACAGCCCCACCAG
=====
(3383) JX140654
=====

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PK1: -13.595000(kcal/mol): PK_start=1426 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1454
(fs_start=1446)

A
GAAGGGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1431 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1467
(fs_start=1446)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1454 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1488
(fs_start=1446)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAGGGAC

PK4: -23.300000(kcal/mol): PK_start=1461 sp=7 s1=8 s2=5 l1=6 l2=5 L3=1 PK_end=1497
(fs_start=1446)

TCCCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA C AGGGA
TTCTTCA
GAATT

=====
(3384) JX140655
=====

PK1: -13.595000(kcal/mol): PK_start=1431 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1459
(fs_start=1451)

A
GAAGGGAAGGACATCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1436 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1472
(fs_start=1451)

C
GAAGGACATCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -23.815000(kcal/mol): PK_start=1460 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1493
(fs_start=1451)

AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTCT
AGGCCAGGGA
AACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=1466 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1503
(fs_start=1451)

CAAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1466 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1529
(fs_start=1451)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCTTCAAAGCAGACCAGAGCCAACAG

=====
(3385) JX140656
=====

PK1: -13.555000(kcal/mol): PK_start=1433 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1461
(fs_start=1453)

A
GAAGGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1438 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1474
(fs_start=1453)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.440000(kcal/mol): PK_start=1461 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1495
(fs_start=1453)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCGGGA
ACAAGGGAAG

PK4: -28.35000(kcal/mol): PK_start=1468 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1505
(fs_start=1453)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGGCCGGAAG GGAA
CCTTCA
GAATTT

=====
(3386) JX140657
=====

PK1: -10.725000(kcal/mol): PK_start=1430 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1458
(fs_start=1450)

A
GAAAGGAAGGCCACCAAATGAAAGATTGT
GACA GAGAGTT
TTTTTAGGG
GCTAAT

PK2: -18.430000(kcal/mol): PK_start=1435 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1471
(fs_start=1450)

C
GAAGGCCACCAAATGAAAGATTGTATTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAGAATC

PK3: -22.370000(kcal/mol): PK_start=1458 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1492
(fs_start=1450)

AA
TATTGAGAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTCT
GCCAGGGA
CACAAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1465 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1502
(fs_start=1450)

CCAC
AGACAGGCTAATTTTTTAGGGAGAATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1465 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1528
(fs_start=1450)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAGAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCTTCAGAGCAGACCAGAGCCATCAG

=====
(3387) JX140658
=====

PK1: -10.640000(kcal/mol): PK_start=1425 sp=0 s1=3 s2=7 l1=1 l2=18 l3=0 PK_end=1463
(fs_start=1456)

A
TTGGAATGTGGAAAGGAAGGACACCAA
GTT AGAAAGT
TTTTTTAGG
CACTGAGAGACAGGCTAA

PK2: -20.460000(kcal/mol): PK_start=1441 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1477
(fs_start=1456)

C
GAAGGACACCAAATGAAAGATTGCACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1464 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=1498
(fs_start=1456)

AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1471 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1508
(fs_start=1456)

CCAC
AGACAGGCTAATTTTTTAGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(3388) JX140659
=====

PK1: -13.595000(kcal/mol): PK_start=1416 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1444
(fs_start=1436)

A
GAAGGGAAGGACATCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1421 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1457
(fs_start=1436)

C
GAAGGACATCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA

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                                TGGCCTTC
          GGAAAATC
PK3:  -23.815000(kcal/mol): PK_start=1445 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1478
(fs_start=1436)
                                AAA
ACTGAAAGACAGGCTAATTTTTTTAGGGA
                                CCT   TCCGGTCT
                                AGGCCAGGGA
          AACAAAGGGG
PK4:  -26.235000(kcal/mol): PK_start=1451 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1488
(fs_start=1436)
                                CAAC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAGG   GGAA
                                TCTTCA
          GAATTT
PK4B:  -30.395000(kcal/mol): PK_start=1451 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1514
(fs_start=1436)
                                TCCAACAA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT
                                GGACCGGA   GGGG
                                CCCCAC
          GAATTTTCTTCAGAGCAGACCAGAGCCAACAG
=====
(3389) JX140661
=====
PK1:  -15.140000(kcal/mol): PK_start=1407 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1435
(fs_start=1427)
                                CA
GAAAAGAGGGACACCAAATGAAAGACTG
                                GAC   AGAAAGTC
                                TTTTTTAGGG
          GTTAA
PK2:  -18.490000(kcal/mol): PK_start=1412 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1449
(fs_start=1427)
                                C
GAGGGACACCAAATGAAAGACTGCACTGAAAGA
                                GATTTTTT   AATTGGA
                                TTGGCCTTC
          GGAAAAT
PK3:  -18.720000(kcal/mol): PK_start=1436 sp=0 s1=4 s2=4 l1=5 l2=10 L3=0 PK_end=1466
(fs_start=1427)
                                AATTT
ACTGAAAGACAGGTTAATTTTTTTAGGGAA
                                CCTT   CCGG

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GGCCTG

AACAAGGGGA

PK4: -22.820000(kcal/mol): PK_start=1445 sp=10 s1=7 s2=4 l1=4 l2=9 L3=0 PK_end=1479
(fs_start=1427)

CAAC

CAGGTTAATTTTTTAGGGAAAATTTGGCCTTC

CCGGAGG GGAA

CCTTCA

TGGAATTT

PK4B: -24.675000(kcal/mol): PK_start=1445 sp=10 s1=5 s2=4 l1=8 l2=35 L3=0
PK_end=1505 (fs_start=1427)

TCCAACAA

CAGGTTAATTTTTTAGGGAAAATTTGGCCT

CCGGA GGGG

CCCCAC

TGGAATTTCTTCAGAACAGGCCAGAGCCATCGG

=====
(3390) JX140662
=====

PK1: -12.445000(kcal/mol): PK_start=1417 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=1444
(fs_start=1437)

AA

GAAAGGAAGGACACCAAATGAAAGACTGT

GACG GAAAGT

TTTTTAGG

GCTAAT

PK2: -18.090000(kcal/mol): PK_start=1423 sp=0 s1=7 s2=7 l1=1 l2=8 L3=0 PK_end=1459
(fs_start=1437)

C

AAGGACACCAAATGAAAGACTGTAATGAAAGG

ATTTTTT AATCGGA

TTGGCCTTC

GGGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1446 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1479
(fs_start=1437)

AAA

AATGAAAGGCAGGCTAATTTTTTAGGGA

CCT TCCGGTTT

AGGCCAGGGA

AACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1452 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1489
(fs_start=1437)

CAAC

AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC

GGACCGGAGG GGAA

CCTTCA

GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1452 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1515
(fs_start=1437)

TCCAACAA

AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG

CCCCAC

GAATTTCCCTCAGAACAGACCAGAGCCGACAG

=====

(3391) JX140663

=====

PK1: -15.025000(kcal/mol): PK_start=1408 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1436
(fs_start=1428)

A

GACAAGAAGGACACCAAATGAAAGACTGT

GACG GAAAGTC

TTTTTAGGG

GCTAAT

PK2: -20.370000(kcal/mol): PK_start=1413 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1450
(fs_start=1428)

C

GAAGGACACCAAATGAAAGACTGTACTGAAAGG

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1436 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1470
(fs_start=1428)

AAA

TACTGAAAGGCAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT

AGGCCAGGAA

ACAAGGGG

PK4: -26.865000(kcal/mol): PK_start=1443 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1481
(fs_start=1428)

TCCCACAA

AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG

CCCCAG

AAATTTT

PK4B: -26.865000(kcal/mol): PK_start=1443 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1506
(fs_start=1428)

TCCCACAA

AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG

CCCCAC
AAATTTCCCCCAGAGCAGACTAGAGCCAACAG

=====
(3392) JX140664
=====

PK1: -15.025000(kcal/mol): PK_start=1422 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1450
(fs_start=1442)

A
GAAAAGAAGGACACCAAATGAAAGACTGT

GACG GAAAGTC

TTTTTAGGG

GCTAAT

PK2: -20.370000(kcal/mol): PK_start=1427 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1464
(fs_start=1442)

C
GAAGGACACCAAATGAAAGACTGTACTGAAAGG

GATTTTTT AATCGGA

TTGGCCTTC

GGAAGAT

PK3: -20.860000(kcal/mol): PK_start=1450 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1484
(fs_start=1442)

A
TACTGAAAGGCAGGCTAATTTTTTAGGGAAG

CCCTTC CGGTTT

GCCGGGAA

ACAAGGGGAG

PK4: -23.290000(kcal/mol): PK_start=1457 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1494
(fs_start=1442)

CCAC
AGGCAGGCTAATTTTTTAGGGAAGATTGGCCTTC

GGGCCGAGG GGAA

CCTTCA

AAATTT

PK4B: -25.145000(kcal/mol): PK_start=1457 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1520
(fs_start=1442)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAGATTGGCCT

GGGCCGGA GGGG

CCCCAC

AAATTTCTTCAGAGAAGACCAGAGCCAACAG

=====
(3393) JX140665
=====

PK1: -15.025000(kcal/mol): PK_start=1408 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1436
(fs_start=1428)

T
GGAAAAGAAGGACACCAAATGAAGGACTGT

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          GACG      GAAAGTC
                TTTTATAGGG
    GCTAAT
PK2:  -21.190000(kcal/mol): PK_start=1412 sp=0 s1=8 s2=7 l1=2 l2=6 L3=1 PK_end=1449
(fs_start=1428)
                GC
AGAAGGACACCAAATGAAGGACTGTTCTGAAAG
                GGATTTTT T AATCGGA
                TTGGCCTTC
    GAAAAT
PK3:  -22.025000(kcal/mol): PK_start=1436 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1470
(fs_start=1428)
                AAA
TTCTGAAAGGCAGGCTAATTTTTATAGGGA
                CCCT      TCCGGTTT
                AGGCCGGGGA
    ACAAGGGG
PK4:  -23.290000(kcal/mol): PK_start=1443 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1480
(fs_start=1428)
                CCAC
AGGCAGGCTAATTTTTATAGGAAAATTTGGCCTTC
                GGGCCGGAGG      GGAA
                CCTTCA
    GAACTT
PK4B: -25.145000(kcal/mol): PK_start=1443 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1506
(fs_start=1428)
                TCCCACAA
AGGCAGGCTAATTTTTATAGGAAAATTTGGCCT
                GGGCCGGA      GGGG
                CCCAC
    GAACTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(3394) JX140666
=====
PK1:  -13.595000(kcal/mol): PK_start=1418 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1446
(fs_start=1438)
                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                GACA      GAAAGTC
                TTTTATAGGG
    GCAAAT
PK2:  -14.350000(kcal/mol): PK_start=1423 sp=0 s1=8 s2=4 l1=4 l2=6 L3=0 PK_end=1456
(fs_start=1438)
                CAGG
GAAGGACACCAAATGAAAGATTGTACTGAAAGA

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                GATTTTTT   AAAC
                                TTTGGC
        GGAAGA
PK3:  -21.530000(kcal/mol): PK_start=1446 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1480
(fs_start=1438)
                                A
TACTGAAAGACAGGCAAATTTTTTAGGGAAG
                TCCTTC   CGGTTT
                                GCCAGGGA
        ACAAGGGGAG
PK4:  -25.010000(kcal/mol): PK_start=1453 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1490
(fs_start=1438)
                                CTAC
AGACAGGCAAATTTTTTAGGGAAGATTGGCCTTC
                GGACCGGAGG   GGAA
                                CCTTCA
        GAATTT
PK4B:  -24.595000(kcal/mol): PK_start=1453 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1516
(fs_start=1438)
                                TCCTACAA
AGACAGGCAAATTTTTTAGGGAAGATTGGCCT
                GGACCGGA   GGGG
                                TCCCAA
        GAATTTCTTCAGAACAGACCAGAGCCAACGG
=====
(3395) JX140667
=====
PK1:  -15.025000(kcal/mol): PK_start=1416 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1444
(fs_start=1436)
                                A
GAAAGGAGGGACACCAAATGAAAGACTGT
                GACG   GAAAGTC
                                TTTTTAGGG
        GCTAAT
PK2:  -25.840000(kcal/mol): PK_start=1421 sp=0 s1=6 s2=9 l1=1 l2=7 L3=2 PK_end=1458
(fs_start=1436)
                                G
GAGGGACACCAAATGAAAGACTGTACTGAAA
                GATTTT   TT   AATCGGACG
                                TTGGCCTGCC
        GGAAAAT
PK3:  -20.930000(kcal/mol): PK_start=1444 sp=0 s1=3 s2=8 l1=4 l2=8 L3=1 PK_end=1477
(fs_start=1436)
                                AAAA
TACTGAAAGGCAGGCTAATTTTTTAGGG

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          CCC  G  TCCGGTTT
                AGGCCAGGGA
ACAAGGGG
PK4:  -26.865000(kcal/mol): PK_start=1451 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1514
(fs_start=1436)
                GCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA  GGGG
                CCCCAC
                GAATTTCCCTCAGAACAGACCAGAGCCAACAG

=====
(3396) JX140668
=====
PK1:  -14.985000(kcal/mol): PK_start=1416 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1444
(fs_start=1436)
                A
GAAAGGAAGGACACCAAATGAAAGACTGT
                GACG  GAGAGTC
                TTTTTAGGG
                GCTAAT
PK2:  -18.720000(kcal/mol): PK_start=1421 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1457
(fs_start=1436)
                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
                GATTTTTT  A  ATCGGA
                TGGCCTTC
                GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1444 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1478
(fs_start=1436)
                AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
                CCCT  TCCGGTCT
                AGGCCAGGGA
                ACAAGGGG
PK4:  -28.540000(kcal/mol): PK_start=1451 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1488
(fs_start=1436)
                CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                GGACCGGAGG  GGAA
                CCTTCA
                GAATTT
PK4B:  -30.395000(kcal/mol): PK_start=1451 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1514
(fs_start=1436)
                TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCT

```


GGACCGGA GGGG
CCCCAC
GAATTTCTTCAGAGCAGACCAGAACCAACAG

=====
(3397) JX140669
=====

PK1: -15.100000(kcal/mol): PK_start=1416 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1444
(fs_start=1436)

CA
GAAAGGAAGGACACCAAATGAAAGACTG

GAC AGAGAGTC
TTTTTTTAGGG
GCTAA

PK2: -20.460000(kcal/mol): PK_start=1421 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1457
(fs_start=1436)

C
GAAGGACACCAAATGAAAGACTGCACTGAGAGA

GATTTTTT A ATCGGA
TGGCCTTC
GGAGAATC

PK3: -22.370000(kcal/mol): PK_start=1444 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1478
(fs_start=1436)

AA
CACTGAGAGACAGGCTAATTTTTTAGGGAG

CCTTC CGGTCT
GCCAGGGA
CACAAAGGAAG

PK4: -29.020000(kcal/mol): PK_start=1451 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1488
(fs_start=1436)

CCAC
AGACAGGCTAATTTTTTAGGGAGAATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(3398) JX140670
=====

PK1: -10.640000(kcal/mol): PK_start=1413 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1451
(fs_start=1444)

A
TTGGAAATGTGGAAAGGAAGGACACCAA

GTT AGAAAGT
TTTTTTTAGG
CACTGAAAGACAGGCTAA

PK2: -21.980000(kcal/mol): PK_start=1429 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1466
(fs_start=1444)

C
GAAGGACACCAAATGAAAGATTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAGGAT

PK3: -17.120000(kcal/mol): PK_start=1452 sp=0 s1=5 s2=6 l1=2 l2=11 l3=0 PK_end=1486
(fs_start=1444)

GA
CACTGAAAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTTT
GCCGGGAA
AACAAGGGAAG

PK4: -21.465000(kcal/mol): PK_start=1459 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1496
(fs_start=1444)

CAAC
AGACAGGCTAATTTTTTAGGGAGGATTGGCCTTC
GGGCCGGAAG GGAA
TCTTCA
AAACTT

=====
(3399) JX140672
=====

PK1: -10.440000(kcal/mol): PK_start=1302 sp=0 s1=3 s2=7 l1=1 l2=18 l3=0 PK_end=1340
(fs_start=1333)

A
TTGGAAATGTGGACAGGAAGGACATCAA
GTT AGAAAGT
TTTTTTAGG
CACTGAAAGACAGGCTAA

PK2: -21.980000(kcal/mol): PK_start=1318 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1355
(fs_start=1333)

C
GAAGGACATCAAATGAAAGATTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1342 sp=0 s1=3 s2=8 l1=3 l2=9 l3=0 PK_end=1375
(fs_start=1333)

AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGGA
AACAAGGGG

PK4: -20.985000(kcal/mol): PK_start=1348 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1385
(fs_start=1333)

CAAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGGCCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -23.290000(kcal/mol): PK_start=1348 sp=7 s1=10 s2=4 l1=4 l2=40 l3=0
PK_end=1419 (fs_start=1333)

CAAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGGCCGGAGG GGAA
CCTTCA
GAATTTTCTTCAGAGCAGACCAGAGCAGAGCAGACCAGAG

=====
(3400) JX140673
=====

PK1: -15.100000(kcal/mol): PK_start=1414 sp=0 s1=3 s2=8 l1=2 l2=5 l3=0 PK_end=1442
(fs_start=1434)

CA
GAAAGGAAGGACACCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1419 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1456
(fs_start=1434)

C
GAAGGACACCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTCC
GGAAACT

PK3: -15.330000(kcal/mol): PK_start=1442 sp=0 s1=4 s2=5 l1=3 l2=23 l3=2 PK_end=1485
(fs_start=1434)

AAC
CACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT CC GGTTT
TCAGAAC
AGCGGGAGGCCCGGAATTTTCT

PK4: -26.295000(kcal/mol): PK_start=1452 sp=10 s1=5 s2=5 l1=4 l2=36 l3=0 PK_end=1511
(fs_start=1434)

CCCA
CAGGCTAATTTTTTAGGGAAACTTTGGCCT
CCGGA GGGCG
CCCGCCA
CGGGAATTTTCTTCAGAACAGACCAGCCAACAGC

=====
(3401) JX140674
=====

PK1: -11.460000(kcal/mol): PK_start=1477 sp=0 s1=3 s2=6 l1=4 l2=5 l3=0 PK_end=1503
(fs_start=1497)

CACA
GAAGGGAGGGACATCAAATGAAAGACTG
GAC AGAAAG
TTTTTTAG
GCTAA

PK2: -17.220000(kcal/mol): PK_start=1484 sp=0 s1=6 s2=6 l1=1 l2=10 l3=1 PK_end=1518
(fs_start=1497)

C
GGGACATCAAATGAAAGACTGCACAGAAAGA
TTTTTT A ATCGGA
TGGCCTC
AGGGAAAATC

PK3: -23.815000(kcal/mol): PK_start=1506 sp=0 s1=3 s2=8 l1=3 l2=9 l3=0 PK_end=1539
(fs_start=1497)

AAA
ACAGAAAGACAGGCTAATTTTTTTAGGGA
CCT TCCGGTCT
AGGCCAGGGA
AACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=1512 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1549
(fs_start=1497)

CAAC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1512 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=1575
(fs_start=1497)

TCCAACAA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCTTCAGAGCAGGCCAGAGCCAACAG

=====
(3402) JX140675
=====

PK1: -11.420000(kcal/mol): PK_start=1447 sp=0 s1=3 s2=6 l1=4 l2=5 l3=0 PK_end=1473
(fs_start=1467)

CACA
GAAAGGAGGGACATCAAATGAAAGACTG
GAC AGAGAG

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                TTTTTTAG
          GCTAA
PK2:  -18.660000(kcal/mol): PK_start=1454 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1489
(fs_start=1467)
                C
GGGACATCAAATGAAAGACTGCACAGAGAGA
                TTTTTT   AATCGGA
                TTGGCCTTC
          AGGGAGAAT
PK3:  -18.840000(kcal/mol): PK_start=1475 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1509
(fs_start=1467)
                AA
CACAGAGAGACAGGCTAATTTTTTTAGGGAG
                CCTTC   CGGTTT
                GCCAGGGA
          AACAAGGGAAG
PK4:  -21.465000(kcal/mol): PK_start=1482 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1519
(fs_start=1467)
                TCCAACAA
AGACAGGCTAATTTTTTTAGGGAGAATTTGGCCT
                GGACCGGA   AGGG
                TCTCCA
          GAATTT

=====
(3403) JX140676
=====
PK1:  -12.280000(kcal/mol): PK_start=1433 sp=0 s1=3 s2=7 l1=5 l2=17 L3=1 PK_end=1474
(fs_start=1468)
                CCAAA
GCTGTTGGAAATGTGGAAAGGAGGGGCA
                CGT   C   AGAAAGT
                TTTTTTAGG
          ACAGAAAGACAGGCTAA
PK2:  -17.220000(kcal/mol): PK_start=1455 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=1489
(fs_start=1468)
                C
GGGGCACCAAATGAAAGACTGCACAGAAAGA
                TTTTTT   A   ATCGGA
                TGGCCTTC
          AGGGAAAATC
PK3:  -23.815000(kcal/mol): PK_start=1477 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1510
(fs_start=1468)
                AAA
ACAGAAAGACAGGCTAATTTTTTTAGGGA
                CCT   TCCGGTCT

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AGGCCAGGGA
AGCAAGGGA
PK4: -26.715000(kcal/mol): PK_start=1483 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1520
(fs_start=1468)
CAGC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(3404) JX140677
=====

PK1: -15.100000(kcal/mol): PK_start=1408 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1436
(fs_start=1428)
CA
GGAAGGAGGGACACCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1413 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1450
(fs_start=1428)

C
GAGGGACACCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1437 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1470
(fs_start=1428)

AAA
ACTGAGAGACAGGCTAATTTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AGCAATGGA

PK4: -20.510000(kcal/mol): PK_start=1443 sp=7 s1=7 s2=4 l1=10 l2=4 L3=0 PK_end=1478
(fs_start=1428)

TTCCAGCAAT
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCC
GGACCGG AAGG
TTCCCT
AAAT

=====
(3405) JX140679
=====

PK1: -13.555000(kcal/mol): PK_start=1340 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1368
(fs_start=1360)

A
GAAAGGAAGGGCACCAAATGAAAGATTGT

GACA GAGAGTC
TTTTTAGGG
GCTAAT
PK2: -21.940000(kcal/mol): PK_start=1345 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1382
(fs_start=1360)

C
GAAGGGCACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1369 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1402
(fs_start=1360)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AGCAAAGGG

PK4: -21.815000(kcal/mol): PK_start=1375 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1412
(fs_start=1360)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGA
TCCTCA
AAATTT

PK4B: -20.650000(kcal/mol): PK_start=1375 sp=7 s1=7 s2=4 l1=1 l2=41 L3=9 PK_end=1438
(fs_start=1360)

T
AGACAGGCTAATTTTTTAGGGAAAATTTGGCC
GGACCGG AGGGAAACG ACCT
TGGAGA
AAATTTTCCTCAGAGCAGACCAGAACCAACAGCCCCACCAA

=====
(3406) JX236668
=====

PK1: -10.640000(kcal/mol): PK_start=2053 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=2091
(fs_start=2084)

A
TTGGAAATGTGGAAAGGAAGGACACCAA
GTT AGAAAGT
TTTTTTAGG
CACTGAAAGACAGGCTAA

PK2: -21.980000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2106
(fs_start=2084)

C
GAAGGACACCAAATGAAAGATTGCACTGAAAGA

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                GATTTTTT   AATCGGA
                        TTGGCCTTC
        GGAAAAT

PK3:  -22.715000(kcal/mol): PK_start=2090 sp=0 s1=5 s2=8 l1=4 l2=7 L3=0 PK_end=2126
(fs_start=2084)
                AAAA
TGC ACTGAAAGACAGGCTAATTTTTTAGGG
                GTCCT   TCCGGTTT
                        AGGCCAGGAA
        CAAGGGA

PK4:  -25.490000(kcal/mol): PK_start=2099 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2136
(fs_start=2084)
                        CTGC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
                GGACCGGAAG   GGAA
                        CCTTCA
        AAACCT

PK4B:  -23.850000(kcal/mol): PK_start=2099 sp=7 s1=9 s2=4 l1=1 l2=40 L3=5 PK_end=2165
(fs_start=2084)
                C
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
                GGACCGGAA   GGGAA   CGTC
                        GCAGAG
        AAACCTCCTTCAGAGCAGACCAGAGCCGACAGCCCCACCA

=====
(3407) JX236669
=====
PK1:  -15.100000(kcal/mol): PK_start=2066 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2094
(fs_start=2086)
                CA
GGAAGGAGGGACACCAAATGAAAGACTG
                GAC   AGAGAGTC
                        TTTTTTAGGA
        GCTAA

PK2:  -21.940000(kcal/mol): PK_start=2071 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2108
(fs_start=2086)
                C
GAGGGACACCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT   AATCGGA
                        TTGGCCTTC
        GAAAAT

PK3:  -20.485000(kcal/mol): PK_start=2094 sp=0 s1=3 s2=8 l1=4 l2=9 L3=0 PK_end=2128
(fs_start=2086)
                AAAA
CACTGAGAGACAGGCTAATTTTTTAGGA

```


CCT TCCGGTTT
 AGGCCAGGAA
 AGCAAGGGG

PK4: -26.865000(kcal/mol): PK_start=2101 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2164
 (fs_start=2086)

TCCAGCAA
 AGACAGGCTAATTTTTTAGGAAAAATTTGGCCT

GGACCGGA GGGG
 CCCCAC
 AAACCTTCCACAGAGCAGAACAGAGCCAACAG

=====
 (3408) JX236670
 =====

PK1: -10.640000(kcal/mol): PK_start=2043 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=2081
 (fs_start=2074)

A

TTGGAAATGTGGAAAGGAAGGACACCAA

GTT AGAAAGT
 TTTTTTAGG
 CACTGAAAGACAGGCTAA

PK2: -17.860000(kcal/mol): PK_start=2059 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2095
 (fs_start=2074)

C

GAAGGACACCAAATGAAAGATTGCACTGAAAGA

GATTTTTT A ATCGGA
 TGGTCTTC
 GGAAAATC

PK3: -24.635000(kcal/mol): PK_start=2082 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2116
 (fs_start=2074)

AAA

CACTGAAAGACAGGCTAATTTTTTAGGGA

CCCT TCTGGTCT
 AGGCCAGGGA
 ACAAGGGA

PK4: -26.380000(kcal/mol): PK_start=2089 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2126
 (fs_start=2074)

CCAC

AGACAGGCTAATTTTTTAGGGAAAATCTGGTCTTC

GGACCGGAAG GGAA
 CCTTCA
 GAACTT

=====
 (3409) JX236671
 =====

PK1: -15.140000(kcal/mol): PK_start=2097 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2125
(fs_start=2117)

CA
GAAAGGAGGGACATCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -20.500000(kcal/mol): PK_start=2102 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2138
(fs_start=2117)

C
GAGGGACATCAAATGAAAGACTGCACTGAAAGA
GATTTTTT A ATCGGA
TGCCCTTC
GGAAAATC

PK3: -23.815000(kcal/mol): PK_start=2126 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2159
(fs_start=2117)

AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTCT
AGGCCAGGAA
AACAAGGGG

PK4: -30.530000(kcal/mol): PK_start=2132 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=2170
(fs_start=2117)

TTCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCC
GGACCGG AGGGG
TCCCCAG
AAATTT

PK4B: -25.710000(kcal/mol): PK_start=2133 sp=8 s1=6 s2=4 l1=9 l2=33 L3=1 PK_end=2194
(fs_start=2117)

TTCCAACAA
GACAGGCTAATTTTTTAGGGAAAATCTGGCC
GACCGG A GGGG
CCCCAC
GAAATTTTCCCCAGAACAGGCTGGAACCAACAG

=====
(3410) JX236672
=====

PK1: -10.440000(kcal/mol): PK_start=2071 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=2109
(fs_start=2102)

A
TTGGAAATGTGGAAGGGAAGGACATCAA
GTT AGAAAGT
TTTTTTAGG
CACTGAAAGACAGGCTAA

PK2: -21.980000(kcal/mol): PK_start=2087 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2124
(fs_start=2102)

C
GAAGGACATCAAATGAAAGATTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=2110 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2144
(fs_start=2102)

AAA
CACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGAA
AGAAGGGG

PK4: -28.960000(kcal/mol): PK_start=2117 sp=7 s1=11 s2=4 l1=2 l2=7 L3=0 PK_end=2155
(fs_start=2102)

CA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTCC
GGACCGGAGGG GAAG
CTTCAG
AAATTTTC

PK4B: -26.865000(kcal/mol): PK_start=2117 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2180
(fs_start=2102)

TCCCAGAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTCCCTCAGAACAGGACAGCCAACAG

=====
(3411) JX236673
=====

PK1: -10.640000(kcal/mol): PK_start=2079 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=2117
(fs_start=2110)

A
TTGGAAATGTGGAAGGGAAGGCCACCAA
GTT AGAAAGT
TTTTTTAGG
CACTGAAAGACAGGCTAA

PK2: -21.980000(kcal/mol): PK_start=2095 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2132
(fs_start=2110)

C
GAAGGCCACCAAATGAAAGATTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=2118 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2152
(fs_start=2110)

AAA
CACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=2125 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2162
(fs_start=2110)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAACTT

PK4B: -26.865000(kcal/mol): PK_start=2125 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2188
(fs_start=2110)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAACTTCCTTCAGAACAGACCAGAGCCAACAG

=====
(3412) JX236674

=====
PK1: -12.520000(kcal/mol): PK_start=2085 sp=0 s1=3 s2=7 l1=3 l2=5 L3=0 PK_end=2112
(fs_start=2105)

CAA
GGAAAGAAGGACACCAAATGAAAGACTG
GAC AGAGAGT
TTTTTTTAGG
GCTAA

PK2: -19.660000(kcal/mol): PK_start=2091 sp=0 s1=7 s2=7 l1=1 l2=8 L3=0 PK_end=2127
(fs_start=2105)

C
AAGGACACCAAATGAAAGACTGCAATGAGAGA
ATTTTTT AATCGGA
TTGGCCTTC
GGGAAAAT

PK3: -23.745000(kcal/mol): PK_start=2113 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2147
(fs_start=2105)

AAA
CAATGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGA

PK4: -25.725000(kcal/mol): PK_start=2120 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2157
(fs_start=2105)

TCCCACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA AGGGA
TCCCTCA
GAACT

=====
(3413) JX236676
=====

PK1: -15.140000(kcal/mol): PK_start=2052 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2080
(fs_start=2072)

CA
GGAAAGAGGGACATCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -21.980000(kcal/mol): PK_start=2057 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2094
(fs_start=2072)

C
GAGGGACATCAAATGAAAGACTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=2081 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2114
(fs_start=2072)

AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AGCAAGGGG

PK4: -27.000000(kcal/mol): PK_start=2087 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=2125
(fs_start=2072)

TTCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCC
GGACCGG AGGGG
TCCCCAG
AAATTT

PK4B: -24.080000(kcal/mol): PK_start=2088 sp=8 s1=6 s2=4 l1=9 l2=33 L3=1 PK_end=2149
(fs_start=2072)

TTCAGCAA
GACAGGCTAATTTTTTAGGGAAAATTTGGCC
GACCGG A GGGG
CCCCAC
GAAATTTTCCCCAGAGCAGACCGGAGCCATCAG

=====
(3414) JX236677
=====

PK1: -15.585000(kcal/mol): PK_start=2079 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2107
(fs_start=2099)

A
GGAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -21.940000(kcal/mol): PK_start=2084 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2121
(fs_start=2099)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=2108 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2141
(fs_start=2099)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGAA
AGCAAGGGG

PK4: -20.495000(kcal/mol): PK_start=2114 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=2151
(fs_start=2099)

CCAGCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGGCCGGAG GGGA
TCCTCA
AAATTT

PK4B: -25.145000(kcal/mol): PK_start=2114 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2177
(fs_start=2099)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA GGGG
CCCCAC
AAATTTTCCTCAGAGCAGACCAGAGCCAACAG

=====
(3415) JX236678
=====

PK1: -15.140000(kcal/mol): PK_start=2054 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2082
(fs_start=2074)

CA
GGAAGGAGGGACACCAAATGAAAGACTG
GAC AGAAAGTC

TTTTTTAGGG
GCTAA
PK2: -21.980000(kcal/mol): PK_start=2059 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2096
(fs_start=2074)

C
GAGGGACACCAAATGAAAGACTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAAT

PK3: -20.285000(kcal/mol): PK_start=2083 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2116
(fs_start=2074)

AAA
ACTGAAAGACAGGCTAATTTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AGCAAGGGG

PK4: -22.215000(kcal/mol): PK_start=2089 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=2126
(fs_start=2074)

CCAGCA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTT
GGACCGGAG GGGA
TCCTCA
AAATTT

PK4B: -26.865000(kcal/mol): PK_start=2089 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2152
(fs_start=2074)

TCCAGCAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTTCCTCAAAGCAGGCAAGAGCCAACAG

=====
(3416) JX236679
=====

PK1: -10.640000(kcal/mol): PK_start=2053 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=2091
(fs_start=2084)

A
TTGGAAATGTGGAAAAGAAGGACACCAA
GTT AGAAAGT
TTTTTTAGG
CACTGAAAGACAGGCTAA

PK2: -21.980000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2106
(fs_start=2084)

C
GAAGGACACCAAATGAAAGATTGCACTGAAAGA
GATTTTTT AATCGGA

TTGGCCTTC
 GGAAATT
 PK3: -23.275000(kcal/mol): PK_start=2092 sp=0 s1=4 s2=9 l1=2 l2=8 L3=0 PK_end=2127
 (fs_start=2084)
 AA
 CACTGAAAGACAGGCTAATTTTTTAGGGA
 CCCT TCCGGTTTT
 AGGCCAGGGAA
 ACAAGGGA
 PK4: -25.020000(kcal/mol): PK_start=2098 sp=6 s1=11 s2=4 l1=4 l2=5 L3=0 PK_end=2136
 (fs_start=2084)
 CCAC
 AAGACAGGCTAATTTTTTAGGGAAATTTTGGCCTTC
 GGGACCGGAAG GGAA
 CCTTCA
 AACTT
 =====
 (3417) JX390610
 =====
 PK1: -13.555000(kcal/mol): PK_start=1404 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1432
 (fs_start=1424)
 A
 GGAAGGAAGGACATCAAATGAAAGATTGT
 GACA GAGAGTC
 TTTTTAGGG
 GCTAAT
 PK2: -20.360000(kcal/mol): PK_start=1409 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1445
 (fs_start=1424)
 C
 GAAGGACATCAAATGAAAGATTGTACTGAGAGA
 GATTTTTT A ATCGGA
 TGGCCTKC
 GGAAGCTC
 PK3: -13.510000(kcal/mol): PK_start=1432 sp=0 s1=3 s2=4 l1=3 l2=10 L3=2 PK_end=1458
 (fs_start=1424)
 AAG
 TACTGAGAGACAGGCTAATTTTTTAGGG
 TCC GG TCTC
 GGAGGC
 KCCCACAAGG
 PK4: -20.205000(kcal/mol): PK_start=1442 sp=10 s1=5 s2=5 l1=7 l2=8 L3=0 PK_end=1476
 (fs_start=1424)
 KCCCACA
 CAGGCTAATTTTTTAGGGAAAGCTCTGGCCT
 CCGGA GGGGA


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TCCTTCA
RGGGAACT
PK4B: -24.675000(kcal/mol): PK_start=1442 sp=10 s1=5 s2=4 l1=8 l2=35 L3=0
PK_end=1502 (fs_start=1424)
KCCCACAA
CAGGCTAATTTTTTAGGGAAGCTCTGGCCT
CCGGA GGGG
CCCCAC
RGGGAACTTCCTTCARAACCGACCAGAGCCAACAG

=====
(3418) JX390612
=====
PK1: -13.555000(kcal/mol): PK_start=1411 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1439
(fs_start=1431)
A
GGAAGGAAGGACATCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1416 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1452
(fs_start=1431)
C
GAAGGACATCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAGACTC

PK3: -30.485000(kcal/mol): PK_start=1439 sp=0 s1=4 s2=9 l1=2 l2=8 L3=0 PK_end=1474
(fs_start=1431)
GA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCTC
AGGCCAGGGAA
ACAAGGGG

PK4: -33.005000(kcal/mol): PK_start=1445 sp=6 s1=9 s2=4 l1=8 l2=31 L3=0 PK_end=1509
(fs_start=1431)
TCCCACAA
GAGACAGGCTAATTTTTTAGGGAAGCTCTGGCCT
GGGACCGGA GGGG
CCCCAC
AATTTTATTCAGAACAGGCCAGAGCCAACAG

=====
(3419) JX390976
=====
PK1: -13.065000(kcal/mol): PK_start=1448 sp=0 s1=3 s2=8 l1=5 l2=19 L3=0 PK_end=1493
(fs_start=1486)
CCAAA
GCTGTTGGAAATGTGGAAAGGAAGGACA

```

TGT TAGAAAGT
 ATTTTTTAGG
 ACTAATGAGAGACAGGCTA

PK2: -16.800000(kcal/mol): PK_start=1472 sp=0 s1=7 s2=5 l1=2 l2=9 L3=1 PK_end=1506
 (fs_start=1486)

CA
 GACACCAAATGAAAGATTGTACTAATGAGAGA

ATTTTTT A ATCGG
 TGGCCCT
 GGGAAAATC

PK3: -24.730000(kcal/mol): PK_start=1494 sp=0 s1=4 s2=7 l1=3 l2=9 L3=1 PK_end=1527
 (fs_start=1486)

AAA
 TAATGAGAGACAGGCTAATTTTTTAGGGA

CCCT C CCGGTCT
 GGCCAGGGA
 ACAAGGGAA

PK4: -23.190000(kcal/mol): PK_start=1501 sp=7 s1=7 s2=6 l1=8 l2=4 L3=0 PK_end=1538
 (fs_start=1486)

CTCCCACA
 AGACAGGCTAATTTTTTAGGGAAAATCTGGCC

GGACCGG AAGGGA
 TTTCTTCA
 GAAC

=====
 (3420) JX390977
 =====

PK1: -13.205000(kcal/mol): PK_start=1410 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1437
 (fs_start=1429)

A
 AAAGGAAGGACACCAAATGAAAGAGTGT

ACA GAGAGTC
 TTTTTAGGG
 GGCTAAT

PK2: -19.080000(kcal/mol): PK_start=1414 sp=0 s1=8 s2=5 l1=2 l2=8 L3=1 PK_end=1449
 (fs_start=1429)

CA
 GAAGGACACCAAATGAAAGAGTGTACTGAGAGA

GATTTTTT A ATCGG
 TGGCCCT
 GGAAGATC

PK3: -24.730000(kcal/mol): PK_start=1437 sp=0 s1=4 s2=7 l1=3 l2=9 L3=1 PK_end=1470
 (fs_start=1429)

AGA
 TACTGAGAGACAGGCTAATTTTTTAGGGA

```

          CCCT C CCGTCT
                GGCCAGGGA
ACAAGGGAA
PK4:  -23.190000(kcal/mol): PK_start=1444 sp=7 s1=7 s2=6 l1=8 l2=4 L3=0 PK_end=1481
(fs_start=1429)
                CTCCCACA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCC
                GGACCGG  AAGGGA
                TTTCTTCA
          GAAC

```

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=====
(3421) JX392378
=====

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PK1:  -13.555000(kcal/mol): PK_start=1384 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1412
(fs_start=1404)
          A
GAAAAGAAGGACACCAAATGAAAGATTGT
                GACA  GAGAGTC
                TTTTTAGGG
          GCCAAT

```

```

PK2:  -21.340000(kcal/mol): PK_start=1389 sp=0 s1=8 s2=5 l1=2 l2=8 L3=1 PK_end=1424
(fs_start=1404)
          CA
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT A ACCGG
                TGGCCCT
          GGAAAATC

```

```

PK3:  -24.730000(kcal/mol): PK_start=1412 sp=0 s1=4 s2=7 l1=3 l2=9 L3=1 PK_end=1445
(fs_start=1404)
          AAA
TACTGAGAGACAGGCCAATTTTTTAGGGA
                CCCT C CCGTCT
                GGCCAGGGA
          ACAAGGGAA

```

```

PK4:  -26.800000(kcal/mol): PK_start=1419 sp=7 s1=7 s2=7 l1=7 l2=3 L3=0 PK_end=1456
(fs_start=1404)
                CTCCCAC
AGACAGGCCAATTTTTTAGGGAAAATCTGGCC
                GGACCGG  AAGGAA
                TTTCTTCA
          GAA

```

```

=====
(3422) JX392379
=====

```

PK1: -13.555000(kcal/mol): PK_start=1384 sp=0 s1=4 s2=7 l1=4 l2=6 L3=0 PK_end=1415
(fs_start=1407)

ACTG
GAAAAGAAGGGCACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCCAAT

PK2: -22.420000(kcal/mol): PK_start=1392 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1428
(fs_start=1407)

C
GGGCACCAAATGAAAGATTGTACTGCTGAGAGA
GATTTTTT A ACCGGA
TGCCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1415 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1449
(fs_start=1407)

AAA
TGCTGAGAGACAGGCCAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
GCAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1422 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1459
(fs_start=1407)

CCGC
AGACAGGCCAATTTTTTAGGGAAAATCTGGCCCTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(3423) JX392380
=====

PK1: -13.555000(kcal/mol): PK_start=1387 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1415
(fs_start=1407)

A
GAAAAGAAGGGCACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCCAAT

PK2: -21.340000(kcal/mol): PK_start=1392 sp=0 s1=8 s2=5 l1=2 l2=8 L3=1 PK_end=1427
(fs_start=1407)

CA
GAAGGGCACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ACCGG
TGCCCT
GGAAAATC

PK3: -24.730000(kcal/mol): PK_start=1415 sp=0 s1=4 s2=7 l1=3 l2=9 L3=1 PK_end=1448
(fs_start=1407)

AAA
TACTGAGAGACAGGCCAATTTTTTAGGGA
CCCT C CCGGTCT
GGCCAGGGA
ACAAGGGAA

PK4: -23.190000(kcal/mol): PK_start=1422 sp=7 s1=7 s2=6 l1=8 l2=4 L3=0 PK_end=1459
(fs_start=1407)

CTCCCACA
AGACAGGCCAATTTTTTAGGGAAAATCTGGCC
GGACCGG AAGGGA
TTTCTTCA
GAAT

=====
(3424) JX392381
=====

PK1: -13.555000(kcal/mol): PK_start=1378 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1406
(fs_start=1398)

A
GAAAAGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCCAAT

PK2: -22.720000(kcal/mol): PK_start=1383 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1419
(fs_start=1398)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ACCGGA
TGGCCTTC
GGAAAATC

PK3: -26.605000(kcal/mol): PK_start=1406 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1440
(fs_start=1398)

AAA
TACTGAGAGACAGGCCAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCGGGGA
ACAAGGGA

PK4: -26.045000(kcal/mol): PK_start=1413 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1450
(fs_start=1398)

CCAC
AGACAGGCCAATTTTTTAGGGAAAATCTGGCCTTC
GGGCCGGAAG GGAA
TCTTCA
GAACTT

=====
(3425) JX392382
=====

PK1: -13.555000(kcal/mol): PK_start=1384 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1412
(fs_start=1404)

A
GAAAAGAAGGGCACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCCAAT

PK2: -22.720000(kcal/mol): PK_start=1389 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1425
(fs_start=1404)

C
GAAGGGCACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ACCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1412 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1446
(fs_start=1404)

AAA
TACTGAGAGACAGGCCAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1419 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1456
(fs_start=1404)

CCAC
AGACAGGCCAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(3426) JX392383
=====

PK1: -13.555000(kcal/mol): PK_start=1402 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1430
(fs_start=1422)

A
GAAGAGAGGGGCACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGA
GCCAAT

PK2: -22.720000(kcal/mol): PK_start=1407 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1443
(fs_start=1422)

C
GAGGGGCACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ACCGGA

```

                                TGGCCTTC
          GAAAAATC
PK3:  -24.015000(kcal/mol): PK_start=1430 sp=0 s1=3 s2=8 l1=4 l2=9 L3=0 PK_end=1464
(fs_start=1422)
                                AAAA
TACTGAGAGACAGGCCAATTTTTTAGGA
                                CCT   TCCGGTCT
                                AGGCCAGGGA
          CACAAGGGA
PK4:  -26.715000(kcal/mol): PK_start=1437 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1474
(fs_start=1422)
                                CCAC
AGACAGGCCAATTTTTTAGGAAAAATCTGGCCTTC
                                GGACCGGAAG   GGAA
                                TCTTCA
          GAATTT
=====
(3427) JX392384
=====
PK1:  -13.555000(kcal/mol): PK_start=1388 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1416
(fs_start=1408)
                                A
GAAAAGAAGGACACCAAATGAAAGATTGT
                                GACA   GAGAGTC
                                TTTTTAGGG
          GCCAAT
PK2:  -22.720000(kcal/mol): PK_start=1393 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1429
(fs_start=1408)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                                GATTTTTT   A   ACCGGA
                                TGGCCTTC
          GGAAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1416 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1450
(fs_start=1408)
                                AAA
TACTGAGAGACAGGCCAATTTTTTAGGGA
                                CCCT   TCCGGTCT
                                AGGCCAGGGA
          ACAAGGGA
PK4:  -29.020000(kcal/mol): PK_start=1423 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1460
(fs_start=1408)
                                CCAC
AGACAGGCCAATTTTTTAGGAAAAATCTGGCCTTC
                                GGACCGGAAG   GGAA

```

CCTTCA

GAATTT

=====
(3428) JX44666
=====

PK1: -10.440000(kcal/mol): PK_start=1503 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1541
(fs_start=1534)

A

TTGGAATGTGGGAAGGAAGGACATCAA

GTT AGAAAGT

TTTTTTTAGG

CACTGAGAGACAGGCTAA

PK2: -21.940000(kcal/mol): PK_start=1519 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1556
(fs_start=1534)

C

GAAGGACATCAAATGAAAGATTGCACTGAGAGA

GATTTTTT AATCGGA

TTGGCCTTC

GAAAAAT

PK3: -20.485000(kcal/mol): PK_start=1542 sp=0 s1=3 s2=8 l1=4 l2=9 L3=0 PK_end=1576
(fs_start=1534)

AAAA

CACTGAGAGACAGGCTAATTTTTTTAGGA

CCT TCCGGTTT

AGGCCAGGGA

AACAAGGGA

PK4: -25.725000(kcal/mol): PK_start=1549 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1586
(fs_start=1534)

TCCAACA

AGACAGGCTAATTTTTTTAGGAAAAATTTGGCCT

GGACCGGA AGGGA

TCCCTCA

GAATT

=====
(3429) JX446710
=====

PK1: -15.100000(kcal/mol): PK_start=1495 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1523
(fs_start=1515)

CA

GGAAGGAAGGACATCAAATGAAAGACTG

GAC AGAGAGTC

TTTTTTTAGGG

GCTAA

PK2: -21.940000(kcal/mol): PK_start=1500 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1537
(fs_start=1515)

C

GAAGGACATCAAATGAAAGACTGCACTGAGAGA


```

          GATTTTTT   AATCGGA
                    TTGGCCTTC
      GGAAAAT

PK3:  -18.565000(kcal/mol): PK_start=1524 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1557
(fs_start=1515)
          AAA
ACTGAGAGACAGGCTAATTTTTTTAGGGA
          CCT   TCCGGTTT
                    AGGCCGGGAA
          AACAAGGGA

PK4:  -21.195000(kcal/mol): PK_start=1530 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1567
(fs_start=1515)
                    TCCAACA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
          GGGCCGGA   AGGGA
                    TTCCTCA
          AAATT

=====
(3430) JX446711
=====
PK1:  -15.100000(kcal/mol): PK_start=1462 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1490
(fs_start=1482)
          CA
GGAAGGAAGGACATCAAATGAAAGACTG
          GAC   AGAGAGTC
                    TTTTTTAGGG
          GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1467 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1504
(fs_start=1482)
          C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
          GATTTTTT   AATCGGA
                    TTGGCCTTC
          GGAAAAT

PK3:  -18.565000(kcal/mol): PK_start=1491 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1524
(fs_start=1482)
          AAA
ACTGAGAGACAGGCTAATTTTTTTAGGGA
          CCT   TCCGGTTT
                    AGGCCGGGAA
          AACAAGGGA

PK4:  -21.195000(kcal/mol): PK_start=1497 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1534
(fs_start=1482)
                    TCCAACA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT

```

```

GGGCCGGA    AGGGA
              TTCCTCA
AAATT

=====
(3431) JX446712
=====
PK1:  -15.100000(kcal/mol): PK_start=1495 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1523
(fs_start=1515)
              CA
GGAAGGAAGGACATCAAATGAAAGACTG
              GAC    AGAGAGTC
              TTTTTTAGGG
GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1500 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1537
(fs_start=1515)
              C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
              GATTTTTT    AATCGGA
              TTGGCCTTC
GGAAAAT

PK3:  -18.565000(kcal/mol): PK_start=1524 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1557
(fs_start=1515)
              AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
              CCT    TCCGGTTT
              AGGCCGGGAA
AACAAGGGA

PK4:  -21.195000(kcal/mol): PK_start=1530 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1567
(fs_start=1515)
              TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
              GGGCCGGA    AGGGA
              TTCCTCA
AAATT

=====
(3432) JX446713
=====
PK1:  -15.100000(kcal/mol): PK_start=1398 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1426
(fs_start=1418)
              CA
GGAAGGAAGGACATCAAATGAAAGACTG
              GAC    AGAGAGTC
              TTTTTTAGGG
GCTAA

```

PK2: -21.940000(kcal/mol): PK_start=1403 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1440
(fs_start=1418)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1427 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1460
(fs_start=1418)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGAA
AACAAGGGA

PK4: -21.195000(kcal/mol): PK_start=1433 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1470
(fs_start=1418)

TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA AGGGA
TTCCTCA
AAATT

=====
(3433) JX446714
=====

PK1: -15.100000(kcal/mol): PK_start=1435 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1463
(fs_start=1455)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1440 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1477
(fs_start=1455)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1464 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1497
(fs_start=1455)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGAA
AACAAGGGA

PK4: -21.195000(kcal/mol): PK_start=1470 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1507
(fs_start=1455)

```

                                TCCAACA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
                                GGGCCGGA   AGGGA
                                TTCCTCA
                                AAATT
```

=====
(3434) JX446715
=====

PK1: -15.100000(kcal/mol): PK_start=1399 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1427
(fs_start=1419)

```

                                CA
GGAAGGAAGGACATCAAATGAAAGACTG
                                GAC   AGAGAGTC
                                TTTTTTAGGG
                                GCTAA
```

PK2: -21.940000(kcal/mol): PK_start=1404 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1441
(fs_start=1419)

```

                                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                                GATTTTTT   AATCGGA
                                TTGGCCTTC
                                GGAAAAT
```

PK3: -18.565000(kcal/mol): PK_start=1428 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1461
(fs_start=1419)

```

                                AAA
ACTGAGAGACAGGCTAATTTTTTTAGGGA
                                CCT   TCCGGTTT
                                AGGCCGGGAA
                                AACAAGGGA
```

PK4: -21.195000(kcal/mol): PK_start=1434 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1471
(fs_start=1419)

```

                                TCCAACA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
                                GGGCCGGA   AGGGA
                                TTCCTCA
                                AAATT
```

=====
(3435) JX446716
=====

PK1: -15.100000(kcal/mol): PK_start=1462 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1490
(fs_start=1482)

```

                                CA
GGAAGGAAGGACATCAAATGAAAGACTG
                                GAC   AGAGAGTC
```

TTTTTTAGGG
GCTAA
PK2: -21.940000(kcal/mol): PK_start=1467 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1504
(fs_start=1482)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1491 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1524
(fs_start=1482)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGAA
AACAAGGGA

PK4: -21.195000(kcal/mol): PK_start=1497 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1534
(fs_start=1482)

TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA AGGGA
TTCCTCA
AAATT

=====
(3436) JX446717
=====

PK1: -15.100000(kcal/mol): PK_start=1399 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1427
(fs_start=1419)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1404 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1441
(fs_start=1419)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1428 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1461
(fs_start=1419)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT

AGGCCGGGAA

AACAAAGGGA

PK4: -21.195000(kcal/mol): PK_start=1434 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1471
(fs_start=1419)

TCCAACA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGGCCGGA AGGGA

TTCCTCA

AAATT

=====
(3437) JX446718
=====

PK1: -15.100000(kcal/mol): PK_start=1398 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1426
(fs_start=1418)

CA

GGAAGGAAGGACATCAAATGAAAGACTG

GAC AGAGAGTC

TTTTTTAGGG

GCTAA

PK2: -21.940000(kcal/mol): PK_start=1403 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1440
(fs_start=1418)

C

GAAGGACATCAAATGAAAGACTGCACTGAGAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1427 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1460
(fs_start=1418)

AAA

ACTGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT

AGGCCGGGAA

AACAAAGGGA

PK4: -21.195000(kcal/mol): PK_start=1433 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1470
(fs_start=1418)

TCCAACA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGGCCGGA AGGGA

TTCCTCA

AAATT

=====
(3438) JX446719
=====

PK1: -15.100000(kcal/mol): PK_start=1429 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1457
(fs_start=1449)

CA

GGAAGGAAGGACATCAAATGAAAGACTG

```

                GAC   AGAGAGTC
                TTTTTTAGGG
            GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1434 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1471
(fs_start=1449)
                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT   AATCGGA
                TTGGCCTTC
            GGAAAAT

PK3:  -18.565000(kcal/mol): PK_start=1458 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1491
(fs_start=1449)
                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                CCT   TCCGGTTT
                AGGCCGGGAA
            AACAAAGGA

PK4:  -21.195000(kcal/mol): PK_start=1464 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1501
(fs_start=1449)
                TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGGCCGGA   AGGGA
                TTCCTCA
            AAATT

=====
(3439) JX446736
=====
PK1:  -15.140000(kcal/mol): PK_start=1276 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1304
(fs_start=1296)
                CA
GGAAAGAAGGACATCAAATGAAAGACTG
                GAC   AGAAAGTC
                TTTTTTAGGG
            GCTAA

PK2:  -21.980000(kcal/mol): PK_start=1281 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1318
(fs_start=1296)
                C
GAAGGACATCAAATGAAAGACTGCACTGAAAGA
                GATTTTTT   AATCGGA
                TTGGCCTTC
            GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1305 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1338
(fs_start=1296)
                AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA

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          CCT      TCCGGTTT
                AGGCCAGGCA
          AACAAAGGGG

PK4:  -27.000000(kcal/mol): PK_start=1311 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=1349
(fs_start=1296)
                TTCCAACAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCC
                GGACCGG      AGGGG
                TCCCCAG
          CAATTT

PK4B:  -24.080000(kcal/mol): PK_start=1312 sp=8 s1=6 s2=4 l1=9 l2=33 L3=1 PK_end=1373
(fs_start=1296)
                TTCCAACAA
GACAGGCTAATTTTTTTAGGGAAAATTTGGCC
                GACCGG  A  GGGG
                CCCCAC
          GCAATTTTCCCCAGAGCAGACCAGCCAACAG

=====
(3440) JX446737
=====
PK1:  -15.140000(kcal/mol): PK_start=1276 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1304
(fs_start=1296)
                CA
GGAAAGAAGGACATCAAATGAAAGACTG
                GAC      AGAAAGTC
                TTTTTTTAGGG
          GCTAA

PK2:  -21.980000(kcal/mol): PK_start=1281 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1318
(fs_start=1296)
                C
GAAGGACATCAAATGAAAGACTGCACTGAAAGA
                GATTTTTT      AATCGGA
                TTGGCCTTC
          GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1305 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1338
(fs_start=1296)
                AAA
ACTGAAAGACAGGCTAATTTTTTTAGGGA
                CCT      TCCGGTTT
                AGGCCAGGCA
          AACAAAGGGG

PK4:  -27.000000(kcal/mol): PK_start=1311 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=1349
(fs_start=1296)
                TTCCAACAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCC

```


GGACCGG AGGGG
TCCCCAG
CAATTT

PK4B: -24.080000(kcal/mol): PK_start=1312 sp=8 s1=6 s2=4 l1=9 l2=33 L3=1 PK_end=1373
(fs_start=1296)

TTCCAACAA
GACAGGCTAATTTTTTAGGGAAAATTTGGCC

GACCGG A GGGG
CCCCAC
GCAATTTTCCCCAGAGCAGACCAGAGCCAACAG

=====
(3441) JX446755
=====

PK1: -15.100000(kcal/mol): PK_start=1424 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1452
(fs_start=1444)

CA
GAAAGGAAGGACATCAAATGAAAGACTG

GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1429 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1466
(fs_start=1444)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA

GATTTTTT AATCGGA
TTGGCCTCC
GGAAAAT

PK3: -20.520000(kcal/mol): PK_start=1452 sp=0 s1=4 s2=7 l1=3 l2=10 L3=0 PK_end=1486
(fs_start=1444)

AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA

CCCT CCGGTTT
GGCCGGGAA
AACAAAGGGAA

PK4: -21.195000(kcal/mol): PK_start=1459 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1496
(fs_start=1444)

CCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGGCCGGA AGGGA
TTCCTCA
AAATT

=====
(3442) JX446756
=====

PK1: -15.100000(kcal/mol): PK_start=1430 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1458 (fs_start=1450)

CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1435 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1472 (fs_start=1450)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTCC
GGAAAAAT

PK3: -20.520000(kcal/mol): PK_start=1458 sp=0 s1=4 s2=7 l1=3 l2=10 L3=0 PK_end=1492 (fs_start=1450)

AAA
CACTGAGAGACAGGCTAATTTTTTTAGGGA
CCCT CCGGTTT
GGCCGGGAA
AACAAGGGAA

PK4: -21.195000(kcal/mol): PK_start=1465 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1502 (fs_start=1450)

CCCAACA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
GGGCCGGA AGGGA
TTCCTCA
AAATT

=====
(3443) JX446757
=====

PK1: -15.100000(kcal/mol): PK_start=1430 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1458 (fs_start=1450)

CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1435 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1472 (fs_start=1450)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTCC
GGAAAAAT

PK3: -20.52000(kcal/mol): PK_start=1458 sp=0 s1=4 s2=7 l1=3 l2=10 l3=0 PK_end=1492 (fs_start=1450)

AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT CCGGTTT
GGCCGGGAA
AACAAGGGAA

PK4: -21.195000(kcal/mol): PK_start=1465 sp=7 s1=8 s2=5 l1=7 l2=5 l3=0 PK_end=1502 (fs_start=1450)

CCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA AGGGA
TTCCTCA
AAATT

=====
(3444) JX446758
=====

PK1: -15.100000(kcal/mol): PK_start=1424 sp=0 s1=3 s2=8 l1=2 l2=5 l3=0 PK_end=1452 (fs_start=1444)

CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1429 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1466 (fs_start=1444)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTCC
GGAAAAT

PK3: -20.520000(kcal/mol): PK_start=1452 sp=0 s1=4 s2=7 l1=3 l2=10 l3=0 PK_end=1486 (fs_start=1444)

AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT CCGGTTT
GGCCGGGAA
AACAAGGGAA

PK4: -21.195000(kcal/mol): PK_start=1459 sp=7 s1=8 s2=5 l1=7 l2=5 l3=0 PK_end=1496 (fs_start=1444)

CCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA AGGGA
TTCCTCA
AAATT

=====
(3445) JX446759
=====

PK1: -15.100000(kcal/mol): PK_start=1430 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1458
(fs_start=1450)

CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1435 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1472
(fs_start=1450)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTCC
GGAAAAT

PK3: -20.520000(kcal/mol): PK_start=1458 sp=0 s1=4 s2=7 l1=3 l2=10 L3=0 PK_end=1492
(fs_start=1450)

AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT CCGGTTT
GGCCGGGAA
AACAAGGGAA

PK4: -21.195000(kcal/mol): PK_start=1465 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1502
(fs_start=1450)

CCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGCCGGA AGGGA
TTCCTCA
AAATT

=====
(3446) JX446760
=====

PK1: -15.100000(kcal/mol): PK_start=1424 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1452
(fs_start=1444)

CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1429 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1466
(fs_start=1444)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA

TTGGCCTCC

GGAAAAT

PK3: -20.520000(kcal/mol): PK_start=1452 sp=0 s1=4 s2=7 l1=3 l2=10 L3=0 PK_end=1486
(fs_start=1444)

AAA

CACTGAGAGACAGGCTAATTTTTTAGGGA

CCCT CCGGTTT

GGCCGGGAA

AACAAGGGAA

PK4: -21.195000(kcal/mol): PK_start=1459 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1496
(fs_start=1444)

CCCAACA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGCCGGA AGGGA

TTCCTCA

AAATT

=====
(3447) JX446761
=====

PK1: -15.100000(kcal/mol): PK_start=1421 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1449
(fs_start=1441)

CA

GAAAGGAAGGACATCAAATGAAAGACTG

GAC AGAGAGTC

TTTTTTTAGGG

GCTAA

PK2: -19.300000(kcal/mol): PK_start=1426 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1463
(fs_start=1441)

C

GAAGGACATCAAATGAAAGACTGCACTGAGAGA

GATTTTTT AATCGGA

TTGGTCTTC

GGAAAAT

PK3: -15.925000(kcal/mol): PK_start=1450 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1483
(fs_start=1441)

AAA

ACTGAGAGACAGGCTAATTTTTTAGGGA

CCT TCTGGTTT

AGGCCGGGAA

AACAAGGGA

PK4: -18.555000(kcal/mol): PK_start=1456 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1493
(fs_start=1441)

TCCAACA

AGACAGGCTAATTTTTTAGGGAAAATTTGGTCT

GGCCGGA AGGGA

```

                                TTCCTCA
                                AAATT
=====
(3448) JX446763
=====
PK1:  -15.100000(kcal/mol): PK_start=1423 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1451
(fs_start=1443)
                                CA
GAAAGGAAGGACATCAAATGAAAGACTG
                                GAC   AGAGAGTC
                                TTTTTTAGGG
                                GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1428 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1465
(fs_start=1443)
                                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                                GATTTTTT   AATCGGA
                                TTGGCCTCC
                                GGAAAAT

PK3:  -20.520000(kcal/mol): PK_start=1451 sp=0 s1=4 s2=7 l1=3 l2=10 L3=0 PK_end=1485
(fs_start=1443)
                                AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCCT   CCGGTTT
                                GGCCGGGAA
                                AACAAGGGAA

PK4:  -21.195000(kcal/mol): PK_start=1458 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1495
(fs_start=1443)
                                CCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                                GGGCCGGA   AGGGA
                                AAATT   TTCCTCA

=====
(3449) JX446764
=====
PK1:  -15.100000(kcal/mol): PK_start=1424 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1452
(fs_start=1444)
                                CA
GAAAGGAAGGACATCAAATGAAAGACTG
                                GAC   AGAGAGTC
                                TTTTTTAGGG
                                GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1429 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1466
(fs_start=1444)
                                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA

```

GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT
PK3: -18.565000(kcal/mol): PK_start=1453 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1486
(fs_start=1444)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGAA
ACAAGGGA

PK4: -21.195000(kcal/mol): PK_start=1459 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1496
(fs_start=1444)

TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGCCCGGA AGGGA
TTCCTCA
AAATT

=====
(3450) JX446795
=====

PK1: -13.555000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAGAGAAGGACACCAAATGAAGGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAGGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TTGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -27.875000(kcal/mol): PK_start=1519 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1556
(fs_start=1504)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT

```

                GGACCGGA    AGGG
                                TCCCCA
          GAATTT
=====
(3451) JX446796
=====
PK1:  -13.555000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)
                                A
GAAGAGAAGGACACCAAATGAAGGATTGT
                GACA    GAGAGTC
                                TTTTTAGGG
          GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)
                                C
GAAGGACACCAAATGAAGGATTGTACTGAGAGA
                GATTTTTT  A  ATCGGA
                                TGGCCTTC
          GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)
                                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                CCCT    TCCGGTCT
                                AGGCCAGGGA
          ACAAGGGA

PK4:  -27.875000(kcal/mol): PK_start=1519 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1556
(fs_start=1504)
                                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                GGACCGGA    AGGG
                                TCCCCA
          GAATTT

=====
(3452) JX446797
=====
PK1:  -13.555000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)
                                A
GAAGAGAAGGACACCAAATGAAGGATTGT
                GACA    GAGAGTC
                                TTTTTAGGG
          GCTAAT

```


PK2: -20.46000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAGGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -27.875000(kcal/mol): PK_start=1519 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1556
(fs_start=1504)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA AGGG
TCCCCA
GAATTT

=====
(3453) JX446798

=====
PK1: -13.555000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAGAGAAGGACACCAAATGAAGGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAGGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -27.875000(kcal/mol): PK_start=1519 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1556
(fs_start=1504)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA AGGG
TCCCCA
GAATTT

=====
(3454) JX446799
=====

PK1: -13.555000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAGAGAAGGACACCAAATGAAGGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAGGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -27.875000(kcal/mol): PK_start=1519 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1556
(fs_start=1504)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA AGGG
TCCCCA
GAATTT

=====
(3455) JX446800
=====

PK1: -13.555000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAGAGAAGGACACCAAATGAAGGATTGT
GACA GAGAGTC

```

                TTTT TAGGG
      GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)
                C
GAAGGACACCAAATGAAGGATTGTACTGAGAGA
                GATTTTTT A  ATCGGA
                TGGCCTTC
      GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)
                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTCT
                AGGCCAGGGA
      ACAAGGGA
PK4:  -27.875000(kcal/mol): PK_start=1519 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1556
(fs_start=1504)
                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                GGACCGGA   AGGG
                TCCCCA
      GAATTT

=====
(3456) JX446801
=====
PK1:  -13.765000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)
                A
GAAGAGAAGGACACCAAATGAAGGATTGT
                GACA   AAGAGTC
                TTTT TAGGG
      GCTAAT
PK2:  -20.500000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)
                C
GAAGGACACCAAATGAAGGATTGTACTGAGAAA
                GATTTTTT A  ATCGGA
                TGGCCTTC
      GGAAGATC
PK3:  -26.110000(kcal/mol): PK_start=1512 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1546
(fs_start=1504)
                A
TACTGAGAAACAGGCTAATTTTTTAGGGAAG
                CCCTTC   CGGTCT

```

GCCAGGGA

ACAAGGGAAG

PK4: -27.875000(kcal/mol): PK_start=1519 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1556
(fs_start=1504)

TCCCACAA

AAACAGGCTAATTTTTTTAGGGAAGATCTGGCCT

GGACCGGA AGGG

TCCCCA

GAATTT

=====
(3457) JX446802
=====

PK1: -13.555000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A

GAAGAGAAGGACACCAAATGAAGGATTGT

GACA GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C

GAAGGACACCAAATGAAGGATTGTACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA

TACTGAGAGACAGGCTAATTTTTTTAGGGA

CCCT TCCGGTCT

AGGCCAGGGA

ACAAGGGA

PK4: -27.875000(kcal/mol): PK_start=1519 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1556
(fs_start=1504)

TCCCACAA

AGACAGGCTAATTTTTTTAGGAAAATCTGGCCT

GGACCGGA AGGG

TCCCCA

GAATTT

=====
(3458) JX446803
=====

PK1: -13.555000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A

GAAGAGAAGGACACCAAATGAAGGATTGT

GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAGGATTGTACTGAGAGA

GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -27.875000(kcal/mol): PK_start=1519 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1556
(fs_start=1504)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT

GGACCGGA AGGG
TCCCCA
GAATTT

=====
(3459) JX446804
=====

PK1: -13.555000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAGAGAAGGACACCAAATGAAGGATTGT

GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAGGATTGTACTGAGAGA

GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA

```

          CCCT   TCCGGTCT
                AGGCCAGGGA
ACAAGGGA
PK4:  -27.875000(kcal/mol): PK_start=1519 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1556
(fs_start=1504)
                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                GGACCGGA   AGGG
                TCCCCA
          GAATTT

```

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=====
(3460) JX446805
=====

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PK1:  -13.555000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)
                A
GAAGAGAAGGACACCAAATGAAGGATTGT
                GACA   GAGAGTC
                TTTTTAGGG
          GCTAAT

```

```

PK2:  -20.460000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)
                C
GAAGGACACCAAATGAAGGATTGTACTGAGAGA
                GATTTTTT   A   ATCGGA
                TGGCCTTC
          GGAAAATC

```

```

PK3:  -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)
                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTCT
                AGGCCAGGGA
          ACAAGGGA

```

```

PK4:  -27.875000(kcal/mol): PK_start=1519 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1556
(fs_start=1504)
                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                GGACCGGA   AGGG
                TCCCCA
          GAATTT

```

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=====
(3461) JX446806
=====

```

PK1: -13.555000(kcal/mol): PK_start=1484 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1512
(fs_start=1504)

A
GAAGAGAAGGACACCAAATGAAGGATTGT
GACA GAGAGTC
TTTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

C
GAAGGACACCAAATGAAGGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAGAGACAGGCTAATTTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -27.875000(kcal/mol): PK_start=1519 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1556
(fs_start=1504)

TCCCACAA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT
GGACCGGA AGGG
TCCCCA
GAATTT

=====
(3462) JX446848
=====

PK1: -15.140000(kcal/mol): PK_start=1270 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1298
(fs_start=1290)

CA
GGAAGGAAGGGCATCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -20.500000(kcal/mol): PK_start=1275 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1311
(fs_start=1290)

C
GAAGGGCATCAAATGAAAGACTGCACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAGGCTC

PK3: -25.760000(kcal/mol): PK_start=1298 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1332 (fs_start=1290)

C
CACTGAAAGACAGGCTAATTTTTTAGGGAGG
CCCTTC CGGTCT
GCCAGGGA
ACAAAGGAAG

PK4: -28.305000(kcal/mol): PK_start=1304 sp=6 s1=9 s2=4 l1=8 l2=5 l3=0 PK_end=1342 (fs_start=1290)

TCCCACAA
AAGACAGGCTAATTTTTTAGGGAGGCTCTGGCCT
GGGACCGGA AGGA
TCCTCA
AATTT

=====
(3463) JX446849
=====

PK1: -15.140000(kcal/mol): PK_start=1270 sp=0 s1=3 s2=8 l1=2 l2=5 l3=0 PK_end=1298 (fs_start=1290)

CA
GGAAGGAAGGGCATCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -20.500000(kcal/mol): PK_start=1275 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1311 (fs_start=1290)

C
GAAGGGCATCAAATGAAAGACTGCACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAGGCTC

PK3: -25.760000(kcal/mol): PK_start=1298 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1332 (fs_start=1290)

C
CACTGAAAGACAGGCTAATTTTTTAGGGAGG
CCCTTC CGGTCT
GCCAGGGA
ACAAAGGAAG

PK4: -28.305000(kcal/mol): PK_start=1304 sp=6 s1=9 s2=4 l1=8 l2=5 l3=0 PK_end=1342 (fs_start=1290)

TCCCACAA
AAGACAGGCTAATTTTTTAGGGAGGCTCTGGCCT
GGGACCGGA AGGA
TCCTCA
AATTT

=====
(3464) JX446850
=====

PK1: -15.140000(kcal/mol): PK_start=1270 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1298
(fs_start=1290)

CA
GGAAGGAAGGGCATCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -20.500000(kcal/mol): PK_start=1275 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1311
(fs_start=1290)

C
GAAGGGCATCAAATGAAAGACTGCACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAGGCTC

PK3: -25.760000(kcal/mol): PK_start=1298 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1332
(fs_start=1290)

C
CACTGAAAGACAGGCTAATTTTTTAGGGAGG
CCCTTC CGGTCT
GCCAGGGA
ACAAAGGAAG

PK4: -28.305000(kcal/mol): PK_start=1304 sp=6 s1=9 s2=4 l1=8 l2=5 L3=0 PK_end=1342
(fs_start=1290)

TCCCACAA
AAGACAGGCTAATTTTTTAGGGAGGCTCTGGCCT
GGGACCGGA AGGA
TCCTCA
AATTT

=====
(3465) JX446851
=====

PK1: -15.140000(kcal/mol): PK_start=1270 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1298
(fs_start=1290)

CA
GGAAGGAAGGGCATCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -20.500000(kcal/mol): PK_start=1275 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1311
(fs_start=1290)

C
GAAGGGCATCAAATGAAAGACTGCACTGAAAGA
GATTTTTT A ATCGGA

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                                TGGCCTTC
          GGAGGCTC
PK3:  -25.760000(kcal/mol): PK_start=1298 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1332
(fs_start=1290)
                                C
          CACTGAAAGACAGGCTAATTTTTTAGGGAGG
                                CCCTTC   CGGTCT
                                GCCAGGGA
          ACAAAGGAAG
PK4:  -28.305000(kcal/mol): PK_start=1304 sp=6 s1=9 s2=4 l1=8 l2=5 L3=0 PK_end=1342
(fs_start=1290)
                                TCCCACAA
          AAGACAGGCTAATTTTTTAGGGAGGCTCTGGCCT
                                GGGACCGGA   AGGA
                                TCCTCA
          AATTT
=====
(3466) JX446852
=====
PK1:  -15.140000(kcal/mol): PK_start=1270 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1298
(fs_start=1290)
                                CA
          GGAAGGAAGGGCATCAAATGAAAGACTG
                                GAC   AGAAAGTC
                                TTTTTTAGGG
          GCTAA
PK2:  -20.500000(kcal/mol): PK_start=1275 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1311
(fs_start=1290)
                                C
          GAAGGCATCAAATGAAAGACTGCACTGAAAGA
                                GATTTTTT   A   ATCGGA
                                TGGCCTTC
          GGAGGCTC
PK3:  -25.760000(kcal/mol): PK_start=1298 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1332
(fs_start=1290)
                                C
          CACTGAAAGACAGGCTAATTTTTTAGGGAGG
                                CCCTTC   CGGTCT
                                GCCAGGGA
          ACAAAGGAAG
PK4:  -28.305000(kcal/mol): PK_start=1304 sp=6 s1=9 s2=4 l1=8 l2=5 L3=0 PK_end=1342
(fs_start=1290)
                                TCCCACAA
          AAGACAGGCTAATTTTTTAGGGAGGCTCTGGCCT
                                GGGACCGGA   AGGA

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                                TCCTCA
                                AATTT
=====
(3467) JX446853
=====
PK1:  -15.100000(kcal/mol): PK_start=1270 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1298
(fs_start=1290)
                                CA
GGAAGGAGGGACATCAAATGAAAGACTG
                                GAC   AGAGAGTC
                                TTTTTTAGGG
                                GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1275 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1312
(fs_start=1290)
                                C
GAGGGACATCAAATGAAAGACTGCACTGAGAGA
                                GATTTTTT   AATCGGA
                                TTGGCCTTC
                                GGAGAAT

PK3:  -17.120000(kcal/mol): PK_start=1298 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1332
(fs_start=1290)
                                AA
CACTGAGAGACAGGCTAATTTTTTAGGGAG
                                CCTTC   CGGTTT
                                GCCGGGGA
                                AACAAAGGAAG

PK4:  -20.745000(kcal/mol): PK_start=1305 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1342
(fs_start=1290)
                                TCCAACAA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
                                GGGCCGGA   AGGA
                                TCCTCA
                                GAATTT

=====
(3468) JX446854
=====
PK1:  -15.100000(kcal/mol): PK_start=1270 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1298
(fs_start=1290)
                                CA
GGAAGGAGGGACATCAAATGAAAGACTG
                                GAC   AGAGAGTC
                                TTTTTTAGGG
                                GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1275 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1312
(fs_start=1290)
                                C
GAGGGACATCAAATGAAAGACTGCACTGAGAGA

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                GATTTTTT   AATCGGA
                                TTGGCCTTC
        GGAGAAT

PK3:  -17.120000(kcal/mol): PK_start=1298 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1332
(fs_start=1290)
                AA
CACTGAGAGACAGGCTAATTTTTTAGGGAG
                CCTTC   CGGTTT
                                GCCGGGGA
        AACAAAGGAAG

PK4:  -20.745000(kcal/mol): PK_start=1305 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1342
(fs_start=1290)
                                TCCAACAA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
                GGGCCGGA   AGGA
                                TCCTCA
        GAATTT

=====
(3469) JX446855
=====
PK1:  -15.100000(kcal/mol): PK_start=1270 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1298
(fs_start=1290)
                CA
GGAAGGAGGGACATCAAATGAAAGACTG
                GAC   AGAGAGTC
                                TTTTTTAGGG
        GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1275 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1312
(fs_start=1290)
                C
GAGGGACATCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT   AATCGGA
                                TTGGCCTTC
        GGAGAAT

PK3:  -17.120000(kcal/mol): PK_start=1298 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1332
(fs_start=1290)
                AA
CACTGAGAGACAGGCTAATTTTTTAGGGAG
                CCTTC   CGGTTT
                                GCCGGGGA
        AACAAAGGAAG

PK4:  -20.745000(kcal/mol): PK_start=1305 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1342
(fs_start=1290)
                                TCCAACAA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT

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```

GGGCCGGA    AGGA
              TCCTCA
GAATTT
=====
(3470) JX446856
=====
PK1:  -15.10000(kcal/mol): PK_start=1270 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1298
(fs_start=1290)
              CA
GGAAGGAGGGACATCAAATGAAAGACTG
              GAC    AGAGAGTC
              TTTTTTAGGG
GCTAA

PK2:  -21.94000(kcal/mol): PK_start=1275 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1312
(fs_start=1290)
              C
GAGGGACATCAAATGAAAGACTGCACTGAGAGA
              GATTTTTT    AATCGGA
              TTGGCCTTC
GGAGAAT

PK3:  -17.12000(kcal/mol): PK_start=1298 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1332
(fs_start=1290)
              AA
CACTGAGAGACAGGCTAATTTTTTAGGGAG
              CCTTC    CGGTTT
              GCCGGGGA
AACAAAGGAAG

PK4:  -20.74500(kcal/mol): PK_start=1305 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1342
(fs_start=1290)
              TCCAACAA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
              GGGCCGGA    AGGA
              TCCTCA
GAATTT

=====
(3471) JX446877
=====
PK1:  -15.10000(kcal/mol): PK_start=1477 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1505
(fs_start=1497)
              CA
GAAAGGAAGGACACCAAATGAAAGACTG
              GAC    AGAGAGTC
              TTTTTTAGGG
GCTAA

```

PK2: -21.940000(kcal/mol): PK_start=1482 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1519
(fs_start=1497)

C
GAAGGACACCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAGAAT

PK3: -18.840000(kcal/mol): PK_start=1505 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1539
(fs_start=1497)

AA
CACTGAGAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTTT
GCCAGGGA
AACAAGGGGAG

PK4: -22.215000(kcal/mol): PK_start=1512 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1549
(fs_start=1497)

CCAACA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCTT
GGACCGGAG GGGA
TCCTCA
GAACTT

PK4B: -26.865000(kcal/mol): PK_start=1512 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1575
(fs_start=1497)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAACTTTCCTCAGAGCAGACCAGAACCGACAG

=====
(3472) JX446899
=====

PK1: -15.100000(kcal/mol): PK_start=1437 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1465
(fs_start=1457)

CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -20.460000(kcal/mol): PK_start=1442 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1478
(fs_start=1457)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -23.145000(kcal/mol): PK_start=1466 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1499
(fs_start=1457)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTCT
AGGCCGGGGA
AACAAGGGA

PK4: -25.775000(kcal/mol): PK_start=1472 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1509
(fs_start=1457)

TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGGCCGGA AGGGA
TTCCTCA
GAATT

=====
(3473) JX446900
=====

PK1: -15.100000(kcal/mol): PK_start=1385 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1413
(fs_start=1405)

CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -20.460000(kcal/mol): PK_start=1390 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1426
(fs_start=1405)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -23.145000(kcal/mol): PK_start=1414 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1447
(fs_start=1405)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTCT
AGGCCGGGGA
AACAAGGGA

PK4: -25.775000(kcal/mol): PK_start=1420 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1457
(fs_start=1405)

TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGGCCGGA AGGGA
TTCCTCA
GAATT

=====
(3474) JX446901
=====

PK1: -15.100000(kcal/mol): PK_start=1437 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1465
(fs_start=1457)

CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -20.460000(kcal/mol): PK_start=1442 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1478
(fs_start=1457)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -23.145000(kcal/mol): PK_start=1466 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1499
(fs_start=1457)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTCT
AGGCCGGGA
AACAAGGGA

PK4: -25.775000(kcal/mol): PK_start=1472 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1509
(fs_start=1457)

TCCAACA
AGACAGGCTAATTTTTTAGGAAAATCTGGCCT
GGCCGGA AGGGA
TTCCTCA
GAATT

=====
(3475) JX446902
=====

PK1: -15.100000(kcal/mol): PK_start=1388 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1416
(fs_start=1408)

CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -20.460000(kcal/mol): PK_start=1393 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1429
(fs_start=1408)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT A ATCGGA

TGGCCTTC

GGAAAATC

PK3: -23.145000(kcal/mol): PK_start=1417 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1450
(fs_start=1408)

AAA

ACTGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTCT

AGGCCGGGGA

AACAAGGGA

PK4: -25.775000(kcal/mol): PK_start=1423 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1460
(fs_start=1408)

TCCAACA

AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT

GGGCCGGA AGGGA

TTCCTCA

GAATT

=====
(3476) JX446903
=====

PK1: -15.100000(kcal/mol): PK_start=1445 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1473
(fs_start=1465)

CA

GAAAGGAAGGACATCAAATGAAAGACTG

GAC AGAGAGTC

TTTTTTTAGGG

GCTAA

PK2: -20.460000(kcal/mol): PK_start=1450 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1486
(fs_start=1465)

C

GAAGGACATCAAATGAAAGACTGCACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAAATC

PK3: -23.145000(kcal/mol): PK_start=1474 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1507
(fs_start=1465)

AAA

ACTGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTCT

AGGCCGGGGA

AACAAGGGA

PK4: -25.775000(kcal/mol): PK_start=1480 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1517
(fs_start=1465)

TCCAACA

AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT

GGGCCGGA AGGGA

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                                TTCCTCA
                                GAATT
=====
(3477) JX446916
=====
PK1:  -15.100000(kcal/mol): PK_start=1270 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1298
(fs_start=1290)
                                CA
GGAAGGAAGGACATCAAATGAAAGACTG
                                GAC   AGAGAGTC
                                TTTTTTAGGG
                                GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1275 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1312
(fs_start=1290)
                                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                                GATTTTTT   AATCGGA
                                TTGGCCTTC
                                GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1299 sp=0 s1=3 s2=8 l1=3 l2=6 L3=0 PK_end=1329
(fs_start=1290)
                                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCT   TCCGGTTT
                                AGGCCAGGAA
                                AAGGGA

PK4:  -24.345000(kcal/mol): PK_start=1305 sp=7 s1=8 s2=4 l1=5 l2=6 L3=0 PK_end=1339
(fs_start=1290)
                                TCCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                                GGACCGGA   AGGG
                                TCCCCA
                                AAATTT

=====
(3478) JX446918
=====
PK1:  -15.100000(kcal/mol): PK_start=1495 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1523
(fs_start=1515)
                                CA
GGAAGGAAGGACATCAAATGAAAGACTG
                                GAC   AGAGAGTC
                                TTTTTTAGGG
                                GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1500 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1537
(fs_start=1515)
                                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA

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```

          GATTTTTT   AATCGGA
                    TTGGCCTTC
      GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1524 sp=0 s1=3 s2=8 l1=3 l2=6 L3=0 PK_end=1554
(fs_start=1515)
          AAA
ACTGAGAGACAGGCTAATTTTTTTAGGGA

          CCT   TCCGGTTT
                    AGGCCAGGAA
      AAGGGA

PK4:  -24.345000(kcal/mol): PK_start=1530 sp=7 s1=8 s2=4 l1=5 l2=6 L3=0 PK_end=1564
(fs_start=1515)
                    TCCAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT

          GGACCGGA   AGGG
                    TCCCCA
      AAATTT

=====
(3479) JX446919
=====
PK1:  -15.100000(kcal/mol): PK_start=1495 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1523
(fs_start=1515)
          CA
GGAAGGAAGGACATCAAATGAAAGACTG

          GAC   AGAGAGTC
                    TTTTTTAGGG
      GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1500 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1537
(fs_start=1515)
          C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA

          GATTTTTT   AATCGGA
                    TTGGCCTTC
      GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1524 sp=0 s1=3 s2=8 l1=3 l2=6 L3=0 PK_end=1554
(fs_start=1515)
          AAA
ACTGAGAGACAGGCTAATTTTTTTAGGGA

          CCT   TCCGGTTT
                    AGGCCAGGAA
      AAGGGA

PK4:  -24.345000(kcal/mol): PK_start=1530 sp=7 s1=8 s2=4 l1=5 l2=6 L3=0 PK_end=1564
(fs_start=1515)
                    TCCAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT

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```

                GGACCGGA    AGGG
                    TCCCCA
AAATTT
=====
(3480) JX446920
=====
PK1:  -15.100000(kcal/mol): PK_start=1270 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1298
(fs_start=1290)
                    CA
GGAAGGAAGGACATCAAATGAAAGACTG
                GAC    AGAGAGTC
                    TTTTTTAGGG
GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1275 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1312
(fs_start=1290)
                    C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT    AATCGGA
                    TTGGCCTTC
GAAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1299 sp=0 s1=3 s2=8 l1=3 l2=6 L3=0 PK_end=1329
(fs_start=1290)
                    AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                CCT    TCCGGTTT
                    AGGCCAGGAA
AAGGGA

PK4:  -24.345000(kcal/mol): PK_start=1305 sp=7 s1=8 s2=4 l1=5 l2=6 L3=0 PK_end=1339
(fs_start=1290)
                    TCCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA    AGGG
                    TCCCCA
AAATTT

=====
(3481) JX446921
=====
PK1:  -15.100000(kcal/mol): PK_start=1270 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1298
(fs_start=1290)
                    CA
GGAAGGAAGGACATCAAATGAAAGACTG
                GAC    AGAGAGTC
                    TTTTTTAGGG
GCTAA

```

PK2: -21.940000(kcal/mol): PK_start=1275 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1312
(fs_start=1290)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1299 sp=0 s1=3 s2=8 l1=3 l2=6 L3=0 PK_end=1329
(fs_start=1290)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AAGGGA

PK4: -24.345000(kcal/mol): PK_start=1305 sp=7 s1=8 s2=4 l1=5 l2=6 L3=0 PK_end=1339
(fs_start=1290)

TCCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA AGGG
TCCCA
AAATTT

=====
(3482) JX446922
=====

PK1: -15.100000(kcal/mol): PK_start=1270 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1298
(fs_start=1290)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1275 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1312
(fs_start=1290)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1299 sp=0 s1=3 s2=8 l1=3 l2=6 L3=0 PK_end=1329
(fs_start=1290)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AAGGGA

PK4: -24.345000(kcal/mol): PK_start=1305 sp=7 s1=8 s2=4 l1=5 l2=6 L3=0 PK_end=1339
(fs_start=1290)

```

                                TCCAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
                                GGACCGGA   AGGG
                                TCCCCA
                                AAATTT
```

=====
(3483) JX446923
=====

PK1: -15.100000(kcal/mol): PK_start=1248 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1276
(fs_start=1268)

```

                                CA
GGAAGGAAGGACATCAAATGAAAGACTG
                                GAC   AGAGAGTC
                                TTTTTTAGGG
                                GCTAA
```

PK2: -21.940000(kcal/mol): PK_start=1253 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1290
(fs_start=1268)

```

                                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                                GATTTTTT   AATCGGA
                                TTGGCCTTC
                                GGAAAAT
```

PK3: -20.285000(kcal/mol): PK_start=1277 sp=0 s1=3 s2=8 l1=3 l2=6 L3=0 PK_end=1307
(fs_start=1268)

```

                                AAA
ACTGAGAGACAGGCTAATTTTTTTAGGGA
                                CCT   TCCGGTTT
                                AGGCCAGGAA
                                AAGGGA
```

PK4: -24.345000(kcal/mol): PK_start=1283 sp=7 s1=8 s2=4 l1=5 l2=6 L3=0 PK_end=1317
(fs_start=1268)

```

                                TCCAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
                                GGACCGGA   AGGG
                                TCCCCA
                                AAATTT
```

=====
(3484) JX446924
=====

PK1: -15.100000(kcal/mol): PK_start=1495 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1523
(fs_start=1515)

```

                                CA
GGAAGGAAGGACATCAAATGAAAGACTG
                                GAC   AGAGAGTC
```

TTTTTTAGGG
 GCTAA
 PK2: -21.940000(kcal/mol): PK_start=1500 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1537
 (fs_start=1515)
 C
 GAAGGACATCAAATGAAAGACTGCACTGAGAGA
 GATTTTTT AATCGGA
 TTGGCCTTC
 GGAAAAT
 PK3: -20.285000(kcal/mol): PK_start=1524 sp=0 s1=3 s2=8 l1=3 l2=6 L3=0 PK_end=1554
 (fs_start=1515)
 AAA
 ACTGAGAGACAGGCTAATTTTTTAGGGA
 CCT TCCGGTTT
 AGGCCAGGAA
 AAGGGA
 PK4: -24.345000(kcal/mol): PK_start=1530 sp=7 s1=8 s2=4 l1=5 l2=6 L3=0 PK_end=1564
 (fs_start=1515)
 TCCAA
 AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
 GGACCGGA AGGG
 TCCCCA
 AAATTT
 =====
 (3485) JX446925
 =====
 PK1: -15.100000(kcal/mol): PK_start=1495 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1523
 (fs_start=1515)
 CA
 GGAAGGAAGGACATCAAATGAAAGACTG
 GAC AGAGAGTC
 TTTTTTAGGG
 GCTAA
 PK2: -21.940000(kcal/mol): PK_start=1500 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1537
 (fs_start=1515)
 C
 GAAGGACATCAAATGAAAGACTGCACTGAGAGA
 GATTTTTT AATCGGA
 TTGGCCTTC
 GGAAAAT
 PK3: -20.285000(kcal/mol): PK_start=1524 sp=0 s1=3 s2=8 l1=3 l2=6 L3=0 PK_end=1554
 (fs_start=1515)
 AAA
 ACTGAGAGACAGGCTAATTTTTTAGGGA
 CCT TCCGGTTT

AGGCCAGGAA

AAGGGA

PK4: -24.345000(kcal/mol): PK_start=1530 sp=7 s1=8 s2=4 l1=5 l2=6 L3=0 PK_end=1564
(fs_start=1515)

TCCAA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA AGGG

TCCCCA

AAATTT

=====
(3486) JX446926
=====

PK1: -15.100000(kcal/mol): PK_start=1495 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1523
(fs_start=1515)

CA

GGAAGGAAGGACATCAAATGAAAGACTG

GAC AGAGAGTC

TTTTTTAGGG

GCTAA

PK2: -21.940000(kcal/mol): PK_start=1500 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1537
(fs_start=1515)

C

GAAGGACATCAAATGAAAGACTGCACTGAGAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1524 sp=0 s1=3 s2=8 l1=3 l2=6 L3=0 PK_end=1554
(fs_start=1515)

AAA

ACTGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT

AGGCCAGGAA

AAGGGA

PK4: -24.345000(kcal/mol): PK_start=1530 sp=7 s1=8 s2=4 l1=5 l2=6 L3=0 PK_end=1564
(fs_start=1515)

TCCAA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA AGGG

TCCCCA

AAATTT

=====
(3487) JX446927
=====

PK1: -15.100000(kcal/mol): PK_start=1427 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1455
(fs_start=1447)

CA

GGAAGGAAGGACATCAAATGAAAGACTG

GAC AGAGAGTC
TTTTTTAGGG
GCTAA
PK2: -21.940000(kcal/mol): PK_start=1432 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1469
(fs_start=1447)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAACT

PK3: -21.775000(kcal/mol): PK_start=1456 sp=0 s1=3 s2=9 l1=2 l2=9 L3=0 PK_end=1490
(fs_start=1447)

AA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTTC
AGGCCGGGGAA
ACAAGGGA

PK4: -23.805000(kcal/mol): PK_start=1461 sp=6 s1=9 s2=5 l1=7 l2=4 L3=0 PK_end=1499
(fs_start=1447)

TCCAACA
GAGACAGGCTAATTTTTTAGGGAACTTTGGCCT
GGGGCCGGA AGGGA
TTCCTCA
AATT

=====
(3488) JX446928
=====

PK1: -15.100000(kcal/mol): PK_start=1427 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1455
(fs_start=1447)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1432 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1469
(fs_start=1447)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAACT

PK3: -21.775000(kcal/mol): PK_start=1456 sp=0 s1=3 s2=9 l1=2 l2=9 L3=0 PK_end=1490
(fs_start=1447)

AA
ACTGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTTC
AGGCCGGGGAA
AACAAAGGGA
PK4: -23.805000(kcal/mol): PK_start=1461 sp=6 s1=9 s2=5 l1=7 l2=4 L3=0 PK_end=1499
(fs_start=1447)

TCCAACA
GAGACAGGCTAATTTTTTAGGGAACTTTGGCCT
GGGGCCGGA AGGA
TTCCTCA
AATT

=====
(3489) JX446929
=====

PK1: -15.100000(kcal/mol): PK_start=1427 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1455
(fs_start=1447)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1432 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1469
(fs_start=1447)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAACT

PK3: -21.775000(kcal/mol): PK_start=1456 sp=0 s1=3 s2=9 l1=2 l2=9 L3=0 PK_end=1490
(fs_start=1447)

AA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTTC
AGGCCGGGGAA
AACAAAGGGA

PK4: -23.805000(kcal/mol): PK_start=1461 sp=6 s1=9 s2=5 l1=7 l2=4 L3=0 PK_end=1499
(fs_start=1447)

TCCAACA
GAGACAGGCTAATTTTTTAGGGAACTTTGGCCT
GGGGCCGGA AGGA
TTCCTCA
AATT

=====
(3490) JX446930
=====

PK1: -15.10000(kcal/mol): PK_start=1427 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1455 (fs_start=1447)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.94000(kcal/mol): PK_start=1432 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1469 (fs_start=1447)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAACT

PK3: -21.77500(kcal/mol): PK_start=1456 sp=0 s1=3 s2=9 l1=2 l2=9 L3=0 PK_end=1490 (fs_start=1447)

AA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTTC
AGGCCGGGAA
AACAAGGGA

PK4: -23.80500(kcal/mol): PK_start=1461 sp=6 s1=9 s2=5 l1=7 l2=4 L3=0 PK_end=1499 (fs_start=1447)

TCCAACA
GAGACAGGCTAATTTTTTAGGGAACTTTGGCCT
GGGGCCGGA AGGGA
TTCCTCA
AATT

=====
(3491) JX446931
=====

PK1: -15.10000(kcal/mol): PK_start=1427 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1455 (fs_start=1447)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.94000(kcal/mol): PK_start=1432 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1469 (fs_start=1447)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAACT

PK3: -21.775000(kcal/mol): PK_start=1456 sp=0 s1=3 s2=9 l1=2 l2=9 L3=0 PK_end=1490
(fs_start=1447)

AA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTTC
AGGCCGGGAA
AACAAGGGA

PK4: -23.805000(kcal/mol): PK_start=1461 sp=6 s1=9 s2=5 l1=7 l2=4 L3=0 PK_end=1499
(fs_start=1447)

TCCAACA
GAGACAGGCTAATTTTTTAGGGAACTTTGGCCT
GGGGCCGGA AGGGA
TTCCTCA
AATT

=====
(3492) JX446987
=====

PK1: -15.100000(kcal/mol): PK_start=1261 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1289
(fs_start=1281)

CA
GGAAAGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -20.460000(kcal/mol): PK_start=1266 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1302
(fs_start=1281)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAGAATA

PK3: -19.505000(kcal/mol): PK_start=1290 sp=0 s1=3 s2=6 l1=5 l2=9 L3=0 PK_end=1321
(fs_start=1281)

GAATA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGT
AGGCCGGG
AACAAGGGA

PK4: -22.135000(kcal/mol): PK_start=1298 sp=9 s1=6 s2=5 l1=7 l2=7 L3=0 PK_end=1333
(fs_start=1281)

TCCAACA
ACAGGCTAATTTTTTAGGGAGAATATGGCCT
GCCGGA AGGGA
TTCCTCA
GGGAATT

=====
(3493) JX446988
=====

PK1: -15.100000(kcal/mol): PK_start=1261 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1289
(fs_start=1281)

CA
GGAAAGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -20.460000(kcal/mol): PK_start=1266 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1302
(fs_start=1281)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAGAAGA

PK3: -19.505000(kcal/mol): PK_start=1290 sp=0 s1=3 s2=6 l1=5 l2=9 L3=0 PK_end=1321
(fs_start=1281)

GAAGA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGT
AGGCCGGG
AACAAGGGA

PK4: -22.135000(kcal/mol): PK_start=1298 sp=9 s1=6 s2=5 l1=7 l2=7 L3=0 PK_end=1333
(fs_start=1281)

TCCAACA
ACAGGCTAATTTTTTAGGGAGAAGATGGCCT
GCCGGA AGGGA
TTCCTCA
GGGAATT

=====
(3494) JX446990
=====

PK1: -15.100000(kcal/mol): PK_start=1261 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1289
(fs_start=1281)

CA
GGAAAGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -20.460000(kcal/mol): PK_start=1266 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1302
(fs_start=1281)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT A ATCGGA

```

                                TGGCCTTC
          GGAGAATA
PK3:  -19.505000(kcal/mol): PK_start=1290 sp=0 s1=3 s2=6 l1=5 l2=9 L3=0 PK_end=1321
(fs_start=1281)
                                GAATA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCT   TCCGGT
                                AGGCCGGG
          AACAAGGGA

PK4:  -22.135000(kcal/mol): PK_start=1298 sp=9 s1=6 s2=5 l1=7 l2=7 L3=0 PK_end=1333
(fs_start=1281)
                                TCCAACA
ACAGGCTAATTTTTTAGGGAGAATATGGCCT
                                GCCGGA   AGGGA
                                TTCCTCA
          GGGAATT

=====
(3495) JX446991
=====
PK1:  -15.100000(kcal/mol): PK_start=1261 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1289
(fs_start=1281)
                                CA
GGAAAGAAGGACATCAAATGAAAGACTG
                                GAC   AGAGAGTC
                                TTTTTTAGGG
          GCTAA

PK2:  -20.460000(kcal/mol): PK_start=1266 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1302
(fs_start=1281)
                                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                                GATTTTTT   A   ATCGGA
                                TGGCCTTC
          GGAGAATA

PK3:  -19.505000(kcal/mol): PK_start=1290 sp=0 s1=3 s2=6 l1=5 l2=9 L3=0 PK_end=1321
(fs_start=1281)
                                GAATA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCT   TCCGGT
                                AGGCCGGG
          AACAAGGGA

PK4:  -22.135000(kcal/mol): PK_start=1298 sp=9 s1=6 s2=5 l1=7 l2=7 L3=0 PK_end=1333
(fs_start=1281)
                                TCCAACA
ACAGGCTAATTTTTTAGGGAGAATATGGCCT
                                GCCGGA   AGGGA

```

```

                                TTCCTCA
                    GGAATT
=====
(3496) JX446992
=====
PK1:  -15.100000(kcal/mol): PK_start=1261 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1289
(fs_start=1281)
                                CA
                    GAAAGAAGGACATCAAATGAAAGACTG
                                GAC    AGAGAGTC
                                TTTTTTAGGG
                    GCTAA

PK2:  -20.460000(kcal/mol): PK_start=1266 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1302
(fs_start=1281)
                                C
                    GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                                GATTTTTT A  ATCGGA
                                TGGCCTTC
                    GGAGAATA

PK3:  -19.505000(kcal/mol): PK_start=1290 sp=0 s1=3 s2=6 l1=5 l2=9 L3=0 PK_end=1321
(fs_start=1281)
                                GAATA
                    ACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCT    TCCGGT
                                AGGCCGGG
                    AACAAGGGA

PK4:  -22.135000(kcal/mol): PK_start=1298 sp=9 s1=6 s2=5 l1=7 l2=7 L3=0 PK_end=1333
(fs_start=1281)
                                TCCAACA
                    ACAGGCTAATTTTTTAGGGAGAATATGGCCT
                                GCCGGA    AGGGA
                                TTCCTCA
                    GGAATT

=====
(3497) JX446993
=====
PK1:  -15.100000(kcal/mol): PK_start=1261 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1289
(fs_start=1281)
                                CA
                    GAAAGAAGGACATCAAATGAAAGACTG
                                GAC    AGAGAGTC
                                TTTTTTAGGG
                    GCTAA

PK2:  -20.460000(kcal/mol): PK_start=1266 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1302
(fs_start=1281)
                                C
                    GAAGGACATCAAATGAAAGACTGCACTGAGAGA

```

GATTTTTT A ATCGGA
 TGGCCTTC
 GGAGAATA
 PK3: -19.505000(kcal/mol): PK_start=1290 sp=0 s1=3 s2=6 l1=5 l2=9 L3=0 PK_end=1321
 (fs_start=1281)
 GAATA
 ACTGAGAGACAGGCTAATTTTTTAGGGA
 CCT TCCGGT
 AGGCCGGG
 AACAAAGGGA
 PK4: -22.135000(kcal/mol): PK_start=1298 sp=9 s1=6 s2=5 l1=7 l2=7 L3=0 PK_end=1333
 (fs_start=1281)
 TCCAACA
 ACAGGCTAATTTTTTAGGGAGAATATGGCCT
 GCCGGA AGGGA
 TTCCTCA
 GGAAATT
 =====
 (3498) JX446994
 =====
 PK1: -15.100000(kcal/mol): PK_start=1261 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1289
 (fs_start=1281)
 CA
 GGAAAGAAGGACATCAAATGAAAGACTG
 GAC AGAGAGTC
 TTTTTTAGGG
 GCTAA
 PK2: -20.460000(kcal/mol): PK_start=1266 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1302
 (fs_start=1281)
 C
 GAAGGACATCAAATGAAAGACTGCACTGAGAGA
 GATTTTTT A ATCGGA
 TGGCCTTC
 GGAGAATA
 PK3: -19.505000(kcal/mol): PK_start=1290 sp=0 s1=3 s2=6 l1=5 l2=9 L3=0 PK_end=1321
 (fs_start=1281)
 GAATA
 ACTGAGAGACAGGCTAATTTTTTAGGGA
 CCT TCCGGT
 AGGCCGGG
 AACAAAGGGA
 PK4: -22.135000(kcal/mol): PK_start=1298 sp=9 s1=6 s2=5 l1=7 l2=7 L3=0 PK_end=1333
 (fs_start=1281)
 TCCAACA
 ACAGGCTAATTTTTTAGGGAGAATATGGCCT


```

                GCCGGA    AGGGA
                    TTCCTCA
            GGAATT

=====
(3499) JX446996
=====
PK1:  -15.10000(kcal/mol): PK_start=1261 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1289
(fs_start=1281)
                CA
GGAAAGAAGGACATCAAATGAAAGACTG

                GAC    AGAGAGTC
                    TTTTTTAGGG
            GCTAA

PK2:  -20.46000(kcal/mol): PK_start=1266 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1302
(fs_start=1281)
                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA

                GATTTTTT A  ATCGGA
                    TGGCCTTC
            GGAGAATA

PK3:  -19.50500(kcal/mol): PK_start=1290 sp=0 s1=3 s2=6 l1=5 l2=9 L3=0 PK_end=1321
(fs_start=1281)
                GAATA
ACTGAGAGACAGGCTAATTTTTTAGGGA

                CCT    TCCGGT
                    AGGCCGGG
            AACAAGGGA

PK4:  -22.13500(kcal/mol): PK_start=1298 sp=9 s1=6 s2=5 l1=7 l2=7 L3=0 PK_end=1333
(fs_start=1281)
                TCCAACA
ACAGGCTAATTTTTTAGGGAGAATATGGCCT

                GCCGGA    AGGGA
                    TTCCTCA
            GGAATT

=====
(3500) JX446997
=====
PK1:  -10.44000(kcal/mol): PK_start=1412 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1450
(fs_start=1443)
                A
TTGGAAATGTGGAAAGGAAGGACATCAA

                GTT    AGAAAGT
                    TTTTTTAGG
            CACTGAGAGACAGGCTAA

```

PK2: -21.940000(kcal/mol): PK_start=1428 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1465
(fs_start=1443)

C
GAAGGACATCAAATGAAAGATTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1452 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1485
(fs_start=1443)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AACAAGGGA

PK4: -25.725000(kcal/mol): PK_start=1458 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1495
(fs_start=1443)

TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA AGGGA
TCCCTCA
GAACT

=====
(3501) JX446998
=====

PK1: -10.440000(kcal/mol): PK_start=1486 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1524
(fs_start=1517)

A
TTGGAAATGTGGAAAGGAAGGACATCAA
GTT AGAAAGT
TTTTTTAGG
CACTGAGAGACAGGCTAA

PK2: -21.940000(kcal/mol): PK_start=1502 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1539
(fs_start=1517)

C
GAAGGACATCAAATGAAAGATTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1526 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1559
(fs_start=1517)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AACAAGGGA

PK4: -25.725000(kcal/mol): PK_start=1532 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1569
(fs_start=1517)

```

                                TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                                GGACCGGA   AGGGA
                                TCCCTCA
                                GAACT
```

=====
(3502) JX446999
=====

PK1: -10.440000(kcal/mol): PK_start=1486 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1524
(fs_start=1517)

```

                                A
TTGGAAATGTGGAAAGGAAGGACATCAA
                                GTT   AGAAAGT
                                TTTTTTAGG
                                CACTGAGAGACAGGCTAA
```

PK2: -21.940000(kcal/mol): PK_start=1502 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1539
(fs_start=1517)

```

                                C
GAAGGACATCAAATGAAAGATTGCACTGAGAGA
                                GATTTTTT   AATCGGA
                                TTGGCCTTC
                                GGAAAAT
```

PK3: -20.285000(kcal/mol): PK_start=1526 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1559
(fs_start=1517)

```

                                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCT   TCCGGTTT
                                AGGCCAGGGA
                                AACAAGGGA
```

PK4: -25.725000(kcal/mol): PK_start=1532 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1569
(fs_start=1517)

```

                                TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                                GGACCGGA   AGGGA
                                TCCCTCA
                                GAACT
```

=====
(3503) JX447000
=====

PK1: -10.440000(kcal/mol): PK_start=1486 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1524
(fs_start=1517)

```

                                A
TTGGAAATGTGGAAAGGAAGGACATCAA
                                GTT   AGAAAGT
```

TTTTTTAGG
CACTGAGAGACAGGCTAA
PK2: -21.940000(kcal/mol): PK_start=1502 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1539
(fs_start=1517)

C
GAAGGACATCAAATGAAAGATTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1526 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1559
(fs_start=1517)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AACAAGGGA

PK4: -25.725000(kcal/mol): PK_start=1532 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1569
(fs_start=1517)

TCCAACA
AGACAGGCTAATTTTTTAGGAAAATTTGGCCT
GGACCGGA AGGGA
TCCCTCA
GAACT

=====
(3504) JX447001
=====

PK1: -10.440000(kcal/mol): PK_start=1486 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1524
(fs_start=1517)

A
TTGGAAATGTGGAAAGGAAGGACATCAA
GTT AGAAAGT
TTTTTTAGG
CACTGAGAGACAGGCTAA

PK2: -21.940000(kcal/mol): PK_start=1502 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1539
(fs_start=1517)

C
GAAGGACATCAAATGAAAGATTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1526 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1559
(fs_start=1517)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT

AGGCCAGGGA
 AACAAGGGA

PK4: -25.725000(kcal/mol): PK_start=1532 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1569
 (fs_start=1517)

TCCAACA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA AGGGA

TCCCTCA

GAACT

=====
 (3505) JX447002
 =====

PK1: -10.440000(kcal/mol): PK_start=1262 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1300
 (fs_start=1293)

A

TTGGAAATGTGGAAAGGAAGGACATCAA

GTT AGAAAGT

TTTTTTTAGG

CACTGAGAGACAGGCTAA

PK2: -21.940000(kcal/mol): PK_start=1278 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1315
 (fs_start=1293)

C

GAAGGACATCAAATGAAAGATTGCACTGAGAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1302 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1335
 (fs_start=1293)

AAA

ACTGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT

AGGCCAGGGA

AACAAGGGA

PK4: -25.725000(kcal/mol): PK_start=1308 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1345
 (fs_start=1293)

TCCAACA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA AGGGA

TCCCTCA

GAACT

=====
 (3506) JX447003
 =====

PK1: -10.440000(kcal/mol): PK_start=1262 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1300
 (fs_start=1293)

A

TTGGAAATGCGGAAAGGAAGGACATCAA

```

          GTT   AGAAAGT
                TTTTTTAGG
    CACTGAGAGACAGGCTAA

PK2:  -21.940000(kcal/mol): PK_start=1278 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1315
(fs_start=1293)
                C
GAAGGACATCAAATGAAAGATTGCACTGAGAGA
                GATTTTTT   AATCGGA
                                TTGGCCTTC
                GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1302 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1335
(fs_start=1293)
                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                CCT   TCCGGTTT
                                AGGCCAGGGA
                AACAAGGGA

PK4:  -25.725000(kcal/mol): PK_start=1308 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1345
(fs_start=1293)
                TCCAACA
AGACAGGCTAATTTTTTAGGAAAATTTGGCCT
                GGACCGGA   AGGGA
                                TCCCTCA
                GAACT

=====
(3507) JX447004
=====
PK1:  -10.440000(kcal/mol): PK_start=1382 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1420
(fs_start=1413)
                A
TTGGAAATGTGGAAAGGAAGGACATCAA
                GTT   AGAAAGT
                TTTTTTAGG
    CACTGAGAGACAGGCTAA

PK2:  -21.940000(kcal/mol): PK_start=1398 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1435
(fs_start=1413)
                C
GAAGGACATCAAATGAAAGATTGCACTGAGAGA
                GATTTTTT   AATCGGA
                                TTGGCCTTC
                GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1422 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1455
(fs_start=1413)
                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA

```

```

          CCT      TCCGGTTT
                AGGCCAGGGA
    AACAAGGGA
PK4:  -25.725000(kcal/mol): PK_start=1428 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1465
(fs_start=1413)
                TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA      AGGGA
                TCCCTCA
    GAACT

```

```

=====
(3508) JX447005
=====

```

```

PK1:  -10.440000(kcal/mol): PK_start=1262 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1300
(fs_start=1293)
          A
TTGGAAATGTGGAAAGGAAGGACATCAA
                GTT      AGAAAGT
                TTTTTTAGG
    CACTGAGAGACAGGCTAA

```

```

PK2:  -21.940000(kcal/mol): PK_start=1278 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1315
(fs_start=1293)
          C
GAAGGACATCAAATGAAAGATTGCACTGAGAGA
                GATTTTTT      AATCGGA
                TTGGCCTTC
    GGAAAAT

```

```

PK3:  -20.285000(kcal/mol): PK_start=1302 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1335
(fs_start=1293)
          AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                CCT      TCCGGTTT
                AGGCCAGGGA
    AACAAGGGA

```

```

PK4:  -25.725000(kcal/mol): PK_start=1308 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1345
(fs_start=1293)
                TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA      AGGGA
                TCCCTCA
    GAACT

```

```

=====
(3509) JX447018
=====

```

PK1: -15.10000(kcal/mol): PK_start=1431 sp=0 s1=3 s2=8 l1=2 l2=5 l3=0 PK_end=1459
(fs_start=1451)

CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGA
GCTAA

PK2: -21.94000(kcal/mol): PK_start=1436 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1473
(fs_start=1451)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GAAAAAT

PK3: -18.76500(kcal/mol): PK_start=1459 sp=0 s1=3 s2=8 l1=4 l2=9 l3=0 PK_end=1493
(fs_start=1451)

AAAA
CACTGAGAGACAGGCTAATTTTTTTAGGA
CCT TCCGGTTT
AGGCCGGGAA
AGCAAGGGA

PK4: -21.19500(kcal/mol): PK_start=1466 sp=7 s1=8 s2=5 l1=7 l2=5 l3=0 PK_end=1503
(fs_start=1451)

TCCAGCA
AGACAGGCTAATTTTTTTAGGAAAAATTTGGCCT
GGGCCGGA AGGGA
TTCCTCA
AAATT

=====
(3510) JX447019
=====

PK1: -15.10000(kcal/mol): PK_start=1405 sp=0 s1=3 s2=8 l1=2 l2=5 l3=0 PK_end=1433
(fs_start=1425)

CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.94000(kcal/mol): PK_start=1410 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1447
(fs_start=1425)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAAT

PK3: -18.565000(kcal/mol): PK_start=1434 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1467
(fs_start=1425)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGAA
AGCAAGGGA

PK4: -21.195000(kcal/mol): PK_start=1440 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1477
(fs_start=1425)

TCCAGCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA AGGGA
TTCCTCA
AAATT

=====
(3511) JX447020
=====

PK1: -15.100000(kcal/mol): PK_start=1430 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1458
(fs_start=1450)

CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1435 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1472
(fs_start=1450)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1459 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1492
(fs_start=1450)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGAA
AGCAAGGGA

PK4: -21.195000(kcal/mol): PK_start=1465 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1502
(fs_start=1450)

TCCAGCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA AGGGA
TTCCTCA
AAATT

=====
(3512) JX447021
=====

PK1: -15.100000(kcal/mol): PK_start=1427 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1455
(fs_start=1447)

CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1432 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1469
(fs_start=1447)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1456 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1489
(fs_start=1447)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGAA
AGCAAGGGA

PK4: -21.195000(kcal/mol): PK_start=1462 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1499
(fs_start=1447)

TCCAGCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGCCGGA AGGGA
TTCCTCA
AAATT

=====
(3513) JX447022
=====

PK1: -15.100000(kcal/mol): PK_start=1438 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1466
(fs_start=1458)

CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1443 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1480
(fs_start=1458)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1467 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1500
(fs_start=1458)

AAA

ACTGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT

AGGCCGGGAA

AGCAAGGGA

PK4: -21.195000(kcal/mol): PK_start=1473 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1510
(fs_start=1458)

TCCAGCA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGGCCGGA AGGGA

TTCCTCA

AAATT

=====
(3514) JX447023
=====

PK1: -15.100000(kcal/mol): PK_start=1410 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1438
(fs_start=1430)

CA

GAAAGGAAGGACATCAAATGAAAGACTG

GAC AGAGAGTC

TTTTTTAGGG

GCTAA

PK2: -21.940000(kcal/mol): PK_start=1415 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1452
(fs_start=1430)

C

GAAGGACATCAAATGAAAGACTGCACTGAGAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1439 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1472
(fs_start=1430)

AAA

ACTGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT

AGGCCGGGAA

AGCAAGGGA

PK4: -21.195000(kcal/mol): PK_start=1445 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1482
(fs_start=1430)

TCCAGCA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGGCCGGA AGGGA

```

                                TTCCTCA
AAATT
=====
(3515) JX447024
=====
PK1:  -15.100000(kcal/mol): PK_start=1437 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1465
(fs_start=1457)
                                CA
GAAAGGAAGGACATCAAATGAAAGACTG
                                GAC   AGAGAGTC
                                TTTTTTAGGG
GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1442 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1479
(fs_start=1457)
                                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                                GATTTTTT   AATCGGA
                                TTGGCCTTC
GAAAAAT

PK3:  -18.565000(kcal/mol): PK_start=1466 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1499
(fs_start=1457)
                                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCT   TCCGGTTT
                                AGGCCGGGAA
AGCAAGGGA

PK4:  -21.195000(kcal/mol): PK_start=1472 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1509
(fs_start=1457)
                                TCCAGCA
AGACAGGCTAATTTTTTAGGAAAATTTGGCCT
                                GGGCCGGA   AGGGA
                                TTCCTCA
AAATT

=====
(3516) JX447025
=====
PK1:  -15.100000(kcal/mol): PK_start=1427 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1455
(fs_start=1447)
                                CA
GAAAGGAAGGACATCAAATGAAAGACTG
                                GAC   AGAGAGTC
                                TTTTTTAGGG
GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1432 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1469
(fs_start=1447)
                                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA

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          GATTTTTT   AATCGGA
                    TTGGCCTTC
      GGAAAAT

PK3:  -18.565000(kcal/mol): PK_start=1456 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1489
(fs_start=1447)
          AAA
ACTGAGAGACAGGCTAATTTTTTTAGGGA
          CCT   TCCGGTTT
                    AGGCCGGGAA
      AGCAAGGGA

PK4:  -21.195000(kcal/mol): PK_start=1462 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1499
(fs_start=1447)
                    TCCAGCA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
          GGGCCGGA   AGGGA
                    TTCCTCA
      AAATT

=====
(3517) JX447026
=====
PK1:  -15.100000(kcal/mol): PK_start=1427 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1455
(fs_start=1447)
          CA
GAAAGGAAGGACATCAAATGAAAGACTG
          GAC   AGAGAGTC
                    TTTTTTAGGG
      GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1432 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1469
(fs_start=1447)
          C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
          GATTTTTT   AATCGGA
                    TTGGCCTTC
      GGAAAAT

PK3:  -18.565000(kcal/mol): PK_start=1456 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1489
(fs_start=1447)
          AAA
ACTGAGAGACAGGCTAATTTTTTTAGGGA
          CCT   TCCGGTTT
                    AGGCCGGGAA
      AGCAAGGGA

PK4:  -21.195000(kcal/mol): PK_start=1462 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1499
(fs_start=1447)
                    TCCAGCA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT

```

```

GGGCCGGA    AGGGA
              TTCCTCA
AAATT

=====
(3518) JX447027
=====
PK1:  -15.10000(kcal/mol): PK_start=1427 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1455
(fs_start=1447)
              CA
GAAAGGAAGGACATCAAATGAAAGACTG
              GAC    AGAGAGTC
              TTTTTTAGGG
GCTAA

PK2:  -21.94000(kcal/mol): PK_start=1432 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1469
(fs_start=1447)
              C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
              GATTTTTT    AATCGGA
              TTGGCCTTC
GGAAAAT

PK3:  -18.56500(kcal/mol): PK_start=1456 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1489
(fs_start=1447)
              AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
              CCT    TCCGGTTT
              AGGCCGGGAA
AGCAAGGGA

PK4:  -21.19500(kcal/mol): PK_start=1462 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1499
(fs_start=1447)
              TCCAGCA
AGACAGGCTAATTTTTTAGGAAAATTTGGCCT
              GGGCCGGA    AGGGA
              TTCCTCA
AAATT

=====
(3519) JX447028
=====
PK1:  -12.52000(kcal/mol): PK_start=1494 sp=0 s1=3 s2=7 l1=3 l2=5 L3=0 PK_end=1521
(fs_start=1514)
              CAA
GAAAGGAAGGACATCAAATGAAAGACTG
              GAC    AGAGAGT
              TTTTTTAGG
GCTAA

```

PK2: -19.66000(kcal/mol): PK_start=1500 sp=0 s1=7 s2=7 l1=1 l2=8 L3=0 PK_end=1536
(fs_start=1514)

C
AAGGACATCAAATGAAAGACTGCAATGAGAGA
 ATTTTTT AATCGGA
 TTGGCCTTC
 GGGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1523 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1556
(fs_start=1514)

AAA
AATGAGAGACAGGCTAATTTTTTAGGGA
 CCT TCCGGTTT
 AGGCCAGGGA
 AACAAGGGA

PK4: -22.915000(kcal/mol): PK_start=1529 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1566
(fs_start=1514)

TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
 GGACCGGA AGGGA
 TTCCTCA
 GAATT

=====
(3520) JX447029
=====

PK1: -12.520000(kcal/mol): PK_start=1494 sp=0 s1=3 s2=7 l1=3 l2=5 L3=0 PK_end=1521
(fs_start=1514)

CAA
GAAAGGAAGGACATCAAATGAAAGACTG
 GAC AGAGAGT
 TTTTTTTAGG
 GCTAA

PK2: -19.660000(kcal/mol): PK_start=1500 sp=0 s1=7 s2=7 l1=1 l2=8 L3=0 PK_end=1536
(fs_start=1514)

C
AAGGACATCAAATGAAAGACTGCAATGAGAGA
 ATTTTTT AATCGGA
 TTGGCCTTC
 GGGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1523 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1556
(fs_start=1514)

AAA
AATGAGAGACAGGCTAATTTTTTAGGGA
 CCT TCCGGTTT
 AGGCCAGGGA
 AACAAGGGA

PK4: -22.915000(kcal/mol): PK_start=1529 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1566
(fs_start=1514)

```

                                TCCAACA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
                                GGACCGGA   AGGGA
                                TTCCTCA
                                GAATT
```

=====
(3521) JX447030
=====

PK1: -12.520000(kcal/mol): PK_start=1494 sp=0 s1=3 s2=7 l1=3 l2=5 L3=0 PK_end=1521
(fs_start=1514)

```

                                CAA
GAAAGGAAGGACATCAAATGAAAGACTG
                                GAC   AGAGAGT
                                TTTTTTAGG
                                GCTAA
```

PK2: -19.660000(kcal/mol): PK_start=1500 sp=0 s1=7 s2=7 l1=1 l2=8 L3=0 PK_end=1536
(fs_start=1514)

```

                                C
AAGGACATCAAATGAAAGACTGCAATGAGAGA
                                ATTTTTT   AATCGGA
                                TTGGCCTTC
                                GGGAAAAT
```

PK3: -20.285000(kcal/mol): PK_start=1523 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1556
(fs_start=1514)

```

                                AAA
AATGAGAGACAGGCTAATTTTTTTAGGGA
                                CCT   TCCGGTTT
                                AGGCCAGGGA
                                AACAAGGGA
```

PK4: -22.915000(kcal/mol): PK_start=1529 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1566
(fs_start=1514)

```

                                TCCAACA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
                                GGACCGGA   AGGGA
                                TTCCTCA
                                GAATT
```

=====
(3522) JX447031
=====

PK1: -12.520000(kcal/mol): PK_start=1494 sp=0 s1=3 s2=7 l1=3 l2=5 L3=0 PK_end=1521
(fs_start=1514)

```

                                CAA
GAAAGGAAGGACATCAAATGAAAGACTG
                                GAC   AGAGAGT
```



```

                TTTTTTAGG
          GCTAA
PK2:  -19.660000(kcal/mol): PK_start=1500 sp=0 s1=7 s2=7 l1=1 l2=8 L3=0 PK_end=1536
(fs_start=1514)
                C
AAGGACATCAAATGAAAGACTGCAATGAGAGA
                ATTTTTT   AATCGGA
                TTGGCCTTC
          GGGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1523 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1556
(fs_start=1514)
                AAA
AATGAGAGACAGGCTAATTTTTTAGGGA
                CCT   TCCGGTTT
                AGGCCAGGGA
          AACAAGGGA

PK4:  -22.915000(kcal/mol): PK_start=1529 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1566
(fs_start=1514)
                TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA   AGGGA
                TTCCTCA
          GAATT

=====
(3523) JX447032
=====
PK1:  -12.520000(kcal/mol): PK_start=1494 sp=0 s1=3 s2=7 l1=3 l2=5 L3=0 PK_end=1521
(fs_start=1514)
                CAA
GAAAGGAAGGACATCAAATGAAAGACTG
                GAC   AGAGAGT
                TTTTTTAGG
          GCTAA

PK2:  -19.660000(kcal/mol): PK_start=1500 sp=0 s1=7 s2=7 l1=1 l2=8 L3=0 PK_end=1536
(fs_start=1514)
                C
AAGGACATCAAATGAAAGACTGCAATGAGAGA
                ATTTTTT   AATCGGA
                TTGGCCTTC
          GGGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1523 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1556
(fs_start=1514)
                AAA
AATGAGAGACAGGCTAATTTTTTAGGGA
                CCT   TCCGGTTT

```

AGGCCAGGGA
 AACAAGGGA

PK4: -22.915000(kcal/mol): PK_start=1529 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1566
 (fs_start=1514)

TCCAACA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA AGGGA

TTCCTCA

GAATT

=====
 (3524) JX447054
 =====

PK1: -15.100000(kcal/mol): PK_start=1270 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1298
 (fs_start=1290)

CA

GAAAGGAAGGACATCAAATGAAAGACTG

GAC AGAGAGTC

TTTTTTAGGG

GCTAA

PK2: -20.460000(kcal/mol): PK_start=1275 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1311
 (fs_start=1290)

C

GAAGGACATCAAATGAAAGACTGCACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAAATC

PK3: -23.815000(kcal/mol): PK_start=1299 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1332
 (fs_start=1290)

AAA

ACTGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTCT

AGGCCAGGGA

AACAAGGGA

PK4: -26.445000(kcal/mol): PK_start=1305 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1342
 (fs_start=1290)

TCCAACA

AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT

GGACCGGA AGGGA

TTCCTCA

GAATT

=====
 (3525) JX447055
 =====

PK1: -15.100000(kcal/mol): PK_start=1270 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1298
 (fs_start=1290)

CA

GAAAGGAAGGACATCAAATGAAAGACTG

GAC AGAGAGTC
TTTTTTAGGG
GCTAA
PK2: -21.940000(kcal/mol): PK_start=1275 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1312
(fs_start=1290)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1299 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1332
(fs_start=1290)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
ACAAGGGA

PK4: -22.915000(kcal/mol): PK_start=1305 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1342
(fs_start=1290)

TCCAACA
AGACAGGCTAATTTTTTAGGAAAATTTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(3526) JX447056
=====

PK1: -15.100000(kcal/mol): PK_start=1270 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1298
(fs_start=1290)

CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1275 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1312
(fs_start=1290)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1299 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1332
(fs_start=1290)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT
AGGCCAGGGA
AACAAAGGGA
PK4: -22.915000(kcal/mol): PK_start=1305 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1342
(fs_start=1290)

TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(3527) JX447057
=====

PK1: -15.100000(kcal/mol): PK_start=1270 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1298
(fs_start=1290)

CA
GAAAGGAAGGACATCAAATGAAGGACTG
GAC AGAGAGTC
TTTTTTTAGGG
GCTAA

PK2: -20.460000(kcal/mol): PK_start=1275 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1311
(fs_start=1290)

C
GAAGGACATCAAATGAAGGACTGCACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -23.815000(kcal/mol): PK_start=1299 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1332
(fs_start=1290)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTCT
AGGCCAGGGA
AACAAAGGGA

PK4: -26.445000(kcal/mol): PK_start=1305 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1342
(fs_start=1290)

TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(3528) JX447058
=====

PK1: -15.10000(kcal/mol): PK_start=1270 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1298
(fs_start=1290)

CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.94000(kcal/mol): PK_start=1275 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1312
(fs_start=1290)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.28500(kcal/mol): PK_start=1299 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1332
(fs_start=1290)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AACAAGGGA

PK4: -22.91500(kcal/mol): PK_start=1305 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1342
(fs_start=1290)

TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(3529) JX447059
=====

PK1: -15.10000(kcal/mol): PK_start=1270 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1298
(fs_start=1290)

CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.94000(kcal/mol): PK_start=1275 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1312
(fs_start=1290)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1299 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1332 (fs_start=1290)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AACAAGGGA

PK4: -22.915000(kcal/mol): PK_start=1305 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1342 (fs_start=1290)

TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(3530) JX447060
=====

PK1: -15.100000(kcal/mol): PK_start=1270 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1298 (fs_start=1290)

CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1275 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1312 (fs_start=1290)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1299 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1332 (fs_start=1290)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AACAAGGGA

PK4: -22.915000(kcal/mol): PK_start=1305 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1342 (fs_start=1290)

TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(3531) JX447061
=====

PK1: -15.100000(kcal/mol): PK_start=1270 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1298
(fs_start=1290)

CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1275 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1312
(fs_start=1290)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAAT

PK3: -20.285000(kcal/mol): PK_start=1299 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1332
(fs_start=1290)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AACAAGGGA

PK4: -22.915000(kcal/mol): PK_start=1305 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1342
(fs_start=1290)

TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(3532) JX447062
=====

PK1: -15.100000(kcal/mol): PK_start=1270 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1298
(fs_start=1290)

CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1275 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1312
(fs_start=1290)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAAT

PK3: -20.285000(kcal/mol): PK_start=1299 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1332
(fs_start=1290)

AAA

ACTGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT

AGGCCAGGGA

AACAAAGGGA

PK4: -22.915000(kcal/mol): PK_start=1305 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1342
(fs_start=1290)

TCCAACA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA AGGGA

TTCCTCA

GAATT

=====
(3533) JX447063
=====

PK1: -10.925000(kcal/mol): PK_start=1244 sp=0 s1=3 s2=7 l1=4 l2=18 L3=0 PK_end=1285
(fs_start=1278)

CAAA

TTGTTGGAAATGTGGGAAGGAAGGACAT

GTA AGAAAGT

TTTTTTTAGG

CACAGAGAAACAGGCTAA

PK2: -18.700000(kcal/mol): PK_start=1265 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1300
(fs_start=1278)

C

AGGACATCAAATGAAAGAATGCACAGAGAAA

TTTTTT AATCGGA

TTGGCCTTC

AGGGAGAAT

PK3: -18.840000(kcal/mol): PK_start=1286 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1320
(fs_start=1278)

AA

CACAGAGAAACAGGCTAATTTTTTAGGGAG

CCTTC CGGTTT

GCCAGGGA

AACAAAGGGAAG

PK4: -22.915000(kcal/mol): PK_start=1293 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1330
(fs_start=1278)

TCCAACA

AAACAGGCTAATTTTTTAGGGAGAATTTGGCCT

GGACCGGA AGGGA


```

                                TTCCTCA
                                GAATT

=====
(3534) JX447064
=====
PK1:  -10.925000(kcal/mol): PK_start=1244 sp=0 s1=3 s2=7 l1=4 l2=18 L3=0 PK_end=1285
(fs_start=1278)
                                CAAA
TTGTTGAAATGTGGGAAGGAAGGACAT

                                GTA   AGAAAGT
                                TTTTTTAGG
                                CACAGAGAAACAGGCTAA

PK2:  -18.700000(kcal/mol): PK_start=1265 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1300
(fs_start=1278)
                                C
AGGACATCAAATGAAAGAATGCACAGAGAAA

                                TTTTTT   AATCGGA
                                TTGGCCTTC
                                AGGGAGAAT

PK3:  -18.840000(kcal/mol): PK_start=1286 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1320
(fs_start=1278)
                                AA
CACAGAGAAACAGGCTAATTTTTTAGGGAG

                                CCTTC   CGGTTT
                                GCCAGGGA
                                AACAAGGAAG

PK4:  -22.915000(kcal/mol): PK_start=1293 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1330
(fs_start=1278)
                                TCCAACA
AAACAGGCTAATTTTTTAGGGAGAATTTGGCCT

                                GGACCGGA   AGGGA
                                TTCCTCA
                                GAATT

=====
(3535) JX447065
=====
PK1:  -10.925000(kcal/mol): PK_start=1244 sp=0 s1=3 s2=7 l1=4 l2=18 L3=0 PK_end=1285
(fs_start=1278)
                                CAAA
TTGTTGAAATGTGGGAAGGAAGGACAT

                                GTA   AGAAAGT
                                TTTTTTAGG
                                CACAGAGAAACAGGCTAA

PK2:  -18.700000(kcal/mol): PK_start=1265 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1300
(fs_start=1278)
                                C
AGGACATCAAATGAAAGAATGCACAGAGAAA

```

```

          TTTTTT   AATCGGA
                    TTGGCCTTC
AGGAAGAAT

PK3:  -19.320000(kcal/mol): PK_start=1286 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1320
(fs_start=1278)
                    AA
CACAGAGAAACAGGCTAATTTTTTTAGGAAG

          CCTTC   CGGTTT
                    GCCAGGGA
          AACAAGGGAAG

PK4:  -22.915000(kcal/mol): PK_start=1293 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1330
(fs_start=1278)
                    TCCAACA
AAACAGGCTAATTTTTTTAGGAAGAATTTGGCCT

          GGACCGGA   AGGGA
                    TTCCTCA
          GAATT

=====
(3536) JX447066
=====
PK1:  -10.925000(kcal/mol): PK_start=1244 sp=0 s1=3 s2=7 l1=4 l2=18 L3=0 PK_end=1285
(fs_start=1278)
                    CAAA
TTGTTGAAATGTGGGAAGGAAGGACAT

          GTA   AGAAAGT
                    TTTTTTTAGG
          CACAGAGAAACAGGCTAA

PK2:  -18.700000(kcal/mol): PK_start=1265 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1300
(fs_start=1278)
                    C
AGGACATCAAATGAAAGAATGCACAGAGAAA

          TTTTTT   AATCGGA
                    TTGGCCTTC
          AGGAAGAAT

PK3:  -19.320000(kcal/mol): PK_start=1286 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1320
(fs_start=1278)
                    AA
CACAGAGAAACAGGCTAATTTTTTTAGGAAG

          CCTTC   CGGTTT
                    GCCAGGGA
          AACAAGGGAAG

PK4:  -22.915000(kcal/mol): PK_start=1293 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1330
(fs_start=1278)
                    TCCAACA
AAACAGGCTAATTTTTTTAGGAAGAATTTGGCCT

```

```

                GGACCGGA    AGGGA
                    TTCCTCA
        GAATT

=====
(3537) JX447067
=====
PK1:  -10.925000(kcal/mol): PK_start=1245 sp=0 s1=3 s2=7 l1=4 l2=18 L3=0 PK_end=1286
(fs_start=1279)
                CAAA
TTGTTGGAAATGTGGGAAGGAAGGACAT

                GTA    AGAAAGT
                    TTTTTTAGG
        CACAGAGAAACAGGCTAA

PK2:  -18.700000(kcal/mol): PK_start=1266 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1301
(fs_start=1279)
                C
AGGACATCAAATGAAAGAATGCACAGAGAAA

                TTTTTT    AATCGGA
                    TTGGCCTTC
        AGGAAGAAT

PK3:  -19.320000(kcal/mol): PK_start=1287 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1321
(fs_start=1279)
                AA
CACAGAGAAACAGGCTAATTTTTTAGGAAG

                CCTTC    CGGTTT
                    GCCAGGGA
        AACAAGGGAAG

PK4:  -22.915000(kcal/mol): PK_start=1294 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1331
(fs_start=1279)
                TCCAACA
AAACAGGCTAATTTTTTAGGAAGAATTTGGCCT

                GGACCGGA    AGGGA
                    TTCCTCA
        GAATT

=====
(3538) JX447072
=====
PK1:  -10.440000(kcal/mol): PK_start=1268 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1306
(fs_start=1299)
                A
TTGGAAGTGTGGGAAGGAAGGACATCAA

                GTT    AGAAAGT
                    TTTTTTAGG
        CACTGAGAGACAGGCTAA

```

PK2: -21.940000(kcal/mol): PK_start=1284 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1321
(fs_start=1299)

C
GAAGGACATCAAATGAAAGATTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTCC
GGAAAAT

PK3: -20.520000(kcal/mol): PK_start=1307 sp=0 s1=4 s2=7 l1=3 l2=10 L3=0 PK_end=1341
(fs_start=1299)

AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT CCGGTTT
GGCCGGGAA
AACAAGGGAA

PK4: -21.195000(kcal/mol): PK_start=1314 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1351
(fs_start=1299)

CCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA AGGGA
TTCCTCA
AAACT

=====
(3539) JX447073
=====

PK1: -10.440000(kcal/mol): PK_start=1268 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1306
(fs_start=1299)

A
TTGGAAGTGTGGGAAGGAAGGACATCAA
GTT AGAAAGT
TTTTTTAGG
CACTGAGAGACAGGCTAA

PK2: -21.940000(kcal/mol): PK_start=1284 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1321
(fs_start=1299)

C
GAAGGACATCAAATGAAAGATTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTCC
GGAAAAT

PK3: -20.520000(kcal/mol): PK_start=1307 sp=0 s1=4 s2=7 l1=3 l2=10 L3=0 PK_end=1341
(fs_start=1299)

AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT CCGGTTT
GGCCGGGAA
AACAAGGGAA

PK4: -21.195000(kcal/mol): PK_start=1314 sp=7 s1=8 s2=5 l1=7 l2=5 l3=0 PK_end=1351
(fs_start=1299)

```
                CCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGGCCGGA   AGGGA
                TTCCTCA
                AAACT
```

=====
(3540) JX447074
=====

PK1: -10.440000(kcal/mol): PK_start=1268 sp=0 s1=3 s2=7 l1=1 l2=18 l3=0 PK_end=1306
(fs_start=1299)

```
                A
TTGGAAGTGTGGGAAGGAAGGACATCAA
                GTT   AGAAAGT
                TTTTTTAGG
                CACTGAGAGACAGGCTAA
```

PK2: -21.940000(kcal/mol): PK_start=1284 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1321
(fs_start=1299)

```
                C
GAAGGACATCAAATGAAAGATTGCACTGAGAGA
                GATTTTTT   AATCGGA
                TTGGCCTCC
                GGAAAAT
```

PK3: -20.520000(kcal/mol): PK_start=1307 sp=0 s1=4 s2=7 l1=3 l2=10 l3=0 PK_end=1341
(fs_start=1299)

```
                AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA
                CCCT   CCGGTTT
                GGCCGGGAA
                AACAAGGGAA
```

PK4: -21.195000(kcal/mol): PK_start=1314 sp=7 s1=8 s2=5 l1=7 l2=5 l3=0 PK_end=1351
(fs_start=1299)

```
                CCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGGCCGGA   AGGGA
                TTCCTCA
                AAACT
```

=====
(3541) JX447075
=====

PK1: -10.440000(kcal/mol): PK_start=1268 sp=0 s1=3 s2=7 l1=1 l2=18 l3=0 PK_end=1306
(fs_start=1299)

```
                A
TTGGAAGTGTGGGAAGGAAGGACATCAA
                GTT   AGAAAGT
```

```

                TTTTTTAGG
          CACTGAGAGACAGGCTAA

PK2:  -21.940000(kcal/mol): PK_start=1284 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1321
(fs_start=1299)
                C
GAAGGACATCAAATGAAAGATTGCACTGAGAGA
                GATTTTTT    AATCGGA
                                TTGGCCTCC
          GGAAAAT

PK3:  -20.520000(kcal/mol): PK_start=1307 sp=0 s1=4 s2=7 l1=3 l2=10 L3=0 PK_end=1341
(fs_start=1299)
                AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA
                CCCT    CCGGTTT
                                GGCCGGGAA
          AACAAGGGAA

PK4:  -21.195000(kcal/mol): PK_start=1314 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1351
(fs_start=1299)
                CCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGGCCGGA    AGGGA
                                TTCCTCA
          AAACT

=====
(3542) JX447076
=====
PK1:  -10.440000(kcal/mol): PK_start=1268 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1306
(fs_start=1299)
                A
TTGGAAGTGTGGGAAGGAAGGACATCAA
                GTT    AGAAAGT
                                TTTTTTAGG
          CACTGAGAGACAGGCTAA

PK2:  -21.940000(kcal/mol): PK_start=1284 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1321
(fs_start=1299)
                C
GAAGGACATCAAATGAAAGATTGCACTGAGAGA
                GATTTTTT    AATCGGA
                                TTGGCCTCC
          GGAAAAT

PK3:  -20.520000(kcal/mol): PK_start=1307 sp=0 s1=4 s2=7 l1=3 l2=10 L3=0 PK_end=1341
(fs_start=1299)
                AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA
                CCCT    CCGGTTT

```

GGCCGGGAA

AACAAAGGGAA

PK4: -21.195000(kcal/mol): PK_start=1314 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1351
(fs_start=1299)

CCCAACA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGGCCGGA AGGGA

TTCCTCA

AAACT

=====
(3543) JX447077
=====

PK1: -15.100000(kcal/mol): PK_start=1463 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1491
(fs_start=1483)

CA

GGAAGGATGGACATCAAATGAAAGACTG

GAC AGAGAGTC

TTTTTTAGGG

GCTAA

PK2: -20.460000(kcal/mol): PK_start=1468 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1504
(fs_start=1483)

C

GATGGACATCAAATGAAAGACTGCACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAGGCTG

PK3: -21.005000(kcal/mol): PK_start=1492 sp=0 s1=3 s2=6 l1=5 l2=9 L3=0 PK_end=1523
(fs_start=1483)

GGCTG

ACTGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGT

AGGCCAGG

AACAAAGGGA

PK4: -23.035000(kcal/mol): PK_start=1500 sp=9 s1=6 s2=5 l1=7 l2=7 L3=0 PK_end=1535
(fs_start=1483)

TCCAACA

ACAGGCTAATTTTTTAGGGAGGCTGTGGCCT

ACCGGA AGGGA

TTCCTCA

GGAAATT

=====
(3544) JX447078
=====

PK1: -15.100000(kcal/mol): PK_start=1497 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1525
(fs_start=1517)

CA

GGAAGGATGGACATCAAATGAAAGACTG

```

                GAC    AGAGAGTC
                TTTTTTAGGG
    GCTAA
PK2:  -20.460000(kcal/mol): PK_start=1502 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1538
(fs_start=1517)
                C
    GATGGACATCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT  A  ATCGGA
                TGGCCTTC
    GGAGGCTG
PK3:  -21.005000(kcal/mol): PK_start=1526 sp=0 s1=3 s2=6 l1=5 l2=9 L3=0 PK_end=1557
(fs_start=1517)
                GGCTG
    ACTGAGAGACAGGCTAATTTTTTAGGGA
                CCT    TCCGGT
                AGGCCAGG
    AACAAGGGA
PK4:  -23.035000(kcal/mol): PK_start=1534 sp=9 s1=6 s2=5 l1=7 l2=7 L3=0 PK_end=1569
(fs_start=1517)
                TCCAACA
    ACAGGCTAATTTTTTAGGGAGGCTGTGGCCT
                ACCGGA    AGGGA
                TTCCTCA
    GGAAATT
=====
(3545) JX447079
=====
PK1:  -18.360000(kcal/mol): PK_start=1497 sp=0 s1=3 s2=9 l1=1 l2=5 L3=0 PK_end=1526
(fs_start=1517)
                C
    GGAAGGATGGACATCAAATGAAAGACTG
                GAC    AGAGAGTCC
                TTTTTTAGGGA
    GCTAA
PK2:  -26.680000(kcal/mol): PK_start=1500 sp=0 s1=10 s2=6 l1=1 l2=6 L3=1 PK_end=1538
(fs_start=1517)
                C
    AGGATGGACATCAAATGAAAGACTGCCCTGAGAGA
                GGGATTTTTT  A  ATCGGA
                TGGCCTTC
    AGGCTG
PK3:  -21.005000(kcal/mol): PK_start=1526 sp=0 s1=3 s2=6 l1=5 l2=9 L3=0 PK_end=1557
(fs_start=1517)
                GGCTG
    CCTGAGAGACAGGCTAATTTTTTAGGGA

```



```

          CCT   TCCGGT
                AGGCCAGG
        AACAAAGGGA
PK4:  -23.035000(kcal/mol): PK_start=1534 sp=9 s1=6 s2=5 l1=7 l2=7 L3=0 PK_end=1569
(fs_start=1517)
                TCCAACA
ACAGGCTAATTTTTTAGGGAGGCTGTGGCCT
                ACCGGA   AGGGA
                TTCCTCA
        GGAAATT

```

```

=====
(3546) JX447080
=====

```

```

PK1:  -15.100000(kcal/mol): PK_start=1497 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1525
(fs_start=1517)
                CA
GGAAGGATGGACATCAAATGAAAGACTG
                GAC   AGAGAGTC
                TTTTTTAGGG
        GCTAA

```

```

PK2:  -20.460000(kcal/mol): PK_start=1502 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1538
(fs_start=1517)
                C
GATGGACATCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT A  ATCGGA
                TGGCCTTC
        GGAGGCTG

```

```

PK3:  -21.005000(kcal/mol): PK_start=1526 sp=0 s1=3 s2=6 l1=5 l2=9 L3=0 PK_end=1557
(fs_start=1517)
                GGCTG
ACTGAGAGACAGGCTAATTTTTTAGGGA
                CCT   TCCGGT
                AGGCCAGG
        AACAAAGGGA

```

```

PK4:  -23.035000(kcal/mol): PK_start=1534 sp=9 s1=6 s2=5 l1=7 l2=7 L3=0 PK_end=1569
(fs_start=1517)
                TCCAACA
ACAGGCTAATTTTTTAGGGAGGCTGTGGCCT
                ACCGGA   AGGGA
                TTCCTCA
        GGAAATT

```

```

=====
(3547) JX447081
=====

```

PK1: -15.100000(kcal/mol): PK_start=1497 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1525 (fs_start=1517)

CA
GGAAGGATGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTTAGGG
GCTAA

PK2: -20.460000(kcal/mol): PK_start=1502 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1538 (fs_start=1517)

C
GATGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAGGCTG

PK3: -21.005000(kcal/mol): PK_start=1526 sp=0 s1=3 s2=6 l1=5 l2=9 L3=0 PK_end=1557 (fs_start=1517)

GGCTG
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGT
AGGCCAGG
AACAAGGGA

PK4: -23.035000(kcal/mol): PK_start=1534 sp=9 s1=6 s2=5 l1=7 l2=7 L3=0 PK_end=1569 (fs_start=1517)

TCCAACA
ACAGGCTAATTTTTTAGGGAGGCTGTGGCCT
ACCGGA AGGGA
TTCCTCA
GGAAACT

=====
(3548) JX447082
=====

PK1: -15.100000(kcal/mol): PK_start=1439 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1467 (fs_start=1459)

CA
GGAAGGATGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTTAGGG
GCTAA

PK2: -20.460000(kcal/mol): PK_start=1444 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1480 (fs_start=1459)

C
GATGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAGGCTG

PK3: -21.005000(kcal/mol): PK_start=1468 sp=0 s1=3 s2=6 l1=5 l2=9 L3=0 PK_end=1499
(fs_start=1459)

GGCTG
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGT
AGGCCAGG
AACAAAGGGA

PK4: -23.035000(kcal/mol): PK_start=1476 sp=9 s1=6 s2=5 l1=7 l2=7 L3=0 PK_end=1511
(fs_start=1459)

TCCAACA
ACAGGCTAATTTTTTAGGGAGGCTGTGGCCT
ACCGGA AGGGA
TTCCTCA
GGAAATT

=====
(3549) JX447083
=====

PK1: -15.100000(kcal/mol): PK_start=1469 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1497
(fs_start=1489)

CA
GGAAGGATGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -20.460000(kcal/mol): PK_start=1474 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1510
(fs_start=1489)

C
GATGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAGGCTG

PK3: -21.005000(kcal/mol): PK_start=1498 sp=0 s1=3 s2=6 l1=5 l2=9 L3=0 PK_end=1529
(fs_start=1489)

GGCTG
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGT
AGGCCAGG
AACAAAGGGA

PK4: -23.035000(kcal/mol): PK_start=1506 sp=9 s1=6 s2=5 l1=7 l2=7 L3=0 PK_end=1541
(fs_start=1489)

TCCAACA
ACAGGCTAATTTTTTAGGGAGGCTGTGGCCT
ACCGGA AGGGA
TTCCTCA
GGAAATT

=====
(3550) JX447084
=====

PK1: -15.100000(kcal/mol): PK_start=1497 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1525
(fs_start=1517)

CA
GGAAGGATGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -20.460000(kcal/mol): PK_start=1502 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1538
(fs_start=1517)

C
GATGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAGGCTG

PK3: -21.005000(kcal/mol): PK_start=1526 sp=0 s1=3 s2=6 l1=5 l2=9 L3=0 PK_end=1557
(fs_start=1517)

GGCTG
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGT
AGGCCAGG
AACAAGGGA

PK4: -23.035000(kcal/mol): PK_start=1534 sp=9 s1=6 s2=5 l1=7 l2=7 L3=0 PK_end=1569
(fs_start=1517)

TCCAACA
ACAGGCTAATTTTTTAGGGAGGCTGTGGCCT
ACCGGA AGGGA
TTCCTCA
GGAAATT

=====
(3551) JX447085
=====

PK1: -15.100000(kcal/mol): PK_start=1392 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1420
(fs_start=1412)

CA
GGAAGGATGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -20.460000(kcal/mol): PK_start=1397 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1433
(fs_start=1412)

C
GATGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT A ATCGGA

```

                                TGGCCTTC
          GGAGGCTG
PK3:  -21.005000(kcal/mol): PK_start=1421 sp=0 s1=3 s2=6 l1=5 l2=9 L3=0 PK_end=1452
(fs_start=1412)
                                GGCTG
ACTGAGAGACAGGCTAATTTTTTAGGGA
          CCT      TCCGGT
                                AGGCCAGG
          AACAAGGGA
PK4:  -23.035000(kcal/mol): PK_start=1429 sp=9 s1=6 s2=5 l1=7 l2=7 L3=0 PK_end=1464
(fs_start=1412)
                                TCCAACA
ACAGGCTAATTTTTTAGGGAGGCTGTGGCCT
          ACCGGA      AGGGA
                                TTCCTCA
          GGAAATT

=====
(352) JX447086
=====
PK1:  -15.100000(kcal/mol): PK_start=1399 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1427
(fs_start=1419)
          CA
GGAAGGATGGACATCAAATGAAAGACTG
          GAC      AGAGAGTC
                                TTTTTTAGGG
          GCTAA
PK2:  -20.460000(kcal/mol): PK_start=1404 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1440
(fs_start=1419)
          C
GATGGACATCAAATGAAAGACTGCACTGAGAGA
          GATTTTTT A  ATCGGA
                                TGGCCTTC
          GGAGGCTG
PK3:  -21.005000(kcal/mol): PK_start=1428 sp=0 s1=3 s2=6 l1=5 l2=9 L3=0 PK_end=1459
(fs_start=1419)
                                GGCTG
ACTGAGAGACAGGCTAATTTTTTAGGGA
          CCT      TCCGGT
                                AGGCCAGG
          AACAAGGGA
PK4:  -23.035000(kcal/mol): PK_start=1436 sp=9 s1=6 s2=5 l1=7 l2=7 L3=0 PK_end=1471
(fs_start=1419)
                                TCCAACA
ACAGGCTAATTTTTTAGGGAGGCTGTGGCCT
          ACCGGA      AGGGA

```

```

                                TTCCTCA
                    GGAAATT

=====
(3553) JX447087
=====
PK1:  -15.585000(kcal/mol): PK_start=1495 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1523
(fs_start=1515)
                                A
GGAAGGAAGGACATCAAATGAAAGACTGT

                                GACA    GAGAGTC
                                TTTTtaggg
                    GCTAAT

PK2:  -21.940000(kcal/mol): PK_start=1500 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1537
(fs_start=1515)
                                C
GAAGGACATCAAATGAAAGACTGTACTGAGAGA

                                GATTTTTT    AATCGGA
                                TTGGCCTTC
                    GGAAAAT

PK3:  -18.565000(kcal/mol): PK_start=1524 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1557
(fs_start=1515)
                                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA

                                CCT    TCCGGTTT
                                AGGCCGGGAA
                    AACAAGGGA

PK4:  -21.195000(kcal/mol): PK_start=1530 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1567
(fs_start=1515)
                                TCCAACA
AGACAGGCTAATTTTTTAGGAAAATTTGGCCT

                                GGGCCGGA    AGGGA
                                TTCCTCA
                    AAATT

=====
(3554) JX447089
=====
PK1:  -15.585000(kcal/mol): PK_start=1495 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1523
(fs_start=1515)
                                A
GGAAGGAAGGACATCAAATGAAAGACTGT

                                GACA    GAGAGTC
                                TTTTtaggg
                    GCTAAT

PK2:  -21.940000(kcal/mol): PK_start=1500 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1537
(fs_start=1515)
                                C
GAAGGACATCAAATGAAAGACTGTACTGAGAGA

```

GATTTTTT AATCGGA
 TTGGCCTTC
 GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1524 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1557
 (fs_start=1515)

AAA
 ACTGAGAGACAGGCTAATTTTTTTAGGGA

CCT TCCGGTTT
 AGGCCGGGAA
 AACAAAGGGA

PK4: -21.195000(kcal/mol): PK_start=1530 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1567
 (fs_start=1515)

TCCAACA
 AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT

GGGCCGGA AGGGA
 TTCCTCA
 AAATT

=====
 (3555) JX447090
 =====

PK1: -15.585000(kcal/mol): PK_start=1495 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1523
 (fs_start=1515)

A
 GGAAGGAAGGACATCAAATGAAAGACTGT

GACA GAGAGTC
 TTTTTAGGG
 GCTAAT

PK2: -21.940000(kcal/mol): PK_start=1500 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1537
 (fs_start=1515)

C
 GAAGGACATCAAATGAAAGACTGTACTGAGAGA

GATTTTTT AATCGGA
 TTGGCCTTC
 GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1524 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1557
 (fs_start=1515)

AAA
 ACTGAGAGACAGGCTAATTTTTTTAGGGA

CCT TCCGGTTT
 AGGCCGGGAA
 AACAAAGGGA

PK4: -21.195000(kcal/mol): PK_start=1530 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1567
 (fs_start=1515)

TCCAACA
 AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT

```

GGGCCGGA    AGGGA
              TTCCTCA
AAATT

=====
(3556) JX447091
=====
PK1:  -15.585000(kcal/mol): PK_start=1493 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1521
(fs_start=1513)
              A
GGAAGGAAGGACATCAAATGAAAGACTGT
              GACA    GAGAGTC
              TTTTATAGGG
GCTAAT

PK2:  -21.940000(kcal/mol): PK_start=1498 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1535
(fs_start=1513)
              C
GAAGGACATCAAATGAAAGACTGTACTGAGAGA
              GATTTTTT    AATCGGA
              TTGGCCTTC
GGAAAAT

PK3:  -18.565000(kcal/mol): PK_start=1522 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1555
(fs_start=1513)
              AAA
ACTGAGAGACAGGCTAATTTTTATAGGGA
              CCT    TCCGGTTT
              AGGCCGGGAA
AACAAGGGA

PK4:  -21.195000(kcal/mol): PK_start=1528 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1565
(fs_start=1513)
              TCCAACA
AGACAGGCTAATTTTTATAGGAAAATTTGGCCT
              GGGCCGGA    AGGGA
              TTCCTCA
AAATT

=====
(3557) JX447093
=====
PK1:  -15.585000(kcal/mol): PK_start=1495 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1523
(fs_start=1515)
              A
GGAAGGAAGGACATCAAATGAAAGACTGT
              GACA    GAGAGTC
              TTTTATAGGG
GCTAAT

```


PK2: -21.940000(kcal/mol): PK_start=1500 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1537
(fs_start=1515)

C
GAAGGACATCAAATGAAAGACTGTACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1524 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1557
(fs_start=1515)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGAA
AACAAGGGA

PK4: -21.195000(kcal/mol): PK_start=1530 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1567
(fs_start=1515)

TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA AGGGA
TTCCTCA
AAATT

=====
(3558) JX447122
=====

PK1: -15.100000(kcal/mol): PK_start=1493 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1521
(fs_start=1513)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1498 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1535
(fs_start=1513)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1522 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1555
(fs_start=1513)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGGA
AACAAGGGA

PK4: -21.195000(kcal/mol): PK_start=1528 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1565
(fs_start=1513)

```

                                TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                                GGGCCGGA   AGGGA
                                TTCCTCA
                                GAATT
```

=====
(3559) JX447123
=====

PK1: -15.100000(kcal/mol): PK_start=1493 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1521
(fs_start=1513)

```

                                CA
GGAAGGAAGGACATCAAATGAAAGACTG
                                GAC   AGAGAGTC
                                TTTTTTAGGG
                                GCTAA
```

PK2: -21.940000(kcal/mol): PK_start=1498 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1535
(fs_start=1513)

```

                                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                                GATTTTTT   AATCGGA
                                TTGGCCTTC
                                GGAAAAT
```

PK3: -18.565000(kcal/mol): PK_start=1522 sp=0 s1=3 s2=8 l1=3 l2=6 L3=0 PK_end=1552
(fs_start=1513)

```

                                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCT   TCCGGTTT
                                AGGCCGGGGA
                                AAGGGA
```

PK4: -21.195000(kcal/mol): PK_start=1528 sp=7 s1=8 s2=5 l1=4 l2=5 L3=0 PK_end=1562
(fs_start=1513)

```

                                TCCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                                GGGCCGGA   AGGGA
                                TTCCTCA
                                GAATT
```

=====
(3560) JX447124
=====

PK1: -15.100000(kcal/mol): PK_start=1493 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1521
(fs_start=1513)

```

                                CA
GGAAGGAAGGACATCAAATGAAAGACTG
                                GAC   AGAGAGTC
```

```

                TTTTTTAGGG
            GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1498 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1535
(fs_start=1513)
                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT    AATCGGA
                TTGGCCTTC
            GGAAAAT

PK3:  -18.565000(kcal/mol): PK_start=1522 sp=0 s1=3 s2=8 l1=3 l2=6 L3=0 PK_end=1552
(fs_start=1513)
                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                CCT    TCCGGTTT
                AGGCCGGGA
            AAGGGA

PK4:  -21.195000(kcal/mol): PK_start=1528 sp=7 s1=8 s2=5 l1=4 l2=5 L3=0 PK_end=1562
(fs_start=1513)
                TCCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGGCCGGA    AGGGA
                TTCCTCA
            GAATT

=====
(3561) JX447125
=====
PK1:  -15.100000(kcal/mol): PK_start=1493 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1521
(fs_start=1513)
                CA
GGAAGGAAGGACATCAAATGAAAGACTG
                GAC    AGAGAGTC
                TTTTTTAGGG
            GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1498 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1535
(fs_start=1513)
                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT    AATCGGA
                TTGGCCTTC
            GGAAAAT

PK3:  -18.565000(kcal/mol): PK_start=1522 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1555
(fs_start=1513)
                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                CCT    TCCGGTTT

```

AGGCCGGGGA

AACAAGGGA

PK4: -21.195000(kcal/mol): PK_start=1528 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1565
(fs_start=1513)

TCCAACA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGGCCGGA AGGGA

TTCCTCA

GAATT

=====
(3562) JX447126
=====

PK1: -15.100000(kcal/mol): PK_start=1493 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1521
(fs_start=1513)

CA

GGAAGGAAGGACATCAAATGAAAGACTG

GAC AGAGAGTC

TTTTTTAGGG

GCTAA

PK2: -21.940000(kcal/mol): PK_start=1498 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1535
(fs_start=1513)

C

GAAGGACATCAAATGAAAGACTGCACTGAGAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1522 sp=0 s1=3 s2=8 l1=3 l2=6 L3=0 PK_end=1552
(fs_start=1513)

AAA

ACTGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT

AGGCCGGGGA

AAGGGA

PK4: -21.195000(kcal/mol): PK_start=1528 sp=7 s1=8 s2=5 l1=4 l2=5 L3=0 PK_end=1562
(fs_start=1513)

TCCA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGGCCGGA AGGGA

TTCCTCA

GAATT

=====
(3563) JX447127
=====

PK1: -15.100000(kcal/mol): PK_start=1512 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1540
(fs_start=1532)

CA

GGAAGGAAGGACATCAAATGAAAGACTG

GAC AGAGAGTC
TTTTTTTAGGG
GCTAA
PK2: -21.940000(kcal/mol): PK_start=1517 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1554
(fs_start=1532)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1541 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1574
(fs_start=1532)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGGA
ACAAGGGA

PK4: -21.195000(kcal/mol): PK_start=1547 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1584
(fs_start=1532)

TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGCCGGA AGGGA
TTCCTCA
GAATT

=====
(3564) JX447128
=====

PK1: -15.100000(kcal/mol): PK_start=1493 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1521
(fs_start=1513)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1498 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1535
(fs_start=1513)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1522 sp=0 s1=3 s2=8 l1=3 l2=6 L3=0 PK_end=1552
(fs_start=1513)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA

```

          CCT   TCCGGTTT
                AGGCCGGGGA
AAGGGA
PK4:  -21.195000(kcal/mol): PK_start=1528 sp=7 s1=8 s2=5 l1=4 l2=5 L3=0 PK_end=1562
(fs_start=1513)
                TCCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGGCCGGA   AGGGA
                TTCCTCA
          GAATT

```

```

=====
(3565) JX447129
=====

```

```

PK1:  -15.100000(kcal/mol): PK_start=1493 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1521
(fs_start=1513)
                CA
GGAAGGAAGGACATCAAATGAAAGACTG
                GAC   AGAGAGTC
                TTTTTTAGGG
          GCTAA

```

```

PK2:  -21.940000(kcal/mol): PK_start=1498 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1535
(fs_start=1513)
                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT   AATCGGA
                TTGGCCTTC
          GGAAAAT

```

```

PK3:  -18.565000(kcal/mol): PK_start=1522 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1555
(fs_start=1513)
                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                CCT   TCCGGTTT
                AGGCCGGGGA
          AACAAGGGA

```

```

PK4:  -21.195000(kcal/mol): PK_start=1528 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1565
(fs_start=1513)
                TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGGCCGGA   AGGGA
                TTCCTCA
          GAATT

```

```

=====
(3566) JX447130
=====

```

PK1: -15.10000(kcal/mol): PK_start=1493 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1521
(fs_start=1513)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.94000(kcal/mol): PK_start=1498 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1535
(fs_start=1513)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -18.56500(kcal/mol): PK_start=1522 sp=0 s1=3 s2=8 l1=3 l2=6 L3=0 PK_end=1552
(fs_start=1513)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGA
AAGGGA

PK4: -21.19500(kcal/mol): PK_start=1528 sp=7 s1=8 s2=5 l1=4 l2=5 L3=0 PK_end=1562
(fs_start=1513)

TCCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA AGGGA
TTCCTCA
GAATT

=====
(3567) JX447131
=====

PK1: -15.10000(kcal/mol): PK_start=1494 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1522
(fs_start=1514)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.94000(kcal/mol): PK_start=1499 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1536
(fs_start=1514)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -24.320000(kcal/mol): PK_start=1520 sp=0 s1=5 s2=10 l1=4 l2=3 L3=0 PK_end=1556 (fs_start=1514)

AAAA
TGCACTGAGAGACAGGCTAATTTTTTAGGG
GTTCC CTTCCGGTTT
GAAGCCGGGGA
TTG

PK4B: -25.230000(kcal/mol): PK_start=1529 sp=7 s1=10 s2=6 l1=2 l2=38 L3=0 PK_end=1600 (fs_start=1514)

CC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGGCCGAAG GTTGTT
CAGCAGAA
GAATTTTCCTCAGAGCAGACCAGAGCCAACAGCCCCAC

PK4: -26.745000(kcal/mol): PK_start=1531 sp=9 s1=9 s2=5 l1=1 l2=15 L3=0 PK_end=1574 (fs_start=1514)

C
ACAGGCTAATTTTTTAGGGAAAATTTGGCCTTCC
GCCGGAAGG TTGTT
AGCAGAC
GGGAATTTTCCTCAG

=====
(3568) JX447132
=====

PK1: -15.100000(kcal/mol): PK_start=1433 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1461 (fs_start=1453)

CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1438 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1475 (fs_start=1453)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAGAAT

PK3: -18.840000(kcal/mol): PK_start=1461 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1495 (fs_start=1453)

AA
CACTGAGAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTTT
GCCAGGGA
AACAAGGGAAG

PK4: -22.915000(kcal/mol): PK_start=1468 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1505
(fs_start=1453)

TCCAACA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(3569) JX447133
=====

PK1: -15.100000(kcal/mol): PK_start=1450 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1478
(fs_start=1470)

CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1455 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1492
(fs_start=1470)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAGAAT

PK3: -18.840000(kcal/mol): PK_start=1478 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1512
(fs_start=1470)

AA
CACTGAGAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTTT
GCCAGGGA
AACAAGGGAAG

PK4: -22.915000(kcal/mol): PK_start=1485 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1522
(fs_start=1470)

TCCAACA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(3570) JX447134
=====

PK1: -15.100000(kcal/mol): PK_start=1397 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1425
(fs_start=1417)

CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC

TTTTTTAGGG
GCTAA
PK2: -21.940000(kcal/mol): PK_start=1402 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1439
(fs_start=1417)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAGAAT

PK3: -18.840000(kcal/mol): PK_start=1425 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1459
(fs_start=1417)

AA
CACTGAGAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTTT
GCCAGGGA
AACAAGGGAAG

PK4: -22.915000(kcal/mol): PK_start=1432 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1469
(fs_start=1417)

TCCAACA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(3571) JX447135
=====

PK1: -15.100000(kcal/mol): PK_start=1448 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1476
(fs_start=1468)

CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1453 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1490
(fs_start=1468)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAGAAT

PK3: -18.840000(kcal/mol): PK_start=1476 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1510
(fs_start=1468)

AA
CACTGAGAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTTT

GCCAGGGA

AACAAGGGAAG

PK4: -22.915000(kcal/mol): PK_start=1483 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1520
(fs_start=1468)

TCCAACA

AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT

GGACCGGA AGGGA

TTCCTCA

GAATT

=====
(3572) JX447136
=====

PK1: -15.100000(kcal/mol): PK_start=1453 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1481
(fs_start=1473)

CA

GAAAGGAAGGACATCAAATGAAAGACTG

GAC AGAGAGTC

TTTTTTAGGG

GCTAA

PK2: -21.940000(kcal/mol): PK_start=1458 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1495
(fs_start=1473)

C

GAAGGACATCAAATGAAAGACTGCACTGAGAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAGAAT

PK3: -18.840000(kcal/mol): PK_start=1481 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1515
(fs_start=1473)

AA

CACTGAGAGACAGGCTAATTTTTTAGGGAG

CCTTC CGGTTT

GCCAGGGA

AACAAGGGAAG

PK4: -22.915000(kcal/mol): PK_start=1488 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1525
(fs_start=1473)

TCCAACA

AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT

GGACCGGA AGGGA

TTCCTCA

GAATT

=====
(3573) JX447137
=====

PK1: -15.100000(kcal/mol): PK_start=1415 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1443
(fs_start=1435)

CA

GAAAGGAAGGACATCAAATGAAAGACTG

```

          GAC   AGAGAGTC
                TTTTTTAGGG
      GCTAA
PK2:  -21.940000(kcal/mol): PK_start=1420 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1457
(fs_start=1435)
                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT   AATCGGA
                TTGGCCTTC
      GGAGAAT
PK3:  -18.840000(kcal/mol): PK_start=1443 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1477
(fs_start=1435)
                AA
CACTGAGAGACAGGCTAATTTTTTAGGGAG
                CCTTC   CGGTTT
                GCCAGGGA
      AACAAAGGAAG
PK4:  -22.915000(kcal/mol): PK_start=1450 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1487
(fs_start=1435)
                TCCAACA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
                GGACCGGA   AGGGA
                TTCCTCA
      GAATT
=====
(3574) JX447156
=====
PK1:  -13.555000(kcal/mol): PK_start=1416 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1444
(fs_start=1436)
                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                GACA   GAGAGTC
                TTTTTTAGGG
      GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1421 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1457
(fs_start=1436)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT   A   ATCGGA
                TGGCCTTC
      GGAAGCTA
PK3:  -24.465000(kcal/mol): PK_start=1444 sp=0 s1=4 s2=6 l1=5 l2=8 L3=0 PK_end=1476
(fs_start=1436)
                AGCTA
TACTGAGAGACAGGCTAATTTTTTAGGGA

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CCCT TCCGGT
AGGCCAGG
ACAAGGGA
PK4: -23.405000(kcal/mol): PK_start=1453 sp=9 s1=8 s2=4 l1=4 l2=8 L3=0 PK_end=1488
(fs_start=1436)

CCAC
ACAGGCTAATTTTTTAGGGAAGCTATGGCCTTC
ACCGGAAG GGAA
TCTTCA
GGGAATTT

=====
(3575) JX447157
=====

PK1: -13.555000(kcal/mol): PK_start=1418 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1446
(fs_start=1438)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1423 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1459
(fs_start=1438)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGCTA

PK3: -24.465000(kcal/mol): PK_start=1446 sp=0 s1=4 s2=6 l1=5 l2=8 L3=0 PK_end=1478
(fs_start=1438)

AGCTA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGT
AGGCCAGG
ACAAGGGA

PK4: -23.405000(kcal/mol): PK_start=1455 sp=9 s1=8 s2=4 l1=4 l2=8 L3=0 PK_end=1490
(fs_start=1438)

CCAC
ACAGGCTAATTTTTTAGGGAAGCTATGGCCTTC
ACCGGAAG GGAA
TCTTCA
GGGAATTT

=====
(3576) JX447158
=====

PK1: -13.555000(kcal/mol): PK_start=1416 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1444
(fs_start=1436)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1421 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1457
(fs_start=1436)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGCTA

PK3: -24.465000(kcal/mol): PK_start=1444 sp=0 s1=4 s2=6 l1=5 l2=8 L3=0 PK_end=1476
(fs_start=1436)

AGCTA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGT
AGGCCAGG
ACAAGGGA

PK4: -23.405000(kcal/mol): PK_start=1453 sp=9 s1=8 s2=4 l1=4 l2=8 L3=0 PK_end=1488
(fs_start=1436)

CCAC
ACAGGCTAATTTTTTAGGGAAGCTATGGCCTTC
ACCGGAAG GGAA
TCTTCA
GGGAATTT

=====
(3577) JX447159
=====

PK1: -13.555000(kcal/mol): PK_start=1416 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1444
(fs_start=1436)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1421 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1457
(fs_start=1436)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGCTA

PK3: -24.465000(kcal/mol): PK_start=1444 sp=0 s1=4 s2=6 l1=5 l2=8 L3=0 PK_end=1476
(fs_start=1436)

AGCTA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGT
AGGCCAGG
ACAAGGGA

PK4: -23.405000(kcal/mol): PK_start=1453 sp=9 s1=8 s2=4 l1=4 l2=8 L3=0 PK_end=1488
(fs_start=1436)

CCAC
ACAGGCTAATTTTTTAGGGAAGCTATGGCCTTC
ACCGGAAG GGAA
TCTTCA
GGGAATTT

=====
(3578) JX447160
=====

PK1: -13.555000(kcal/mol): PK_start=1416 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1444
(fs_start=1436)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1421 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1457
(fs_start=1436)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGCTA

PK3: -24.465000(kcal/mol): PK_start=1444 sp=0 s1=4 s2=6 l1=5 l2=8 L3=0 PK_end=1476
(fs_start=1436)

AGCTA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGT
AGGCCAGG
ACAAGGGA

PK4: -21.685000(kcal/mol): PK_start=1453 sp=9 s1=6 s2=4 l1=8 l2=8 L3=0 PK_end=1488
(fs_start=1436)

TCCCACAA
ACAGGCTAATTTTTTAGGGAAGCTATGGCCT
ACCGGA AGGG
TCTCCA
GGGAATTT

=====
(3579) JX447161
=====

PK1: -13.555000(kcal/mol): PK_start=1414 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1442
(fs_start=1434)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1419 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1455
(fs_start=1434)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGCTA

PK3: -24.465000(kcal/mol): PK_start=1442 sp=0 s1=4 s2=6 l1=5 l2=8 L3=0 PK_end=1474
(fs_start=1434)

AGCTA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGT
AGGCCAGG
ACAAGGGA

PK4: -23.405000(kcal/mol): PK_start=1451 sp=9 s1=8 s2=4 l1=4 l2=8 L3=0 PK_end=1486
(fs_start=1434)

CCAC
ACAGGCTAATTTTTTAGGGAAGCTATGGCCTTC
ACCGGAAG GGAA
TCTTCA
GGGAATTT

=====
(3580) JX447162
=====

PK1: -13.555000(kcal/mol): PK_start=1416 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1444
(fs_start=1436)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1421 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1457
(fs_start=1436)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA


```

                                TGGCCTTC
          GGAAGCTA
PK3:  -24.465000(kcal/mol): PK_start=1444 sp=0 s1=4 s2=6 l1=5 l2=8 L3=0 PK_end=1476
(fs_start=1436)
                                AGCTA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGT
                                AGGCCAGG
          ACAAGGGA
PK4:  -23.405000(kcal/mol): PK_start=1453 sp=9 s1=8 s2=4 l1=4 l2=8 L3=0 PK_end=1488
(fs_start=1436)
                                CCAC
ACAGGCTAATTTTTTAGGGAAGCTATGGCCTTC
                                ACCGGAAG   GGAA
                                TCTTCA
          GGAATTT

=====
(3581) JX447163
=====
PK1:  -13.555000(kcal/mol): PK_start=1416 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1444
(fs_start=1436)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                                GACA   GAGAGTC
                                TTTTTAGGG
          GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1421 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1457
(fs_start=1436)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                                GATTTTTT   A   ATCGGA
                                TGGCCTTC
          GGAAGCTA
PK3:  -24.465000(kcal/mol): PK_start=1444 sp=0 s1=4 s2=6 l1=5 l2=8 L3=0 PK_end=1476
(fs_start=1436)
                                AGCTA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGT
                                AGGCCAGG
          ACAAGGGA
PK4:  -23.405000(kcal/mol): PK_start=1453 sp=9 s1=8 s2=4 l1=4 l2=8 L3=0 PK_end=1488
(fs_start=1436)
                                CCAC
ACAGGCTAATTTTTTAGGGAAGCTATGGCCTTC
                                ACCGGAAG   GGAA

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                                TCTTCA
                                GGAATTT
=====
(3582) JX447164
=====
PK1:  -13.555000(kcal/mol): PK_start=1416 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1444
(fs_start=1436)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                                GACA    GAGAGTC
                                TTTTtaggg
                                GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1421 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1457
(fs_start=1436)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                                GATTTTTT A  ATCGGA
                                TGGCCTTC
                                GGAAGCTA

PK3:  -24.465000(kcal/mol): PK_start=1444 sp=0 s1=4 s2=6 l1=5 l2=8 L3=0 PK_end=1476
(fs_start=1436)
                                AGCTA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCCT    TCCGGT
                                AGGCCAGG
                                ACAAGGGA

PK4:  -23.405000(kcal/mol): PK_start=1453 sp=9 s1=8 s2=4 l1=4 l2=8 L3=0 PK_end=1488
(fs_start=1436)
                                CCAC
ACAGGCTAATTTTTTAGGGAAGCTATGGCCTTC
                                ACCGGAAG    GGAA
                                TCTTCA
                                GGAATTT

=====
(3583) JX447165
=====
PK1:  -13.555000(kcal/mol): PK_start=1416 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1444
(fs_start=1436)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                                GACA    GAGAGTC
                                TTTTtaggg
                                GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1421 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1457
(fs_start=1436)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA

```

GATTTTTT A ATCGGA
TGGCCTTC
GGAAGCTA

PK3: -24.465000(kcal/mol): PK_start=1444 sp=0 s1=4 s2=6 l1=5 l2=8 L3=0 PK_end=1476
(fs_start=1436)

AGCTA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGT
AGGCCAGG
ACAAGGGA

PK4: -23.405000(kcal/mol): PK_start=1453 sp=9 s1=8 s2=4 l1=4 l2=8 L3=0 PK_end=1488
(fs_start=1436)

CCAC
ACAGGCTAATTTTTTAGGGAAGCTATGGCCTTC
ACCGGAAG GGAA
TCTTCA
GGGAATTT

=====
(3584) JX447268
=====

PK1: -15.100000(kcal/mol): PK_start=1391 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1419
(fs_start=1411)

CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1396 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1433
(fs_start=1411)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1420 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1453
(fs_start=1411)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGAA
ACAAGGGA

PK4: -21.195000(kcal/mol): PK_start=1426 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1463
(fs_start=1411)

TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

```

GGGCCGGA    AGGGA
              TTCCTCA
AAATT

=====
(3585) JX447283
=====
PK1:  -15.10000(kcal/mol): PK_start=1442 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1470
(fs_start=1462)
              CA
GGAAGGAAGGACATCAAATGAAAGACTG
              GAC    AGAGAGTC
              TTTTTTAGGG
GCTAA

PK2:  -21.94000(kcal/mol): PK_start=1447 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1484
(fs_start=1462)
              C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
              GATTTTTT    AATCGGA
              TTGGCCTTC
GGAGAAT

PK3:  -17.12000(kcal/mol): PK_start=1470 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1504
(fs_start=1462)
              AA
CACTGAGAGACAGGCTAATTTTTAGGGAG
              CCTTC    CGGTTT
              GCCGGGAA
CACAAAGGGAG

PK4:  -20.49500(kcal/mol): PK_start=1477 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1514
(fs_start=1462)
              CCCACA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCTT
              GGGCCGAG    GGGA
              TCCTCA
AAATTT

PK4B:  -25.14500(kcal/mol): PK_start=1477 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1540
(fs_start=1462)
              TCCCACAA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
              GGGCCGGA    GGGG
              CCCAC
AAATTTTCCTCAGAGCAGACCAGACCAACAG

=====
(3586) JX447284
=====

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PK1: -15.10000(kcal/mol): PK_start=1441 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1469 (fs_start=1461)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.94000(kcal/mol): PK_start=1446 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1483 (fs_start=1461)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAGAAT

PK3: -17.12000(kcal/mol): PK_start=1469 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1503 (fs_start=1461)

AA
CACTGAGAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTTT
GCCGGGAA
CACAAAGGGGAG

PK4: -20.49500(kcal/mol): PK_start=1476 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1513 (fs_start=1461)

CCCACA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCTT
GGGCCGGAG GGGA
TCCTCA
AAATTT

PK4B: -25.14500(kcal/mol): PK_start=1476 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1539 (fs_start=1461)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
GGGCCGGA GGGG
CCCCAC
AAATTTTCCTCAGAGCAGACCAGAGCCAACAG

=====
(3587) JX447285
=====

PK1: -15.10000(kcal/mol): PK_start=1441 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1469 (fs_start=1461)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1446 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1483
(fs_start=1461)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAGAAT

PK3: -17.120000(kcal/mol): PK_start=1469 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1503
(fs_start=1461)

AA
CACTGAGAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTTT
GCCGGGAA
CACAAAGGGGAG

PK4: -20.495000(kcal/mol): PK_start=1476 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1513
(fs_start=1461)

CCCACA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCTT
GGGCCGGAG GGGA
TCCTCA
AAATTT

PK4B: -25.145000(kcal/mol): PK_start=1476 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1539
(fs_start=1461)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
GGGCCGGA GGGG
CCCCAC
AAATTTTCCTCAGAGCAGACCAGAGCCAACAG

=====
(3588) JX447286
=====

PK1: -15.100000(kcal/mol): PK_start=1441 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1469
(fs_start=1461)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1446 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1483
(fs_start=1461)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAGAAT

PK3: -17.120000(kcal/mol): PK_start=1469 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1503
(fs_start=1461)

AA
CACTGAGAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTTT
GCCGGGAA
CACAAAGGGGAG

PK4: -20.495000(kcal/mol): PK_start=1476 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1513
(fs_start=1461)

CCCACA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCTT
GGGCCGGAG GGGA
TCCTCA
AAATTT

PK4B: -25.145000(kcal/mol): PK_start=1476 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1539
(fs_start=1461)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
GGGCCGGA GGGG
CCCCAC
AAATTTTCCTCAGAGCAGACCAGAGCCAACAG

=====
(3589) JX447287

=====
PK1: -15.100000(kcal/mol): PK_start=1440 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1468
(fs_start=1460)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1445 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1482
(fs_start=1460)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAGAAT

PK3: -17.120000(kcal/mol): PK_start=1468 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1502
(fs_start=1460)

AA
CACTGAGAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTTT
GCCGGGAA
CACAAAGGGGAG

PK4: -20.495000(kcal/mol): PK_start=1475 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1512
(fs_start=1460)

CCCACA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCTT
GGGCCGGAG GGGA
TCCTCA
AAATTT

PK4B: -25.145000(kcal/mol): PK_start=1475 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1538
(fs_start=1460)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCTT
GGGCCGGA GGGG
CCCCAC
AAATTTTCCTCAGAGCAGACCAGAGCCAACAG

=====
(3590) JX447300
=====

PK1: -12.520000(kcal/mol): PK_start=1273 sp=0 s1=3 s2=7 l1=3 l2=5 L3=0 PK_end=1300
(fs_start=1293)

CAA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGT
TTTTTTAGG
GCTAA

PK2: -19.660000(kcal/mol): PK_start=1279 sp=0 s1=7 s2=7 l1=1 l2=8 L3=0 PK_end=1315
(fs_start=1293)

C
AAGGACATCAAATGAAAGACTGCAATGAGAGA
ATTTTTT AATCGGA
TTGGCCTTC
GGGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1302 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1335
(fs_start=1293)

AAA
AATGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AACAAGGGA

PK4: -22.915000(kcal/mol): PK_start=1308 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1345
(fs_start=1293)

TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(3591) JX447301
=====

PK1: -12.520000(kcal/mol): PK_start=1273 sp=0 s1=3 s2=7 l1=3 l2=5 L3=0 PK_end=1300
(fs_start=1293)

CAA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGT
TTTTTTTAGG
GCTAA

PK2: -19.660000(kcal/mol): PK_start=1279 sp=0 s1=7 s2=7 l1=1 l2=8 L3=0 PK_end=1315
(fs_start=1293)

C
AAGGACATCAAATGAAAGACTGCAATGAGAGA
ATTTTTT AATCGGA
TTGGCCTTC
GGGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1302 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1335
(fs_start=1293)

AAA
AATGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AACAAGGGA

PK4: -22.915000(kcal/mol): PK_start=1308 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1345
(fs_start=1293)

TCCAACA
AGACAGGCTAATTTTTTAGGAAAATTTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(3592) JX447303
=====

PK1: -12.520000(kcal/mol): PK_start=1270 sp=0 s1=3 s2=7 l1=3 l2=5 L3=0 PK_end=1297
(fs_start=1290)

CAA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGT
TTTTTTTAGG
GCTAA

PK2: -19.660000(kcal/mol): PK_start=1276 sp=0 s1=7 s2=7 l1=1 l2=8 L3=0 PK_end=1312
(fs_start=1290)

C
AAGGACATCAAATGAAAGACTGCAATGAGAGA
ATTTTTT AATCGGA

```

                                TTGGCCTTC
                                GGGAAAAT
PK3:  -20.285000(kcal/mol): PK_start=1299 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1332
(fs_start=1290)
                                AAA
AATGAGAGACAGGCTAATTTTTTTAGGGA
                                CCT   TCCGGTTT
                                AGGCCAGGGA
                                AACAAGGGA

PK4:  -22.915000(kcal/mol): PK_start=1305 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1342
(fs_start=1290)
                                TCCAACA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
                                GGACCGGA   AGGGA
                                TTCCTCA
                                GAATT

=====
(3593) JX447304
=====
PK1:  -12.520000(kcal/mol): PK_start=1270 sp=0 s1=3 s2=7 l1=3 l2=5 L3=0 PK_end=1297
(fs_start=1290)
                                CAA
GGAAGGAAGGACATCAAATGAAAGACTG
                                GAC   AGAGAGT
                                TTTTTTAGG
                                GCTAA

PK2:  -19.660000(kcal/mol): PK_start=1276 sp=0 s1=7 s2=7 l1=1 l2=8 L3=0 PK_end=1312
(fs_start=1290)
                                C
AAGGACATCAAATGAAAGACTGCAATGAGAGA
                                ATTTTTT   AATCGGA
                                TTGGCCTTC
                                GGGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1299 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1332
(fs_start=1290)
                                AAA
AATGAGAGACAGGCTAATTTTTTTAGGGA
                                CCT   TCCGGTTT
                                AGGCCAGGGA
                                AACAAGGGA

PK4:  -22.915000(kcal/mol): PK_start=1305 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1342
(fs_start=1290)
                                TCCAACA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
                                GGACCGGA   AGGGA

```

TTCCTCA

GAATT

=====
(3594) JX447305
=====

PK1: -15.100000(kcal/mol): PK_start=1270 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1298
(fs_start=1290)

CA

GGAAGGAAGGACATCAAATGAAAGACTG

GAC AGAGAGTC

TTTTTTAGGG

GCTAA

PK2: -21.940000(kcal/mol): PK_start=1275 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1312
(fs_start=1290)

C

GAAGGACATCAAATGAAAGACTGCACTGAGAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1298 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1332
(fs_start=1290)

AAA

CACTGAGAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT

AGGCCAGGGA

ACAAGGGA

PK4: -22.915000(kcal/mol): PK_start=1305 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1342
(fs_start=1290)

TCCCACA

AGACAGGCTAATTTTTTAGGAAAATTTGGCCT

GGACCGGA AGGGA

TTCCTCA

GAATT

=====
(3595) JX447306
=====

PK1: -15.100000(kcal/mol): PK_start=1270 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1298
(fs_start=1290)

CA

GGAAGGAAGGACATCAAATGAAAGACTG

GAC AGAGAGTC

TTTTTTAGGG

GCTAA

PK2: -21.940000(kcal/mol): PK_start=1275 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1312
(fs_start=1290)

C

GAAGGACATCAAATGAAAGACTGCACTGAGAGA

```

          GATTTTTT   AATCGGA
                    TTGGCCTTC
      GGAAAAT

PK3:  -23.745000(kcal/mol): PK_start=1298 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1332
(fs_start=1290)
          AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA

          CCCT   TCCGGTTT
                    AGGCCAGGGA
      ACAAGGGA

PK4:  -22.915000(kcal/mol): PK_start=1305 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1342
(fs_start=1290)
                    TCCCACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

          GGACCGGA   AGGGA
                    TTCCTCA
      GAATT

=====
(3596) JX447307
=====
PK1:  -15.100000(kcal/mol): PK_start=1270 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1298
(fs_start=1290)
          CA
GGAAGGAAGGACATCAAATGAAAGACTG

          GAC   AGAGAGTC
                    TTTTTTAGGG
      GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1275 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1312
(fs_start=1290)
          C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA

          GATTTTTT   AATCGGA
                    TTGGCCTTC
      GGAAAAT

PK3:  -23.745000(kcal/mol): PK_start=1298 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1332
(fs_start=1290)
          AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA

          CCCT   TCCGGTTT
                    AGGCCAGGGA
      ACAAGGGA

PK4:  -22.915000(kcal/mol): PK_start=1305 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1342
(fs_start=1290)
                    TCCCACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

```

```

                GGACCGGA    AGGGA
                    TTCCTCA
    GAATT

=====
(3597) JX447308
=====
PK1:  -15.100000(kcal/mol): PK_start=1270 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1298
(fs_start=1290)
                CA
GGAAGGAAGGACATCAAATGAAAGACTG

                GAC    AGAGAGTC
                    TTTTTTAGGG
    GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1275 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1312
(fs_start=1290)
                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA

                GATTTTTT    AATCGGA
                    TTGGCCTTC
    GGAAAAT

PK3:  -23.745000(kcal/mol): PK_start=1298 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1332
(fs_start=1290)
                AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA

                CCCT    TCCGGTTT
                    AGGCCAGGGA
    ACAAGGGA

PK4:  -22.915000(kcal/mol): PK_start=1305 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1342
(fs_start=1290)
                TCCCACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

                GGACCGGA    AGGGA
                    TTCCTCA
    GAATT

=====
(3598) JX447309
=====
PK1:  -15.100000(kcal/mol): PK_start=1270 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1298
(fs_start=1290)
                CA
GGAAGGAAGGACATCAAATGAAAGACTG

                GAC    AGAGAGTC
                    TTTTTTAGGG
    GCTAA

```

PK2: -21.940000(kcal/mol): PK_start=1275 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1312
(fs_start=1290)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1298 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1332
(fs_start=1290)

AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGA

PK4: -22.915000(kcal/mol): PK_start=1305 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1342
(fs_start=1290)

TCCCACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(3599) JX447312
=====

PK1: -15.100000(kcal/mol): PK_start=1435 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1463
(fs_start=1455)

CA
GGAAAGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1440 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1477
(fs_start=1455)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1464 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1497
(fs_start=1455)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AACAAGGGA

PK4: -22.915000(kcal/mol): PK_start=1470 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1507
(fs_start=1455)

```

                                TCCAACA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
                                GGACCGGA   AGGGA
                                TTCCTCA
                                AAATT
```

=====
(3600) JX447313
=====

PK1: -15.100000(kcal/mol): PK_start=1426 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1454
(fs_start=1446)

```

                                CA
GGAAAGAAGGACATCAAATGAAAGACTG
                                GAC   AGAGAGTC
                                TTTTTTAGGA
                                GCTAA
```

PK2: -21.940000(kcal/mol): PK_start=1431 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1468
(fs_start=1446)

```

                                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                                GATTTTTT   AATCGGA
                                TTGGCCTTC
                                GAAAAAT
```

PK3: -20.485000(kcal/mol): PK_start=1454 sp=0 s1=3 s2=8 l1=4 l2=9 L3=0 PK_end=1488
(fs_start=1446)

```

                                AAAA
CACTGAGAGACAGGCTAATTTTTTTAGGA
                                CCT   TCCGGTTT
                                AGGCCAGGAA
                                AACAAGGGA
```

PK4: -22.915000(kcal/mol): PK_start=1461 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1498
(fs_start=1446)

```

                                TCCAACA
AGACAGGCTAATTTTTTTAGGAAAATTTGGCCT
                                GGACCGGA   AGGGA
                                TTCCTCA
                                AAATT
```

=====
(3601) JX447314
=====

PK1: -15.100000(kcal/mol): PK_start=1426 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1454
(fs_start=1446)

```

                                CA
GGAAAGAAGGACATCAAATGAAAGACTG
                                GAC   AGAGAGTC
```

TTTTTTAGGG

GCTAA

PK2: -21.940000(kcal/mol): PK_start=1431 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1468
(fs_start=1446)

C

GAAGGACATCAAATGAAAGACTGCACTGAGAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1455 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1488
(fs_start=1446)

AAA

ACTGAGAGACAGGCTAATTTTTTTAGGGA

CCT TCCGGTTT

AGGCCAGGAA

AACAAGGGA

PK4: -22.915000(kcal/mol): PK_start=1461 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1498
(fs_start=1446)

TCCAACA

AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT

GGACCGGA AGGGA

TTCCTCA

AAATT

=====
(3602) JX447315
=====

PK1: -15.100000(kcal/mol): PK_start=1477 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1505
(fs_start=1497)

CA

GGAAGGAAGGACATCAAATGAAAGACTG

GAC AGAGAGTC

TTTTTTAGGA

GCTAA

PK2: -21.940000(kcal/mol): PK_start=1482 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1519
(fs_start=1497)

C

GAAGGACATCAAATGAAAGACTGCACTGAGAGA

GATTTTTT AATCGGA

TTGGCCTTC

GAAAAT

PK3: -20.485000(kcal/mol): PK_start=1505 sp=0 s1=3 s2=8 l1=4 l2=9 L3=0 PK_end=1539
(fs_start=1497)

AAAA

CACTGAGAGACAGGCTAATTTTTTTAGGA

CCT TCCGGTTT


```

                                AGGCCAGGGA
                AACAAGGGG

PK4:  -22.215000(kcal/mol): PK_start=1512 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1549
(fs_start=1497)
                                CCAACA
AGACAGGCTAATTTTTTTAGGAAAAATTTGGCCTT
                                GGACCGGAG    GGGA
                                TCCTCA
                GAACTT

PK4B:  -26.865000(kcal/mol): PK_start=1512 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1575
(fs_start=1497)
                                TCCAACAA
AGACAGGCTAATTTTTTTAGGAAAAATTTGGCCTT
                                GGACCGGA    GGGG
                                CCCCAC
                GAACTTTCCTCAGAGCAGACCAGAGCCAACAG

=====
(3603) JX447316
=====
PK1:  -15.100000(kcal/mol): PK_start=1464 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1492
(fs_start=1484)
                                CA
GGAAGGAAGGACATCAAATGAAAGACTG
                                GAC    AGAGAGTC
                                TTTTTTAGGA
                GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1469 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1506
(fs_start=1484)
                                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                                GATTTTTT    AATCGGA
                                TTGGCCTTC
                GAAAAAT

PK3:  -20.485000(kcal/mol): PK_start=1492 sp=0 s1=3 s2=8 l1=4 l2=9 L3=0 PK_end=1526
(fs_start=1484)
                                AAAA
CACTGAGAGACAGGCTAATTTTTTTAGGA
                                CCT    TCCGGTTT
                                AGGCCAGGGA
                AACAAGGGG

PK4:  -22.215000(kcal/mol): PK_start=1499 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1536
(fs_start=1484)
                                CCAACA
AGACAGGCTAATTTTTTTAGGAAAAATTTGGCCTT
                                GGACCGGAG    GGGA

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TCCTCA

GAACTT

PK4B: -26.865000(kcal/mol): PK_start=1499 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1562
(fs_start=1484)

TCCAACAA

AGACAGGCTAATTTTTTAGGAAAAATTTGGCCT

GGACCGGA GGGG

CCCCAC

GAACTTTCCTCAGAGCAGACCAGAGCCAACAG

=====

(3604) JX447317

=====

PK1: -15.100000(kcal/mol): PK_start=1418 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1446
(fs_start=1438)

CA

GGAAGGAAGGACATCAAATGAAAGACTG

GAC AGAGAGTC

TTTTTTAGGA

GCTAA

PK2: -21.940000(kcal/mol): PK_start=1423 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1460
(fs_start=1438)

C

GAAGGACATCAAATGAAAGACTGCACTGAGAGA

GATTTTTT AATCGGA

TTGGCCTTC

GAAAAAT

PK3: -20.485000(kcal/mol): PK_start=1446 sp=0 s1=3 s2=8 l1=4 l2=9 L3=0 PK_end=1480
(fs_start=1438)

AAAA

CACTGAGAGACAGGCTAATTTTTTAGGA

CCT TCCGGTTT

AGGCCAGGGA

AACAAGGGG

PK4: -22.215000(kcal/mol): PK_start=1453 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1490
(fs_start=1438)

CCAACA

AGACAGGCTAATTTTTTAGGAAAAATTTGGCCTT

GGACCGGAG GGGG

TCCTCA

GAACTT

PK4B: -26.865000(kcal/mol): PK_start=1453 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1516
(fs_start=1438)

TCCAACAA

AGACAGGCTAATTTTTTAGGAAAAATTTGGCCT

GGACCGGA GGGG

CCCCAC
GAACTTTCCTCAGAGCAGACCAGAGCCAACAG

=====
(3605) JX447349
=====

PK1: -15.100000(kcal/mol): PK_start=1513 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1541
(fs_start=1533)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1518 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1555
(fs_start=1533)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1541 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1575
(fs_start=1533)

AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGAA
ACAAAGGA

PK4: -20.510000(kcal/mol): PK_start=1548 sp=7 s1=7 s2=4 l1=10 l2=5 L3=0 PK_end=1584
(fs_start=1533)

TTCCCACAAA
AGACAGGCTAATTTTTTAGGAAAATTTGGCC
GGACCGG AAGG
TTCCCC
AAACT

=====
(3606) JX447350
=====

PK1: -15.100000(kcal/mol): PK_start=1473 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1501
(fs_start=1493)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1478 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1515
(fs_start=1493)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA

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                GATTTTTT   AATCGGA
                    TTGGCCTTC
    GGAAAAT
PK3:  -23.745000(kcal/mol): PK_start=1501 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1535
(fs_start=1493)
                AAA
    CACTGAGAGACAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTTT
                    AGGCCAGGAA
                ACAAAGGA
PK4:  -20.510000(kcal/mol): PK_start=1508 sp=7 s1=7 s2=4 l1=10 l2=5 L3=0 PK_end=1544
(fs_start=1493)
                    TTTCCACAAA
    AGACAGGCTAATTTTTTAGGGAAAATTTGGCC
                GGACCGG   AAGG
                    TTCCCC
                AAACT

=====
(3607) JX447351
=====
PK1:  -15.100000(kcal/mol): PK_start=1517 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1545
(fs_start=1537)
                CA
    GGAAGGAAGGACATCAAATGAAAGACTG
                GAC   AGAGAGTC
                    TTTTTTAGGG
                GCTAA
PK2:  -21.940000(kcal/mol): PK_start=1522 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1559
(fs_start=1537)
                C
    GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT   AATCGGA
                    TTGGCCTTC
                GGAAAAT
PK3:  -23.745000(kcal/mol): PK_start=1545 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1579
(fs_start=1537)
                AAA
    CACTGAGAGACAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTTT
                    AGGCCAGGAA
                ACAAAGGA
PK4:  -20.510000(kcal/mol): PK_start=1552 sp=7 s1=7 s2=4 l1=10 l2=5 L3=0 PK_end=1588
(fs_start=1537)
                    TTTCCACAAA
    AGACAGGCTAATTTTTTAGGGAAAATTTGGCC

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                GGACCGG    AAGG
                    TTCCCC
AAACT
=====
(3608) JX447352
=====
PK1:  -15.100000(kcal/mol): PK_start=1454 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1482
(fs_start=1474)
                    CA
GGAAGGAAGGACATCAAATGAAAGACTG
                GAC    AGAGAGTC
                    TTTTTTAGGG
GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1459 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1496
(fs_start=1474)
                    C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT    AATCGGA
                    TTGGCCTTC
GAAAAAT

PK3:  -23.745000(kcal/mol): PK_start=1482 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1516
(fs_start=1474)
                    AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA
                CCCT    TCCGGTTT
                    AGGCCAGGAA
ACAAAGGA

PK4:  -20.510000(kcal/mol): PK_start=1489 sp=7 s1=7 s2=4 l1=10 l2=5 L3=0 PK_end=1525
(fs_start=1474)
                    TTCCCACAAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCC
                GGACCGG    AAGG
                    TTCCCC
AAACT
=====
(3609) JX447353
=====
PK1:  -15.100000(kcal/mol): PK_start=1444 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1472
(fs_start=1464)
                    CA
GGAAGGAAGGACATCAAATGAAAGACTG
                GAC    AGAGAGTC
                    TTTTTTAGGG
GCTAA

```

PK2: -21.940000(kcal/mol): PK_start=1449 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1486
(fs_start=1464)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1472 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1506
(fs_start=1464)

AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGAA
ACAAAGGA

PK4: -20.510000(kcal/mol): PK_start=1479 sp=7 s1=7 s2=4 l1=10 l2=5 L3=0 PK_end=1515
(fs_start=1464)

TTCCCACAAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCC
GGACCGG AAGG
TTCCCC
AAACT

=====
(3610) JX447354
=====

PK1: -15.100000(kcal/mol): PK_start=1481 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1509
(fs_start=1501)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1486 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1523
(fs_start=1501)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1509 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1543
(fs_start=1501)

AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGAA
ACAAAGGA

PK4: -20.510000(kcal/mol): PK_start=1516 sp=7 s1=7 s2=4 l1=10 l2=5 l3=0 PK_end=1552
(fs_start=1501)

TTCCCACAAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCC
GGACCGG AAGG
TTCCCC
AAACT

=====
(3611) JX447355
=====

PK1: -15.100000(kcal/mol): PK_start=1450 sp=0 s1=3 s2=8 l1=2 l2=5 l3=0 PK_end=1478
(fs_start=1470)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1455 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1492
(fs_start=1470)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1478 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=1512
(fs_start=1470)

AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGAA
ACAAAGGA

PK4: -20.510000(kcal/mol): PK_start=1485 sp=7 s1=7 s2=4 l1=10 l2=5 l3=0 PK_end=1521
(fs_start=1470)

TTCCCACAAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCC
GGACCGG AAGG
TTCCCC
AAACT

=====
(3612) JX447356
=====

PK1: -15.100000(kcal/mol): PK_start=1518 sp=0 s1=3 s2=8 l1=2 l2=5 l3=0 PK_end=1546
(fs_start=1538)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC

TTTTTTAGGG
GCTAA
PK2: -21.940000(kcal/mol): PK_start=1523 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1560
(fs_start=1538)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1546 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1580
(fs_start=1538)

AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGAA
ACAAAGGA

PK4: -20.510000(kcal/mol): PK_start=1553 sp=7 s1=7 s2=4 l1=10 l2=5 L3=0 PK_end=1589
(fs_start=1538)

TTCCCACAAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCC
GGACCGG AAGG
TTCCCC
AAACT

=====
(3613) JX447357
=====

PK1: -15.100000(kcal/mol): PK_start=1518 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1546
(fs_start=1538)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1523 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1560
(fs_start=1538)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1546 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1580
(fs_start=1538)

AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT

AGGCCAGGAA
ACAAAGGA
PK4: -20.510000(kcal/mol): PK_start=1553 sp=7 s1=7 s2=4 l1=10 l2=5 l3=0 PK_end=1589
(fs_start=1538)

TTCCCACAAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCC
GGACCGG AAGG
TTCCCC
AAACT

=====
(3614) JX447358
=====

PK1: -15.100000(kcal/mol): PK_start=1518 sp=0 s1=3 s2=8 l1=2 l2=5 l3=0 PK_end=1546
(fs_start=1538)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1523 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1560
(fs_start=1538)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1546 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=1580
(fs_start=1538)

AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGAA
ACAAAGGA

PK4: -20.510000(kcal/mol): PK_start=1553 sp=7 s1=7 s2=4 l1=10 l2=5 l3=0 PK_end=1589
(fs_start=1538)

TTCCCACAAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCC
GGACCGG AAGG
TTCCCC
AAACT

=====
(3615) JX447359
=====

PK1: -15.100000(kcal/mol): PK_start=1397 sp=0 s1=3 s2=8 l1=2 l2=5 l3=0 PK_end=1425
(fs_start=1417)

CA
GAAAGGAAGGACATCAAATGAAAGACTG

GAC AGAGAGTC
TTTTTTAGGA
GCTAA
PK2: -21.940000(kcal/mol): PK_start=1402 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1439
(fs_start=1417)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GAAGACT

PK3: -21.975000(kcal/mol): PK_start=1425 sp=0 s1=3 s2=9 l1=3 l2=9 L3=0 PK_end=1460
(fs_start=1417)

AGA
CACTGAGAGACAGGCTAATTTTTTAGGA
CCT TCCGGTTTC
AGGCCGGGGAA
ACAAGGGA

PK4: -23.805000(kcal/mol): PK_start=1431 sp=6 s1=9 s2=5 l1=7 l2=4 L3=0 PK_end=1469
(fs_start=1417)

TCCAACA
GAGACAGGCTAATTTTTTAGGAAGACTTTGGCCT
GGGGCCGGA AGGGA
TTCCTCA
AACT

=====
(3616) JX447360
=====

PK1: -15.100000(kcal/mol): PK_start=1356 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1384
(fs_start=1376)

CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGA
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1361 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1398
(fs_start=1376)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GAAGACT

PK3: -21.975000(kcal/mol): PK_start=1384 sp=0 s1=3 s2=9 l1=3 l2=9 L3=0 PK_end=1419
(fs_start=1376)

AGA
CACTGAGAGACAGGCTAATTTTTTAGGA

CCT TCCGGTTTC
AGGCCGGGGAA
AACAAAGGGA

PK4: -23.805000(kcal/mol): PK_start=1390 sp=6 s1=9 s2=5 l1=7 l2=4 L3=0 PK_end=1428
(fs_start=1376)

TCCAACA
GAGACAGGCTAATTTTTTTAGGAAGACTTTGGCCT
GGGGCCGGA AGGGA
TTCCTCA
AACT

=====
(3617) JX447361
=====

PK1: -15.100000(kcal/mol): PK_start=1356 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1384
(fs_start=1376)

CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTTAGGA
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1361 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1398
(fs_start=1376)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GAAGACT

PK3: -21.975000(kcal/mol): PK_start=1384 sp=0 s1=3 s2=9 l1=3 l2=9 L3=0 PK_end=1419
(fs_start=1376)

AGA
CACTGAGAGACAGGCTAATTTTTTTAGGA
CCT TCCGGTTTC
AGGCCGGGGAA
AACAAAGGGA

PK4: -23.805000(kcal/mol): PK_start=1390 sp=6 s1=9 s2=5 l1=7 l2=4 L3=0 PK_end=1428
(fs_start=1376)

TCCAACA
GAGACAGGCTAATTTTTTTAGGAAGACTTTGGCCT
GGGGCCGGA AGGGA
TTCCTCA
AACT

=====
(3618) JX447362
=====

PK1: -15.100000(kcal/mol): PK_start=1397 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1425
(fs_start=1417)

CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTTAGGA
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1402 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1439
(fs_start=1417)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GAAGACT

PK3: -21.975000(kcal/mol): PK_start=1425 sp=0 s1=3 s2=9 l1=3 l2=9 L3=0 PK_end=1460
(fs_start=1417)

AGA
CACTGAGAGACAGGCTAATTTTTTTAGGA
CCT TCCGGTTTC
AGGCCGGGAA
AACAAGGGA

PK4: -23.805000(kcal/mol): PK_start=1431 sp=6 s1=9 s2=5 l1=7 l2=4 L3=0 PK_end=1469
(fs_start=1417)

TCCAACA
GAGACAGGCTAATTTTTTTAGGAAGACTTTGGCCT
GGGGCCGGA AGGGA
TTCCTCA
AACT

=====
(3619) JX447363
=====

PK1: -15.100000(kcal/mol): PK_start=1356 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1384
(fs_start=1376)

CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTTAGGA
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1361 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1398
(fs_start=1376)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GAAGACT

PK3: -21.975000(kcal/mol): PK_start=1384 sp=0 s1=3 s2=9 l1=3 l2=9 L3=0 PK_end=1419
(fs_start=1376)

AGA
CACTGAGAGACAGGCTAATTTTTTAGGA
CCT TCCGGTTTC
AGGCCGGGAA
AACAAGGGA

PK4: -23.805000(kcal/mol): PK_start=1390 sp=6 s1=9 s2=5 l1=7 l2=4 L3=0 PK_end=1428
(fs_start=1376)

TCCAACA
GAGACAGGCTAATTTTTTAGGAAGACTTTGGCCT
GGGGCCGGA AGGGA
TTCCTCA
AACT

=====
(3620) JX447364
=====

PK1: -15.100000(kcal/mol): PK_start=1355 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1383
(fs_start=1375)

CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGA
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1360 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1397
(fs_start=1375)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GAAGACT

PK3: -21.975000(kcal/mol): PK_start=1383 sp=0 s1=3 s2=9 l1=3 l2=9 L3=0 PK_end=1418
(fs_start=1375)

AGA
CACTGAGAGACAGGCTAATTTTTTAGGA
CCT TCCGGTTTC
AGGCCGGGAA
AACAAGGGA

PK4: -23.805000(kcal/mol): PK_start=1389 sp=6 s1=9 s2=5 l1=7 l2=4 L3=0 PK_end=1427
(fs_start=1375)

TCCAACA
GAGACAGGCTAATTTTTTAGGAAGACTTTGGCCT
GGGGCCGGA AGGGA
TTCCTCA
AACT

=====
(3621) JX447365
=====

PK1: -15.100000(kcal/mol): PK_start=1356 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1384
(fs_start=1376)

CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGA
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1361 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1398
(fs_start=1376)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GAAGACT

PK3: -21.975000(kcal/mol): PK_start=1384 sp=0 s1=3 s2=9 l1=3 l2=9 L3=0 PK_end=1419
(fs_start=1376)

AGA
CACTGAGAGACAGGCTAATTTTTTAGGA
CCT TCCGGTTTC
AGGCCGGGAA
AACAAGGGA

PK4: -23.805000(kcal/mol): PK_start=1390 sp=6 s1=9 s2=5 l1=7 l2=4 L3=0 PK_end=1428
(fs_start=1376)

TCCAACA
GAGACAGGCTAATTTTTTAGGAAGACTTTGGCCT
GGGGCCGGA AGGGA
TTCCTCA
AACT

=====
(3622) JX447366
=====

PK1: -15.100000(kcal/mol): PK_start=1356 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1384
(fs_start=1376)

CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGA
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1361 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1398
(fs_start=1376)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA

TTGGCCTTC
GAAGACT
PK3: -21.975000(kcal/mol): PK_start=1384 sp=0 s1=3 s2=9 l1=3 l2=9 L3=0 PK_end=1419
(fs_start=1376)

AGA
CACTGAGAGACAGGCTAATTTTTTAGGA
CCT TCCGGTTTC
AGGCCGGGAA
AACAAGGGA

PK4: -23.805000(kcal/mol): PK_start=1390 sp=6 s1=9 s2=5 l1=7 l2=4 L3=0 PK_end=1428
(fs_start=1376)

TCCAACA
GAGACAGGCTAATTTTTTAGGAAGACTTTGGCCT
GGGCCCGGA AGGGA
TTCCTCA
AACT

=====
(3623) JX447368
=====

PK1: -15.100000(kcal/mol): PK_start=1356 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1384
(fs_start=1376)

CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGA
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1361 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1398
(fs_start=1376)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GAAGACT

PK3: -21.975000(kcal/mol): PK_start=1384 sp=0 s1=3 s2=9 l1=3 l2=9 L3=0 PK_end=1419
(fs_start=1376)

AGA
CACTGAGAGACAGGCTAATTTTTTAGGA
CCT TCCGGTTTC
AGGCCGGGAA
AACAAGGGA

PK4: -23.805000(kcal/mol): PK_start=1390 sp=6 s1=9 s2=5 l1=7 l2=4 L3=0 PK_end=1428
(fs_start=1376)

TCCAACA
GAGACAGGCTAATTTTTTAGGAAGACTTTGGCCT
GGGCCCGGA AGGGA

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                                TTCCTCA
                                AACT
=====
(3624) JX447413
=====
PK1:  -15.100000(kcal/mol): PK_start=1392 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1420
(fs_start=1412)
                                CA
GGAAGGAAGGACATCAAATGAAAGACTG
                                GAC   AGAGAGTC
                                TTTTTTAGGG
                                GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1397 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1434
(fs_start=1412)
                                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                                GATTTTTT   AATCGGA
                                TTGGCCTTC
                                GGAGACT

PK3:  -17.120000(kcal/mol): PK_start=1420 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1454
(fs_start=1412)
                                AC
CACTGAGAGACAGGCTAATTTTTTAGGGAG
                                CCTTC   CGGTTT
                                GCCGGGAA
                                AACAAAGGAAG

PK4:  -21.195000(kcal/mol): PK_start=1427 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1464
(fs_start=1412)
                                TCCAACA
AGACAGGCTAATTTTTTAGGGAGACTTTGGCCT
                                GGGCCGGA   AGGGA
                                TTCCTCA
                                AAATT

=====
(3625) JX447414
=====
PK1:  -15.100000(kcal/mol): PK_start=1393 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1421
(fs_start=1413)
                                CA
GGAAGGAAGGACATCAAATGAAAGACTG
                                GAC   AGAGAGTC
                                TTTTTTAGGG
                                GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1398 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1435
(fs_start=1413)
                                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA

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                GATTTTTT   AATCGGA
                        TTGGCCTTC
GGAGACT
PK3:  -17.120000(kcal/mol): PK_start=1421 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1455
(fs_start=1413)
                AC
CACTGAGAGACAGGCTAATTTTTTAGGGAG
                CCTTC   CGGTTT
                        GCCGGGAA
                AACAAAGGAAG

PK4:  -21.195000(kcal/mol): PK_start=1428 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1465
(fs_start=1413)
                        TCCAACA
AGACAGGCTAATTTTTTAGGGAGACTTTGGCCT
                GGGCCGGA   AGGGA
                        TTCCTCA
                AAATT

=====
(3626) JX447415
=====
PK1:  -15.100000(kcal/mol): PK_start=1374 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1402
(fs_start=1394)
                CA
GGAAGGAAGGACATCAAATGAAAGACTG
                GAC   AGAGAGTC
                        TTTTTTAGGG
                GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1379 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1416
(fs_start=1394)
                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT   AATCGGA
                        TTGGCCTTC
                GGAGACT

PK3:  -19.505000(kcal/mol): PK_start=1403 sp=0 s1=3 s2=6 l1=5 l2=9 L3=0 PK_end=1434
(fs_start=1394)
                GACTT
ACTGAGAGACAGGCTAATTTTTTAGGGA
                CCT   TCCGGT
                        AGGCCGRG
                AACAAAGGA

PK4:  -22.135000(kcal/mol): PK_start=1411 sp=9 s1=6 s2=5 l1=7 l2=7 L3=0 PK_end=1446
(fs_start=1394)
                        TCCAACA
ACAGGCTAATTTTTTAGGGAGACTTTGGCCT

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                GCCGGA    AGGGA
                    TTCCTCA
            RGAAATT

=====
(3627) JX447416
=====
PK1:  -15.100000(kcal/mol): PK_start=1377 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1405
(fs_start=1397)
                CA
GGAAGGAAGGACATCAAATGAAAGACTG

                GAC    AGAGAGTC
                    TTTTTTAGGG
            GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1382 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1419
(fs_start=1397)
                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA

                GATTTTTT    AATCGGA
                    TTGGCCTTC
            GGAGACT

PK3:  -17.120000(kcal/mol): PK_start=1405 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1439
(fs_start=1397)
                AC
CACTGAGAGACAGGCTAATTTTTTAGGGAG

                CCTTC    CGGTTT
                    GCCGGGAA
            AACAAAGGAAG

PK4:  -21.195000(kcal/mol): PK_start=1412 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1449
(fs_start=1397)
                TCCAACA
AGACAGGCTAATTTTTTAGGGAGACTTTGGCCT

                GGGCCGGA    AGGGA
                    TTCCTCA
            AAATT

=====
(3628) JX447454
=====
PK1:  -15.100000(kcal/mol): PK_start=1499 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1527
(fs_start=1519)
                CA
GAAAGGAAGGACATCAAATGAAAGACTG

                GAC    AGAGAGTC
                    TTTTTTAGGG
            GCTAA

```

PK2: -21.940000(kcal/mol): PK_start=1504 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1541
(fs_start=1519)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1528 sp=0 s1=3 s2=8 l1=3 l2=6 L3=0 PK_end=1558
(fs_start=1519)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGAA
AAGGGA

PK4: -21.195000(kcal/mol): PK_start=1534 sp=7 s1=8 s2=5 l1=4 l2=5 L3=0 PK_end=1568
(fs_start=1519)

TCCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA AGGGA
TTCCTCA
AAATT

=====
(3629) JX447455
=====

PK1: -15.100000(kcal/mol): PK_start=1276 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1304
(fs_start=1296)

CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1281 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1318
(fs_start=1296)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1305 sp=0 s1=3 s2=8 l1=3 l2=6 L3=0 PK_end=1335
(fs_start=1296)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGAA
AAGGGA

PK4: -21.195000(kcal/mol): PK_start=1311 sp=7 s1=8 s2=5 l1=4 l2=5 L3=0 PK_end=1345
(fs_start=1296)

TCCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA AGGGA
TTCCTCA
AAATT

=====
(3630) JX447456
=====

PK1: -15.100000(kcal/mol): PK_start=1276 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1304
(fs_start=1296)

CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1281 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1318
(fs_start=1296)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1305 sp=0 s1=3 s2=8 l1=3 l2=6 L3=0 PK_end=1335
(fs_start=1296)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGAA
AAGGGA

PK4: -21.195000(kcal/mol): PK_start=1311 sp=7 s1=8 s2=5 l1=4 l2=5 L3=0 PK_end=1345
(fs_start=1296)

TCCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA AGGGA
TTCCTCA
AAATT

=====
(3631) JX447458
=====

PK1: -15.100000(kcal/mol): PK_start=1499 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1527
(fs_start=1519)

CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC

TTTTTTAGGG
 GCTAA
 PK2: -21.940000(kcal/mol): PK_start=1504 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1541
 (fs_start=1519)
 C
 GAAGGACATCAAATGAAAGACTGCACTGAGAGA
 GATTTTTT AATCGGA
 TTGGCCTTC
 GGAAAAT
 PK3: -18.565000(kcal/mol): PK_start=1528 sp=0 s1=3 s2=8 l1=3 l2=6 L3=0 PK_end=1558
 (fs_start=1519)
 AAA
 ACTGAGAGACAGGCTAATTTTTTAGGGA
 CCT TCCGGTTT
 AGGCCGGGAA
 AAGGGA
 PK4: -21.195000(kcal/mol): PK_start=1534 sp=7 s1=8 s2=5 l1=4 l2=5 L3=0 PK_end=1568
 (fs_start=1519)
 TCCA
 AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
 GGGCCGGA AGGGA
 TTCCTCA
 AAATT
 =====
 (3632) JX447459
 =====
 PK1: -15.100000(kcal/mol): PK_start=1498 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1526
 (fs_start=1518)
 CA
 GAAAGGAAGGACATCAAATGAAAGACTG
 GAC AGAGAGTC
 TTTTTTAGGG
 GCTAA
 PK2: -21.940000(kcal/mol): PK_start=1503 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1540
 (fs_start=1518)
 C
 GAAGGACATCAAATGAAAGACTGCACTGAGAGA
 GATTTTTT AATCGGA
 TTGGCCTTC
 GGAAAAT
 PK3: -18.565000(kcal/mol): PK_start=1527 sp=0 s1=3 s2=8 l1=3 l2=6 L3=0 PK_end=1557
 (fs_start=1518)
 AAA
 ACTGAGAGACAGGCTAATTTTTTAGGGA
 CCT TCCGGTTT

AGGCCGGGAA

AAGGGA

PK4: -18.405000(kcal/mol): PK_start=1534 sp=8 s1=9 s2=4 l1=1 l2=4 L3=0 PK_end=1564
(fs_start=1518)

C

GACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC

GGCCGGAAG GGAA

TTTTCA

GAAA

=====
(3633) JX447460
=====

PK1: -15.100000(kcal/mol): PK_start=1276 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1304
(fs_start=1296)

CA

GAAAGGAAGGACATCAAATGAAAGACTG

GAC AGAGAGTC

TTTTTTAGGG

GCTAA

PK2: -21.940000(kcal/mol): PK_start=1281 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1318
(fs_start=1296)

C

GAAGGACATCAAATGAAAGACTGCACTGAGAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1305 sp=0 s1=3 s2=8 l1=3 l2=6 L3=0 PK_end=1335
(fs_start=1296)

AAA

ACTGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT

AGGCCGGGAA

AAGGGA

PK4: -21.195000(kcal/mol): PK_start=1311 sp=7 s1=8 s2=5 l1=4 l2=5 L3=0 PK_end=1345
(fs_start=1296)

TCCA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGGCCGGA AGGGA

TTCCTCA

AAATT

=====
(3634) JX447461
=====

PK1: -15.100000(kcal/mol): PK_start=1276 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1304
(fs_start=1296)

CA

GAAAGGAAGGACATCAAATGAAAGACTG

GAC AGAGAGTC
TTTTTTAGGG
GCTAA
PK2: -21.940000(kcal/mol): PK_start=1281 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1318
(fs_start=1296)
C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA

GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT
PK3: -18.565000(kcal/mol): PK_start=1305 sp=0 s1=3 s2=8 l1=3 l2=6 L3=0 PK_end=1335
(fs_start=1296)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGAA
AAGGGA

PK4: -21.195000(kcal/mol): PK_start=1311 sp=7 s1=8 s2=5 l1=4 l2=5 L3=0 PK_end=1345
(fs_start=1296)
TCCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA AGGGA
TTCCTCA
AAATT

=====
(3635) JX447462
=====

PK1: -15.100000(kcal/mol): PK_start=1276 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1304
(fs_start=1296)
CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1281 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1318
(fs_start=1296)
C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1305 sp=0 s1=3 s2=8 l1=3 l2=6 L3=0 PK_end=1335
(fs_start=1296)
AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT
AGGCCGGGAA
AAGGGA
PK4: -18.405000(kcal/mol): PK_start=1312 sp=8 s1=9 s2=4 l1=1 l2=4 L3=0 PK_end=1342
(fs_start=1296)

C
GACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGCCGGAAG GGAA
TTTTCA
GAAA

=====
(3636) JX447463
=====

PK1: -15.100000(kcal/mol): PK_start=1276 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1304
(fs_start=1296)

CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1281 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1318
(fs_start=1296)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1305 sp=0 s1=3 s2=8 l1=3 l2=6 L3=0 PK_end=1335
(fs_start=1296)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGAA
AAGGGA

PK4: -21.195000(kcal/mol): PK_start=1311 sp=7 s1=8 s2=5 l1=4 l2=5 L3=0 PK_end=1345
(fs_start=1296)

TCCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA AGGGA
TTCCTCA
AAATT

=====
(3637) JX447464
=====

PK1: -15.10000(kcal/mol): PK_start=1275 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1303
(fs_start=1295)

CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTTAGGG
GCTAA

PK2: -21.94000(kcal/mol): PK_start=1280 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1317
(fs_start=1295)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -18.56500(kcal/mol): PK_start=1304 sp=0 s1=3 s2=8 l1=3 l2=6 L3=0 PK_end=1334
(fs_start=1295)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGAA
AAGGGA

PK4: -21.19500(kcal/mol): PK_start=1310 sp=7 s1=8 s2=5 l1=4 l2=5 L3=0 PK_end=1344
(fs_start=1295)

TCCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA AGGGA
TTCCTCA
AAATT

=====
(3638) JX447468
=====

PK1: -12.34000(kcal/mol): PK_start=1423 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1451
(fs_start=1443)

CA
GGGAGGAAGGACATCACATGAAAGACTG
GAC AGAGGGTC
TTTTTTTAGGG
GCTAA

PK2: -19.18000(kcal/mol): PK_start=1428 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1465
(fs_start=1443)

C
GAAGGACATCACATGAAAGACTGCACTGGGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAGCT

PK3: -17.400000(kcal/mol): PK_start=1452 sp=0 s1=5 s2=6 l1=1 l2=11 l3=0 PK_end=1485 (fs_start=1443)

C
ACTGGGAGACAGGCTAATTTTTTTAGGGAAG
CCTTC CGGTTT
GCCGGGGA
AGCAAGGGAAG

PK4: -23.505000(kcal/mol): PK_start=1457 sp=6 s1=9 s2=5 l1=7 l2=4 l3=0 PK_end=1495 (fs_start=1443)

TCCAGCA
GAGACAGGCTAATTTTTTTAGGGAAGCTTTGGCCT
GGGGCCGGA AGGGA
TTCCTCA
AATT

=====
(3639) JX447470
=====

PK1: -12.340000(kcal/mol): PK_start=1394 sp=0 s1=3 s2=8 l1=2 l2=5 l3=0 PK_end=1422 (fs_start=1414)

CA
GGGAGGAAGGACATCACATGAAAGACTG
GAC AGAGGGTC
TTTTTTAGGG
GCTAA

PK2: -19.180000(kcal/mol): PK_start=1399 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1436 (fs_start=1414)

C
GAAGGACATCACATGAAAGACTGCACTGGGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAGCT

PK3: -17.400000(kcal/mol): PK_start=1423 sp=0 s1=5 s2=6 l1=1 l2=11 l3=0 PK_end=1456 (fs_start=1414)

C
ACTGGGAGACAGGCTAATTTTTTTAGGGAAG
CCTTC CGGTTT
GCCGGGGA
AGCAAGGGAAG

PK4: -23.505000(kcal/mol): PK_start=1428 sp=6 s1=9 s2=5 l1=7 l2=4 l3=0 PK_end=1466 (fs_start=1414)

TCCAGCA
GAGACAGGCTAATTTTTTTAGGGAAGCTTTGGCCT
GGGGCCGGA AGGGA
TTCCTCA
AATT

=====
(3640) JX447471
=====

PK1: -12.340000(kcal/mol): PK_start=1410 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1438
(fs_start=1430)

CA
GGGAGGAAGGACATCACATGAAAGACTG
GAC AGAGGGTC
TTTTTTAGGG
GCTAA

PK2: -19.180000(kcal/mol): PK_start=1415 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1452
(fs_start=1430)

C
GAAGGACATCACATGAAAGACTGCACTGGGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAGCT

PK3: -17.400000(kcal/mol): PK_start=1439 sp=0 s1=5 s2=6 l1=1 l2=11 L3=0 PK_end=1472
(fs_start=1430)

C
ACTGGGAGACAGGCTAATTTTTTAGGGAAG
CCTTC CGGTTT
GCCGGGGA
AGCAAGGGAAG

PK4: -23.505000(kcal/mol): PK_start=1444 sp=6 s1=9 s2=5 l1=7 l2=4 L3=0 PK_end=1482
(fs_start=1430)

TCCAGCA
GAGACAGGCTAATTTTTTAGGGAAGCTTTGGCCT
GGGGCCGGA AGGGA
TTCCTCA
AATT

=====
(3641) JX447499
=====

PK1: -15.100000(kcal/mol): PK_start=1258 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1286
(fs_start=1278)

CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -20.460000(kcal/mol): PK_start=1263 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1299
(fs_start=1278)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT A ATCGGA

```

                                TGGCCTTC
                                GGAAAATC
PK3:  -23.145000(kcal/mol): PK_start=1287 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1320
(fs_start=1278)
                                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCT   TCCGGTCT
                                AGGCCGGGAA
                                AACAAGGGA

PK4:  -25.775000(kcal/mol): PK_start=1293 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1330
(fs_start=1278)
                                TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                                GGGCCGGA   AGGGA
                                TTCCTCA
                                AAACT

=====
(3642) JX447500
=====
PK1:  -15.100000(kcal/mol): PK_start=1258 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1286
(fs_start=1278)
                                CA
GAAAGGAAGGACATCAAATGAAAGACTG
                                GAC   AGAGAGTC
                                TTTTTTAGGG
                                GCTAA

PK2:  -20.460000(kcal/mol): PK_start=1263 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1299
(fs_start=1278)
                                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                                GATTTTTT   A   ATCGGA
                                TGGCCTTC
                                GGAAAATC

PK3:  -23.145000(kcal/mol): PK_start=1287 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1320
(fs_start=1278)
                                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCT   TCCGGTCT
                                AGGCCGGGAA
                                AACAAGGGA

PK4:  -25.775000(kcal/mol): PK_start=1293 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1330
(fs_start=1278)
                                TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                                GGGCCGGA   AGGGA

```

TTCCTCA

AAATT

=====
(3643) JX447501
=====

PK1: -15.100000(kcal/mol): PK_start=1258 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1286
(fs_start=1278)

CA

GAAAGGAAGGACATCAAATGAAAGACTG

GAC AGAGAGTC

TTTTTTAGGG

GCTAA

PK2: -20.460000(kcal/mol): PK_start=1263 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1299
(fs_start=1278)

C

GAAGGACATCAAATGAAAGACTGCACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAAATC

PK3: -23.145000(kcal/mol): PK_start=1287 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1320
(fs_start=1278)

AAA

ACTGAGAGACAGGCTAATTTTTTTAGGGA

CCT TCCGGTCT

AGGCCGGGAA

AACAAGGGA

PK4: -25.775000(kcal/mol): PK_start=1293 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1330
(fs_start=1278)

TCCAACA

AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT

GGGCCGGA AGGGA

TTCCTCA

AAATT

=====
(3644) JX447502
=====

PK1: -15.100000(kcal/mol): PK_start=1258 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1286
(fs_start=1278)

CA

GAAAGGAAGGACATCAAATGAAAGACTG

GAC AGAGAGTC

TTTTTTAGGG

GCTAA

PK2: -20.460000(kcal/mol): PK_start=1263 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1299
(fs_start=1278)

C

GAAGGACATCAAATGAAAGACTGCACTGAGAGA

GATTTTTT A ATCGGA
 TGGCCTTC
 GGAAAATC
 PK3: -23.145000(kcal/mol): PK_start=1287 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1320
 (fs_start=1278)
 AAA
 ACTGAGAGACAGGCTAATTTTTTAGGGA
 CCT TCCGGTCT
 AGGCCGGGAA
 AACAAAGGGA
 PK4: -25.775000(kcal/mol): PK_start=1293 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1330
 (fs_start=1278)
 TCCAACA
 AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
 GGGCCGGA AGGGA
 TTCCTCA
 AAATT
 =====
 (3645) JX447503
 =====
 PK1: -15.100000(kcal/mol): PK_start=1258 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1286
 (fs_start=1278)
 CA
 GAAAGGAAGGACATCAAATGAAAGACTG
 GAC AGAGAGTC
 TTTTTTAGGG
 GCTAA
 PK2: -20.460000(kcal/mol): PK_start=1263 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1299
 (fs_start=1278)
 C
 GAAGGACATCAAATGAAAGACTGCACTGAGAGA
 GATTTTTT A ATCGGA
 TGGCCTTC
 GGAAAATC
 PK3: -23.145000(kcal/mol): PK_start=1287 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1320
 (fs_start=1278)
 AAA
 ACTGAGAGACAGGCTAATTTTTTAGGGA
 CCT TCCGGTCT
 AGGCCGGGAA
 AACAAAGGGA
 PK4: -25.775000(kcal/mol): PK_start=1293 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1330
 (fs_start=1278)
 TCCAACA
 AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT

```

GGGCCGGA    AGGGA
              TTCCTCA
AAATT

=====
(3646) JX447504
=====
PK1:  -15.100000(kcal/mol): PK_start=1258 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1286
(fs_start=1278)
              CA
GAAAGGAAGGACATCAAATGAAAGACTG
              GAC    AGAGAGTC
              TTTTTTAGGG
GCTAA

PK2:  -20.460000(kcal/mol): PK_start=1263 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1299
(fs_start=1278)
              C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
              GATTTTTT A  ATCGGA
              TGGCCTTC
GGAAAATC

PK3:  -23.145000(kcal/mol): PK_start=1287 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1320
(fs_start=1278)
              AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
              CCT    TCCGGTCT
              AGGCCGGGAA
AACAAGGGA

PK4:  -25.775000(kcal/mol): PK_start=1293 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1330
(fs_start=1278)
              TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
              GGGCCGGA    AGGGA
              TTCCTCA
AAATT

=====
(3647) JX447505
=====
PK1:  -15.100000(kcal/mol): PK_start=1258 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1286
(fs_start=1278)
              CA
GAAAGGAAGGACATCAAATGAAAGACTG
              GAC    AGAGAGTC
              TTTTTTAGGG
GCTAA

```

PK2: -20.460000(kcal/mol): PK_start=1263 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1299
(fs_start=1278)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -23.145000(kcal/mol): PK_start=1287 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1320
(fs_start=1278)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTCT
AGGCCGGGAA
AACAAGGGA

PK4: -25.775000(kcal/mol): PK_start=1293 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1330
(fs_start=1278)

TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGGCCGGA AGGGA
TTCCTCA
AAATT

=====
(3648) JX447506
=====

PK1: -15.100000(kcal/mol): PK_start=1258 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1286
(fs_start=1278)

CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -20.460000(kcal/mol): PK_start=1263 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1299
(fs_start=1278)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -23.145000(kcal/mol): PK_start=1287 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1320
(fs_start=1278)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTCT
AGGCCGGGAA
AACAAGGGA

PK4: -25.775000(kcal/mol): PK_start=1293 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1330
(fs_start=1278)

```

                                TCCAACA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT
                                GGGCCGGA   AGGGA
                                TTCCTCA
                                AAATT
```

=====
(3649) JX447507
=====

PK1: -15.100000(kcal/mol): PK_start=1258 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1286
(fs_start=1278)

```

                                CA
GAAAGGAAGGACATCAAATGAAAGACTG
                                GAC   AGAGAGTC
                                TTTTTTAGGG
                                GCTAA
```

PK2: -20.460000(kcal/mol): PK_start=1263 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1299
(fs_start=1278)

```

                                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                                GATTTTTT   A   ATCGGA
                                TGGCCTTC
                                GGAAAATC
```

PK3: -23.145000(kcal/mol): PK_start=1287 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1320
(fs_start=1278)

```

                                AAA
ACTGAGAGACAGGCTAATTTTTTTAGGGA
                                CCT   TCCGGTCT
                                AGGCCGGGAA
                                AACAAGGGA
```

PK4: -25.775000(kcal/mol): PK_start=1293 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1330
(fs_start=1278)

```

                                TCCAACA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT
                                GGGCCGGA   AGGGA
                                TTCCTCA
                                AAATT
```

=====
(3650) JX447508
=====

PK1: -15.100000(kcal/mol): PK_start=1258 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1286
(fs_start=1278)

```

                                CA
GAAAGGAAGGACATCAAATGAAAGACTG
                                GAC   AGAGAGTC
```

```

                TTTTTTAGGG
            GCTAA

PK2:  -20.460000(kcal/mol): PK_start=1263 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1299
(fs_start=1278)
                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT  A  ATCGGA
                TGGCCTTC
            GGAAAATC

PK3:  -23.145000(kcal/mol): PK_start=1287 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1320
(fs_start=1278)
                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                CCT  TCCGGTCT
                AGGCCGGGAA
            AACAAGGGA

PK4:  -25.775000(kcal/mol): PK_start=1293 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1330
(fs_start=1278)
                TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                GGGCCGGA  AGGGA
                TTCCTCA
            AAATT

=====
(3651) JX447535
=====
PK1:  -15.100000(kcal/mol): PK_start=1416 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1444
(fs_start=1436)
                CA
GAAAGGAAGGACATCAAATGAAAGACTG
                GAC  AGAGAGTC
                TTTTTTAGGG
            GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1421 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1458
(fs_start=1436)
                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT  AATCGGA
                TTGGCCTTC
            GGAGGCT

PK3:  -17.050000(kcal/mol): PK_start=1445 sp=0 s1=5 s2=6 l1=1 l2=11 L3=0 PK_end=1478
(fs_start=1436)
                C
ACTGAGAGACAGGCTAATTTTTTAGGGAGG
                CCTTC  CGGTTT

```

GCCGGGGA

AACAAAGGGAAG

PK4: -23.505000(kcal/mol): PK_start=1450 sp=6 s1=9 s2=5 l1=7 l2=4 L3=0 PK_end=1488
(fs_start=1436)

TCCAACA

GAGACAGGCTAATTTTTTTAGGGAGGCTTTGGCCT

GGGGCCGGA AGGGA

TTCCTCA

AATT

=====
(3652) JX447536
=====

PK1: -15.100000(kcal/mol): PK_start=1440 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1468
(fs_start=1460)

CA

GAAAGGAAGGACATCAAATGAAAGACTG

GAC AGAGAGTC

TTTTTTAGGG

GCTAA

PK2: -21.940000(kcal/mol): PK_start=1445 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1482
(fs_start=1460)

C

GAAGGACATCAAATGAAAGACTGCACTGAGAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAGGCT

PK3: -17.050000(kcal/mol): PK_start=1469 sp=0 s1=5 s2=6 l1=1 l2=11 L3=0 PK_end=1502
(fs_start=1460)

C

ACTGAGAGACAGGCTAATTTTTTTAGGGAGG

CCTTC CGGTTT

GCCGGGGA

AACAAAGGGAAG

PK4: -23.505000(kcal/mol): PK_start=1474 sp=6 s1=9 s2=5 l1=7 l2=4 L3=0 PK_end=1512
(fs_start=1460)

TCCAACA

GAGACAGGCTAATTTTTTTAGGGAGGCTTTGGCCT

GGGGCCGGA AGGGA

TTCCTCA

AATT

=====
(3653) JX447537
=====

PK1: -15.100000(kcal/mol): PK_start=1448 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1476
(fs_start=1468)

CA

GAAAGGAAGGACATCAAATGAAAGACTG

```

                GAC   AGAGAGTC
                TTTTTTAGGG
            GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1453 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1490
(fs_start=1468)
                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT   AATCGGA
                TTGGCCTTC
            GGAGGCT

PK3:  -17.050000(kcal/mol): PK_start=1477 sp=0 s1=5 s2=6 l1=1 l2=11 L3=0 PK_end=1510
(fs_start=1468)
                C
ACTGAGAGACAGGCTAATTTTTTAGGGAGG
                CCTTC   CGGTTT
                GCCGGGGA
            AACAAAGGAAG

PK4:  -23.505000(kcal/mol): PK_start=1482 sp=6 s1=9 s2=5 l1=7 l2=4 L3=0 PK_end=1520
(fs_start=1468)
                TCCAACA
GAGACAGGCTAATTTTTTAGGGAGGCTTTGGCCT
                GGGGCCGGA   AGGGA
                TTCCTCA
            AATT

=====
(3654) JX447538
=====
PK1:  -15.100000(kcal/mol): PK_start=1439 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1467
(fs_start=1459)
                CA
GAAAGGAAGGACATCAAATGAAAGACTG
                GAC   AGAGAGTC
                TTTTTTAGGG
            GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1444 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1481
(fs_start=1459)
                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT   AATCGGA
                TTGGCCTTC
            GGAGGCT

PK3:  -17.050000(kcal/mol): PK_start=1468 sp=0 s1=5 s2=6 l1=1 l2=11 L3=0 PK_end=1501
(fs_start=1459)
                C
ACTGAGAGACAGGCTAATTTTTTAGGGAGG

```

CCTTC CGGTTT
GCCGGGGA
AACAAAGGAAG
PK4: -23.505000(kcal/mol): PK_start=1473 sp=6 s1=9 s2=5 l1=7 l2=4 L3=0 PK_end=1511
(fs_start=1459)

TCCAACA
GAGACAGGCTAATTTTTTAGGGAGGCTTTGGCCT
GGGGCCGGA AGGA
TTCCTCA
AATT

=====
(3655) JX447539
=====

PK1: -15.100000(kcal/mol): PK_start=1513 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1541
(fs_start=1533)

CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1518 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1555
(fs_start=1533)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAGGCT

PK3: -17.050000(kcal/mol): PK_start=1542 sp=0 s1=5 s2=6 l1=1 l2=11 L3=0 PK_end=1575
(fs_start=1533)

C
ACTGAGAGACAGGCTAATTTTTTAGGGAGG
CCTTC CGGTTT
GCCGGGGA
AACAAAGGAAG

PK4: -23.505000(kcal/mol): PK_start=1547 sp=6 s1=9 s2=5 l1=7 l2=4 L3=0 PK_end=1585
(fs_start=1533)

TCCAACA
GAGACAGGCTAATTTTTTAGGGAGGCTTTGGCCT
GGGGCCGGA AGGA
TTCCTCA
AATT

=====
(3656) JX447540
=====

PK1: -15.100000(kcal/mol): PK_start=1513 sp=0 s1=3 s2=8 l1=2 l2=5 l3=0 PK_end=1541
(fs_start=1533)

CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1518 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1555
(fs_start=1533)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAGGCT

PK3: -17.050000(kcal/mol): PK_start=1542 sp=0 s1=5 s2=6 l1=1 l2=11 l3=0 PK_end=1575
(fs_start=1533)

C
ACTGAGAGACAGGCTAATTTTTTAGGGAGG
CCTTC CGGTTT
GCCGGGGA
AACAAGGGAAG

PK4: -23.505000(kcal/mol): PK_start=1547 sp=6 s1=9 s2=5 l1=7 l2=4 l3=0 PK_end=1585
(fs_start=1533)

TCCAACA
GAGACAGGCTAATTTTTTAGGGAGGCTTTGGCCT
GGGGCCGGA AGGGA
TTCCTCA
AATT

=====
(3657) JX447541
=====

PK1: -15.100000(kcal/mol): PK_start=1550 sp=0 s1=3 s2=8 l1=2 l2=5 l3=0 PK_end=1578
(fs_start=1570)

CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1555 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1592
(fs_start=1570)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAGGCT

PK3: -17.050000(kcal/mol): PK_start=1579 sp=0 s1=5 s2=6 l1=1 l2=11 l3=0 PK_end=1612 (fs_start=1570)

C
ACTGAGAGACAGGCTAATTTTTTTAGGGAGG
CCTTC CGGTTT
GCCGGGGA
AACAAGGGAAG

PK4: -23.505000(kcal/mol): PK_start=1584 sp=6 s1=9 s2=5 l1=7 l2=4 l3=0 PK_end=1622 (fs_start=1570)

TCCAACA
GAGACAGGCTAATTTTTTTAGGGAGGCTTTGGCCT
GGGGCCGGA AGGGA
TTCCTCA
AATT

=====
(3658) JX447542
=====

PK1: -15.100000(kcal/mol): PK_start=1514 sp=0 s1=3 s2=8 l1=2 l2=5 l3=0 PK_end=1542 (fs_start=1534)

CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1519 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1556 (fs_start=1534)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAGGCT

PK3: -17.050000(kcal/mol): PK_start=1543 sp=0 s1=5 s2=6 l1=1 l2=11 l3=0 PK_end=1576 (fs_start=1534)

C
ACTGAGAGACAGGCTAATTTTTTTAGGGAGG
CCTTC CGGTTT
GCCGGGGA
AACAAGGGAAG

PK4: -23.505000(kcal/mol): PK_start=1548 sp=6 s1=9 s2=5 l1=7 l2=4 l3=0 PK_end=1586 (fs_start=1534)

TCCAACA
GAGACAGGCTAATTTTTTTAGGGAGGCTTTGGCCT
GGGGCCGGA AGGGA
TTCCTCA
AATT

=====
(3659) JX447543
=====

PK1: -15.100000(kcal/mol): PK_start=1435 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1463
(fs_start=1455)

CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1440 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1477
(fs_start=1455)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAGGCT

PK3: -17.050000(kcal/mol): PK_start=1464 sp=0 s1=5 s2=6 l1=1 l2=11 L3=0 PK_end=1497
(fs_start=1455)

C
ACTGAGAGACAGGCTAATTTTTTAGGGAGG
CCTTC CGGTTT
GCCGGGGA
AACAAGGGAAG

PK4: -23.505000(kcal/mol): PK_start=1469 sp=6 s1=9 s2=5 l1=7 l2=4 L3=0 PK_end=1507
(fs_start=1455)

TCCAACA
GAGACAGGCTAATTTTTTAGGGAGGCTTTGGCCT
GGGGCCGGA AGGGA
TTCCTCA
AATT

=====
(3660) JX447544
=====

PK1: -15.100000(kcal/mol): PK_start=1429 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1457
(fs_start=1449)

CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1434 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1471
(fs_start=1449)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA

TTGGCCTTC
GGAGGCT
PK3: -17.050000(kcal/mol): PK_start=1458 sp=0 s1=5 s2=6 l1=1 l2=11 l3=0 PK_end=1491
(fs_start=1449)

C
ACTGAGAGACAGGCTAATTTTTTAGGGAGG
CCTTC CGGTTT
GCCGGGGA
AACAAAGGAAG

PK4: -23.505000(kcal/mol): PK_start=1463 sp=6 s1=9 s2=5 l1=7 l2=4 l3=0 PK_end=1501
(fs_start=1449)

TCCAACA
GAGACAGGCTAATTTTTTAGGGAGGCTTTGGCCT
GGGGCCGGA AGGGA
TTCCTCA
AATT

=====
(3661) JX447589
=====

PK1: -15.100000(kcal/mol): PK_start=1369 sp=0 s1=3 s2=8 l1=2 l2=5 l3=0 PK_end=1397
(fs_start=1389)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -20.460000(kcal/mol): PK_start=1374 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1410
(fs_start=1389)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAGATTC

PK3: -23.345000(kcal/mol): PK_start=1398 sp=0 s1=3 s2=9 l1=2 l2=9 l3=0 PK_end=1432
(fs_start=1389)

GA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTCTT
AGGCCAGGGAA
AACAAAGGA

PK4: -24.585000(kcal/mol): PK_start=1404 sp=7 s1=10 s2=4 l1=4 l2=3 l3=0 PK_end=1438
(fs_start=1389)

CAAC
AGACAGGCTAATTTTTTAGGGAGATTCTGGCCTTC
GGACCGGAAG GAAA

```

                                TTTTCY
                                GAA

=====
(3662) JX447590
=====
PK1:  -15.100000(kcal/mol): PK_start=1450 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1478
(fs_start=1470)
                                CA
GGAAGGAAGGACATCAAATGAAAGACTG
                                GAC   AGAGAGTC
                                TTTTTTAGGG
                                GCTAA

PK2:  -20.460000(kcal/mol): PK_start=1455 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1491
(fs_start=1470)
                                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                                GATTTTTT A  ATCGGA
                                TGGCCTTC
                                GGAGATTC

PK3:  -23.345000(kcal/mol): PK_start=1479 sp=0 s1=3 s2=9 l1=2 l2=9 L3=0 PK_end=1513
(fs_start=1470)
                                GA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCT   TCCGGTCTT
                                AGGCCAGGGAA
                                AACAAAGGA

PK4:  -25.525000(kcal/mol): PK_start=1484 sp=6 s1=9 s2=4 l1=8 l2=5 L3=0 PK_end=1522
(fs_start=1470)
                                TCCAACAA
GAGACAGGCTAATTTTTTAGGGAGATTCTGGCCT
                                GGGACCGGA   AGGA
                                TCCTCA
                                AATTT

=====
(3663) JX447591
=====
PK1:  -15.100000(kcal/mol): PK_start=1414 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1442
(fs_start=1434)
                                CA
GGAAGGAAGGACATCAAATGAAAGACTG
                                GAC   AGAGAGTC
                                TTTTTTAGGG
                                GCTAA

PK2:  -20.460000(kcal/mol): PK_start=1419 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1455
(fs_start=1434)
                                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA

```

GATTTTTT A ATCGGA
 TGGCCTTC
 GGAGATTC
 PK3: -23.345000(kcal/mol): PK_start=1443 sp=0 s1=3 s2=9 l1=2 l2=9 L3=0 PK_end=1477
 (fs_start=1434)
 GA
 ACTGAGAGACAGGCTAATTTTTTAGGGA
 CCT TCCGGTCTT
 AGGCCAGGGAA
 AACAAAGGA
 PK4: -25.525000(kcal/mol): PK_start=1448 sp=6 s1=9 s2=4 l1=8 l2=5 L3=0 PK_end=1486
 (fs_start=1434)
 TCCAACAA
 GAGACAGGCTAATTTTTTAGGGAGATTCTGGCCT
 GGGACCGGA AGGA
 TCCTCA
 AATTT
 =====
 (3664) JX447592
 =====
 PK1: -15.100000(kcal/mol): PK_start=1450 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1478
 (fs_start=1470)
 CA
 GGAAGGAAGGACATCAAATGAAAGACTG
 GAC AGAGAGTC
 TTTTTTAGGG
 GCTAA
 PK2: -20.460000(kcal/mol): PK_start=1455 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1491
 (fs_start=1470)
 C
 GAAGGACATCAAATGAAAGACTGCACTGAGAGA
 GATTTTTT A ATCGGA
 TGGCCTTC
 GGAGATTC
 PK3: -23.345000(kcal/mol): PK_start=1479 sp=0 s1=3 s2=9 l1=2 l2=9 L3=0 PK_end=1513
 (fs_start=1470)
 GA
 ACTGAGAGACAGGCTAATTTTTTAGGGA
 CCT TCCGGTCTT
 AGGCCAGGGAA
 AACAAAGGA
 PK4: -25.525000(kcal/mol): PK_start=1484 sp=6 s1=9 s2=4 l1=8 l2=5 L3=0 PK_end=1522
 (fs_start=1470)
 TCCAACAA
 GAGACAGGCTAATTTTTTAGGGAGATTCTGGCCT

```

                GGGACCGGA    AGGA
                                TCCTCA
        AATTT

=====
(3665) JX447593
=====
PK1:  -15.100000(kcal/mol): PK_start=1416 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1444
(fs_start=1436)
                CA
GGAAGGAAGGACATCAAATGAAAGACTG

                GAC    AGAGAGTC
                                TTTTTTAGGG
        GCTAA

PK2:  -20.460000(kcal/mol): PK_start=1421 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1457
(fs_start=1436)
                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA

                GATTTTTT    A    ATCGGA
                                TGGCCTTC
        GGAGATTC

PK3:  -23.345000(kcal/mol): PK_start=1445 sp=0 s1=3 s2=9 l1=2 l2=9 L3=0 PK_end=1479
(fs_start=1436)
                GA
ACTGAGAGACAGGCTAATTTTTTAGGGA

                CCT    TCCGGTCTT
                                AGGCCAGGGAA
        AACAAAGGA

PK4:  -25.525000(kcal/mol): PK_start=1450 sp=6 s1=9 s2=4 l1=8 l2=5 L3=0 PK_end=1488
(fs_start=1436)
                                TCCAACAA
GAGACAGGCTAATTTTTTAGGGAGATTCTGGCCT

                GGGACCGGA    AGGA
                                TCCTCA
        AATTT

=====
(3666) JX447594
=====
PK1:  -15.100000(kcal/mol): PK_start=1449 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1477
(fs_start=1469)
                CA
GGAAGGAAGGACATCAAATGAAAGACTG

                GAC    AGAGAGTC
                                TTTTTTAGGG
        GCTAA

```

PK2: -20.460000(kcal/mol): PK_start=1454 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1490
(fs_start=1469)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAGATTC

PK3: -23.345000(kcal/mol): PK_start=1478 sp=0 s1=3 s2=9 l1=2 l2=9 L3=0 PK_end=1512
(fs_start=1469)

GA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTCTT
AGGCCAGGGAA
AACAAAGGA

PK4: -25.525000(kcal/mol): PK_start=1483 sp=6 s1=9 s2=4 l1=8 l2=5 L3=0 PK_end=1521
(fs_start=1469)

TCCAACAA
GAGACAGGCTAATTTTTTAGGGAGATTCTGGCCT
GGGACCGGA AGGA
TCCTCA
AATTT

=====
(3667) JX447595
=====

PK1: -15.100000(kcal/mol): PK_start=1418 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1446
(fs_start=1438)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -20.460000(kcal/mol): PK_start=1423 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1459
(fs_start=1438)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAGATTC

PK3: -23.345000(kcal/mol): PK_start=1447 sp=0 s1=3 s2=9 l1=2 l2=9 L3=0 PK_end=1481
(fs_start=1438)

GA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTCTT
AGGCCAGGGAA
AACAAAGGA

PK4: -25.525000(kcal/mol): PK_start=1452 sp=6 s1=9 s2=4 l1=8 l2=5 L3=0 PK_end=1490
(fs_start=1438)

TCCAACAA
GAGACAGGCTAATTTTTTAGGGAGATTCTGGCCT
GGGACCGGA AGGA
TCCTCA
AATTT

=====
(3668) JX447618
=====

PK1: -15.100000(kcal/mol): PK_start=1270 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1298
(fs_start=1290)

CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGA
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1275 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1312
(fs_start=1290)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GAAAAAT

PK3: -20.485000(kcal/mol): PK_start=1298 sp=0 s1=3 s2=8 l1=4 l2=9 L3=0 PK_end=1332
(fs_start=1290)

AAAA
CACTGAGAGACAGGCTAATTTTTTAGGA
CCT TCCGGTTT
AGGCCAGGAA
AACAAGGGA

PK4: -22.915000(kcal/mol): PK_start=1305 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1342
(fs_start=1290)

TCCAACA
AGACAGGCTAATTTTTTAGGAAAAATTTGGCCT
GGACCGGA AGGGA
TTCCTCA
AAATT

=====
(3669) JX447619
=====

PK1: -15.100000(kcal/mol): PK_start=1270 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1298
(fs_start=1290)

CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC

TTTTTTAGGA
GCTAA
PK2: -21.940000(kcal/mol): PK_start=1275 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1312
(fs_start=1290)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GAAAAAT

PK3: -20.485000(kcal/mol): PK_start=1298 sp=0 s1=3 s2=8 l1=4 l2=9 L3=0 PK_end=1332
(fs_start=1290)

AAAA
CACTGAGAGACAGGCTAATTTTTTAGGA
CCT TCCGGTTT
AGGCCAGGAA
AACAAGGGA

PK4: -22.915000(kcal/mol): PK_start=1305 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1342
(fs_start=1290)

TCCAACA
AGACAGGCTAATTTTTTAGGAAAAATTTGGCCT
GGACCGGA AGGGA
TTCCTCA
AAATT

=====
(3670) JX447620
=====

PK1: -15.100000(kcal/mol): PK_start=1270 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1298
(fs_start=1290)

CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGA
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1275 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1312
(fs_start=1290)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GAAAAAT

PK3: -20.485000(kcal/mol): PK_start=1298 sp=0 s1=3 s2=8 l1=4 l2=9 L3=0 PK_end=1332
(fs_start=1290)

AAAA
CACTGAGAGACAGGCTAATTTTTTAGGA
CCT TCCGGTTT

AGGCCAGGAA

AACAAGGGA

PK4: -22.915000(kcal/mol): PK_start=1305 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1342
(fs_start=1290)

TCCAACA

AGACAGGCTAATTTTTTTAGGAAAAATTTGGCCT

GGACCGGA AGGGA

TTCCTCA

AAATT

=====
(3671) JX447638
=====

PK1: -10.440000(kcal/mol): PK_start=1499 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1537
(fs_start=1530)

A

TTGGAAATGTGGGAAGGAAGGACATCAA

GTT AGAAAGT

TTTTTTTAGG

CACTGAAAGACAGGCTAA

PK2: -21.980000(kcal/mol): PK_start=1515 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1552
(fs_start=1530)

C

GAAGGACATCAAATGAAAGATTGCACTGAAAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAATT

PK3: -20.635000(kcal/mol): PK_start=1539 sp=0 s1=3 s2=9 l1=2 l2=9 L3=0 PK_end=1573
(fs_start=1530)

AA

ACTGAAAGACAGGCTAATTTTTTTAGGGA

CCT TCCGGTTTT

AGGCCGGGAAA

AACAAGGGA

PK4: -22.765000(kcal/mol): PK_start=1544 sp=6 s1=9 s2=5 l1=7 l2=4 L3=0 PK_end=1582
(fs_start=1530)

TCCAACA

AAGACAGGCTAATTTTTTTAGGGAATTTGGCCT

AGGCCCGGA AGGGA

TTCCTCA

AATT

=====
(3672) JX447639
=====

PK1: -10.440000(kcal/mol): PK_start=1499 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1537
(fs_start=1530)

A

TTGGAAATGTGGGAAGGAAGGACATCAA

GTT AGAAAGT
TTTTTTTAGG
CACTGAAAGACAGGCTAA
PK2: -21.980000(kcal/mol): PK_start=1515 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1552
(fs_start=1530)

C
GAAGGACATCAAATGAAAGATTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAATT

PK3: -20.635000(kcal/mol): PK_start=1539 sp=0 s1=3 s2=9 l1=2 l2=9 L3=0 PK_end=1573
(fs_start=1530)

AA
ACTGAAAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTTT
AGGCCGGGAAA
ACAAGGGA

PK4: -22.765000(kcal/mol): PK_start=1544 sp=6 s1=9 s2=5 l1=7 l2=4 L3=0 PK_end=1582
(fs_start=1530)

TCCAACA
AAGACAGGCTAATTTTTTAGGGAAATTTTGGCCT
AGGGCCGGA AGGGA
TTCCTCA
AATT

=====
(3673) JX447640
=====

PK1: -10.440000(kcal/mol): PK_start=1431 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1469
(fs_start=1462)

A
TTGGAAATGTGGGAAGGAAGGACATCAA
GTT AGAAAGT
TTTTTTTAGG
CACTGAAAGACAGGCTAA

PK2: -21.980000(kcal/mol): PK_start=1447 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1484
(fs_start=1462)

C
GAAGGACATCAAATGAAAGATTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAATT

PK3: -20.635000(kcal/mol): PK_start=1471 sp=0 s1=3 s2=9 l1=2 l2=9 L3=0 PK_end=1505
(fs_start=1462)

AA
ACTGAAAGACAGGCTAATTTTTTAGGGA

```

          CCT      TCCGGTTTT
                    AGGCCGGGAAA
AACAAAGGGA

PK4:  -22.765000(kcal/mol): PK_start=1476 sp=6 s1=9 s2=5 l1=7 l2=4 L3=0 PK_end=1514
(fs_start=1462)
                    TCCAACA
AAGACAGGCTAATTTTTTAGGGAAATTTTGGCCT
                    AGGGCCGGA      AGGGA
                    TTCCTCA
          AATT

=====
(3674) JX447641
=====
PK1:  -10.440000(kcal/mol): PK_start=1500 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1538
(fs_start=1531)
          A
TTGGAATGTGGGAAGGAAGGACATCAA
                    GTT      AGAAAGT
                    TTTTTTAGG
          CACTGAAAGACAGGCTAA

PK2:  -21.980000(kcal/mol): PK_start=1516 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1553
(fs_start=1531)
          C
GAAGGACATCAAATGAAAGATTGCACTGAAAGA
                    GATTTTTT      AATCGGA
                    TTGGCCTTC
          GGAAATT

PK3:  -20.635000(kcal/mol): PK_start=1540 sp=0 s1=3 s2=9 l1=2 l2=9 L3=0 PK_end=1574
(fs_start=1531)
          AA
ACTGAAAGACAGGCTAATTTTTTAGGGA
                    CCT      TCCGGTTTT
                    AGGCCGGGAAA
AACAAAGGGA

PK4:  -22.765000(kcal/mol): PK_start=1545 sp=6 s1=9 s2=5 l1=7 l2=4 L3=0 PK_end=1583
(fs_start=1531)
                    TCCAACA
AAGACAGGCTAATTTTTTAGGGAAATTTTGGCCT
                    AGGGCCGGA      AGGGA
                    TTCCTCA
          AATT

=====
(3675) JX447642
=====

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PK1: -10.440000(kcal/mol): PK_start=1500 sp=0 s1=3 s2=7 l1=1 l2=18 l3=0 PK_end=1538 (fs_start=1531)

A
TTGGAAATGTGGGAAGGAAGGACATCAA
GTT AGAAAGT
TTTTTTTAGG
CACTGAAAGACAGGCTAA

PK2: -21.980000(kcal/mol): PK_start=1516 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1553 (fs_start=1531)

C
GAAGGACATCAAATGAAAGATTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAATT

PK3: -20.635000(kcal/mol): PK_start=1540 sp=0 s1=3 s2=9 l1=2 l2=9 l3=0 PK_end=1574 (fs_start=1531)

AA
ACTGAAAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTTT
AGGCCGGGAAA
AACAAGGGA

PK4: -22.765000(kcal/mol): PK_start=1545 sp=6 s1=9 s2=5 l1=7 l2=4 l3=0 PK_end=1583 (fs_start=1531)

TCCAACA
AAGACAGGCTAATTTTTTAGGGAATTTTGGCCT
AGGGCCGGA AGGGA
TTCCTCA
AATT

=====
(3676) JX447643
=====

PK1: -10.440000(kcal/mol): PK_start=1500 sp=0 s1=3 s2=7 l1=1 l2=18 l3=0 PK_end=1538 (fs_start=1531)

A
TTGGAAATGTGGGAAGGAAGGACATCAA
GTT AGAAAGT
TTTTTTTAGG
CACTGAAAGACAGGCTAA

PK2: -21.980000(kcal/mol): PK_start=1516 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1553 (fs_start=1531)

C
GAAGGACATCAAATGAAAGATTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAATT

PK3: -20.635000(kcal/mol): PK_start=1540 sp=0 s1=3 s2=9 l1=2 l2=9 L3=0 PK_end=1574
(fs_start=1531)

AA
ACTGAAAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTTT
AGGCCGGGAAA
AACAAGGGA

PK4: -22.765000(kcal/mol): PK_start=1545 sp=6 s1=9 s2=5 l1=7 l2=4 L3=0 PK_end=1583
(fs_start=1531)

TCCAACA
AAGACAGGCTAATTTTTTAGGGAAATTTTGGCCT
AGGGCCGGA AGGGA
TTCCTCA
AATT

=====
(3677) JX447644
=====

PK1: -10.440000(kcal/mol): PK_start=1501 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1539
(fs_start=1532)

A
TTGGAAATGTGGGAAGGAAGGACATCAA
GTT AGAAAGT
TTTTTTAGG
CACTGAAAGACAGGCTAA

PK2: -21.980000(kcal/mol): PK_start=1517 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1554
(fs_start=1532)

C
GAAGGACATCAAATGAAAGATTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAATT

PK3: -20.635000(kcal/mol): PK_start=1541 sp=0 s1=3 s2=9 l1=2 l2=9 L3=0 PK_end=1575
(fs_start=1532)

AA
ACTGAAAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTTT
AGGCCGGGAAA
AACAAGGGA

PK4: -22.765000(kcal/mol): PK_start=1546 sp=6 s1=9 s2=5 l1=7 l2=4 L3=0 PK_end=1584
(fs_start=1532)

TCCAACA
AAGACAGGCTAATTTTTTAGGGAAATTTTGGCCT
AGGGCCGGA AGGGA
TTCCTCA
AATT

=====
(3678) JX447645
=====

PK1: -10.440000(kcal/mol): PK_start=1503 sp=0 s1=3 s2=7 l1=1 l2=18 l3=0 PK_end=1541
(fs_start=1534)

A
TTGGAATGTGGGAAGGAAGGACATCAA
GTT AGAAAGT
TTTTTTAGG
CACTGAAAGACAGGCTAA

PK2: -21.980000(kcal/mol): PK_start=1519 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1556
(fs_start=1534)

C
GAAGGACATCAAATGAAAGATTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAATT

PK3: -20.635000(kcal/mol): PK_start=1543 sp=0 s1=3 s2=9 l1=2 l2=9 l3=0 PK_end=1577
(fs_start=1534)

AA
ACTGAAAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTTT
AGGCCGGGAAA
AACAAGGGA

PK4: -22.765000(kcal/mol): PK_start=1548 sp=6 s1=9 s2=5 l1=7 l2=4 l3=0 PK_end=1586
(fs_start=1534)

TCCAACA
AAGACAGGCTAATTTTTTAGGAAATTTTGGCCT
AGGGCCGGA AGGGA
TTCCTCA
AATT

=====
(3679) JX447646
=====

PK1: -10.440000(kcal/mol): PK_start=1504 sp=0 s1=3 s2=7 l1=1 l2=18 l3=0 PK_end=1542
(fs_start=1535)

A
TTGGAATGTGGGAAGGAAGGACATCAA
GTT AGAAAGT
TTTTTTAGG
CACTGAAAGACAGGCTAA

PK2: -21.980000(kcal/mol): PK_start=1520 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1557
(fs_start=1535)

C
GAAGGACATCAAATGAAAGATTGCACTGAAAGA
GATTTTTT AATCGGA

TTGGCCTTC

GGAAATT

PK3: -20.635000(kcal/mol): PK_start=1544 sp=0 s1=3 s2=9 l1=2 l2=9 L3=0 PK_end=1578
(fs_start=1535)

AA

ACTGAAAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTTT

AGGCCGGGAAA

AACAAGGGA

PK4: -22.765000(kcal/mol): PK_start=1549 sp=6 s1=9 s2=5 l1=7 l2=4 L3=0 PK_end=1587
(fs_start=1535)

TCCAACA

AAGACAGGCTAATTTTTTAGGGAAATTTTGGCCT

AGGGCCGGA AGGGA

TTCCTCA

AATT

=====
(3680) JX447668
=====

PK1: -13.555000(kcal/mol): PK_start=1495 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1523
(fs_start=1515)

A

GAAAAGAAGGACATCAAATGAAAGATTGT

GACA GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -19.080000(kcal/mol): PK_start=1500 sp=0 s1=8 s2=5 l1=2 l2=8 L3=1 PK_end=1535
(fs_start=1515)

CA

GAAGGACATCAAATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGG

TGGCCCT

GGAAAATC

PK3: -24.730000(kcal/mol): PK_start=1523 sp=0 s1=4 s2=7 l1=3 l2=9 L3=1 PK_end=1556
(fs_start=1515)

AAA

TACTGAGAGACAGGCTAATTTTTTAGGGA

CCCT C CCGTCT

GGCCAGGGA

ACAAGGGAA

PK4: -23.190000(kcal/mol): PK_start=1530 sp=7 s1=7 s2=6 l1=8 l2=4 L3=0 PK_end=1567
(fs_start=1515)

CTCCCACA

AGACAGGCTAATTTTTTAGGGAAAATCTGGCC

GGACCGG AAGGGA

```

                                TTTCTTCA
                                GAAT

=====
(3681) JX447669
=====
PK1:  -13.555000(kcal/mol): PK_start=1495 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1523
(fs_start=1515)
                                A
GAAAAGAAGGACATCAAATGAAAGATTGT
                                GACA    GAGAGTC
                                TTTTTAGGG
                                GCTAAT

PK2:  -19.080000(kcal/mol): PK_start=1500 sp=0 s1=8 s2=5 l1=2 l2=8 L3=1 PK_end=1535
(fs_start=1515)
                                CA
GAAGGACATCAAATGAAAGATTGTACTGAGAGA
                                GATTTTTT  A  ATCGG
                                TGGCCCT
                                GGAAAATC

PK3:  -24.730000(kcal/mol): PK_start=1523 sp=0 s1=4 s2=7 l1=3 l2=9 L3=1 PK_end=1556
(fs_start=1515)
                                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCCT  C  CCGGTCT
                                GGCCAGGGA
                                ACAAGGGAA

PK4:  -23.190000(kcal/mol): PK_start=1530 sp=7 s1=7 s2=6 l1=8 l2=4 L3=0 PK_end=1567
(fs_start=1515)
                                CTCCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCC
                                GGACCGG    AAGGGA
                                TTTCTTCA
                                GAAT

=====
(3682) JX447670
=====
PK1:  -13.555000(kcal/mol): PK_start=1495 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1523
(fs_start=1515)
                                A
GAAAAGAAGGACATCAAATGAAAGATTGT
                                GACA    GAGAGTC
                                TTTTTAGGG
                                GCTAAT

PK2:  -19.080000(kcal/mol): PK_start=1500 sp=0 s1=8 s2=5 l1=2 l2=8 L3=1 PK_end=1535
(fs_start=1515)
                                CA
GAAGGACATCAAATGAAAGATTGTACTGAGAGA

```

GATTTTTT A ATCGG
 TGGCCCT
 GGAAAATC
 PK3: -24.730000(kcal/mol): PK_start=1523 sp=0 s1=4 s2=7 l1=3 l2=9 L3=1 PK_end=1556
 (fs_start=1515)
 AAA
 TACTGAGAGACAGGCTAATTTTTTAGGGA
 CCCT C CCGGTCT
 GGCCAGGGA
 ACAAGGGAA
 PK4: -23.190000(kcal/mol): PK_start=1530 sp=7 s1=7 s2=6 l1=8 l2=4 L3=0 PK_end=1567
 (fs_start=1515)
 CTCCCACA
 AGACAGGCTAATTTTTTAGGGAAAATCTGGCC
 GGACCGG AAGGGA
 TTTCTTCA
 GAAT
 =====
 (3683) JX447671
 =====
 PK1: -13.555000(kcal/mol): PK_start=1495 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1523
 (fs_start=1515)
 A
 GAAAAGAAGGACATCAAATGAAAGATTGT
 GACA GAGAGTC
 TTTTTAGGG
 GCTAAT
 PK2: -19.080000(kcal/mol): PK_start=1500 sp=0 s1=8 s2=5 l1=2 l2=8 L3=1 PK_end=1535
 (fs_start=1515)
 CA
 GAAGGACATCAAATGAAAGATTGTACTGAGAGA
 GATTTTTT A ATCGG
 TGGCCCT
 GGAAAATC
 PK3: -24.730000(kcal/mol): PK_start=1523 sp=0 s1=4 s2=7 l1=3 l2=9 L3=1 PK_end=1556
 (fs_start=1515)
 AAA
 TACTGAGAGACAGGCTAATTTTTTAGGGA
 CCCT C CCGGTCT
 GGCCAGGGA
 ACAAGGGAA
 PK4: -23.190000(kcal/mol): PK_start=1530 sp=7 s1=7 s2=6 l1=8 l2=4 L3=0 PK_end=1567
 (fs_start=1515)
 CTCCCACA
 AGACAGGCTAATTTTTTAGGGAAAATCTGGCC

GGACCGG AAGGGA
TTTCTTCA
GAAT

=====
(3684) JX447672
=====

PK1: -13.555000(kcal/mol): PK_start=1495 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1523
(fs_start=1515)

A
GAAAAGAAGGACATCAAATGAAAGATTGT

GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -19.080000(kcal/mol): PK_start=1500 sp=0 s1=8 s2=5 l1=2 l2=8 L3=1 PK_end=1535
(fs_start=1515)

CA
GAAGGACATCAAATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGG
TGGCCCT
GGAAAATC

PK3: -24.730000(kcal/mol): PK_start=1523 sp=0 s1=4 s2=7 l1=3 l2=9 L3=1 PK_end=1556
(fs_start=1515)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA

CCCT C CCGTCT
GGCCAGGGA
ACAAGGGAA

PK4: -23.190000(kcal/mol): PK_start=1530 sp=7 s1=7 s2=6 l1=8 l2=4 L3=0 PK_end=1567
(fs_start=1515)

CTCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCC

GGACCGG AAGGGA
TTTCTTCA
GAAT

=====
(3685) JX447673
=====

PK1: -13.555000(kcal/mol): PK_start=1495 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1523
(fs_start=1515)

A
GAAAAGAAGGACATCAAATGAAAGATTGT

GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -19.08000(kcal/mol): PK_start=1500 sp=0 s1=8 s2=5 l1=2 l2=8 L3=1 PK_end=1535
(fs_start=1515)

CA
GAAGGACATCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGG
TGCCCT
GGAAAATC

PK3: -24.73000(kcal/mol): PK_start=1523 sp=0 s1=4 s2=7 l1=3 l2=9 L3=1 PK_end=1556
(fs_start=1515)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT C CCGGTCT
GGCCAGGGA
ACAAGGGAA

PK4: -23.19000(kcal/mol): PK_start=1530 sp=7 s1=7 s2=6 l1=8 l2=4 L3=0 PK_end=1567
(fs_start=1515)

CTCCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCC
GGACCGG AAGGGA
TTTCTTCA
GAAT

=====
(3686) JX447674
=====

PK1: -13.55500(kcal/mol): PK_start=1495 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1523
(fs_start=1515)

A
GAAAAGAAGGACATCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -19.08000(kcal/mol): PK_start=1500 sp=0 s1=8 s2=5 l1=2 l2=8 L3=1 PK_end=1535
(fs_start=1515)

CA
GAAGGACATCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGG
TGCCCT
GGAAAATC

PK3: -24.73000(kcal/mol): PK_start=1523 sp=0 s1=4 s2=7 l1=3 l2=9 L3=1 PK_end=1556
(fs_start=1515)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT C CCGGTCT
GGCCAGGGA
ACAAGGGAA

PK4: -23.190000(kcal/mol): PK_start=1530 sp=7 s1=7 s2=6 l1=8 l2=4 L3=0 PK_end=1567
(fs_start=1515)

CTCCCACA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCC
GGACCGG AAGGGA
TTTCTTCA
GAAT

=====
(3687) JX447675
=====

PK1: -13.555000(kcal/mol): PK_start=1495 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1523
(fs_start=1515)

A
GAAAAGAAGGACATCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -19.080000(kcal/mol): PK_start=1500 sp=0 s1=8 s2=5 l1=2 l2=8 L3=1 PK_end=1535
(fs_start=1515)

CA
GAAGGACATCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGG
TGGCCCT
GGAAAATC

PK3: -24.730000(kcal/mol): PK_start=1523 sp=0 s1=4 s2=7 l1=3 l2=9 L3=1 PK_end=1556
(fs_start=1515)

AAA
TACTGAGAGACAGGCTAATTTTTTTAGGGA
CCCT C CCGGTCT
GGCCAGGGA
ACAAGGGAA

PK4: -23.190000(kcal/mol): PK_start=1530 sp=7 s1=7 s2=6 l1=8 l2=4 L3=0 PK_end=1567
(fs_start=1515)

CTCCCACA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCC
GGACCGG AAGGGA
TTTCTTCA
GAAT

=====
(3688) JX447676
=====

PK1: -13.555000(kcal/mol): PK_start=1495 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1523
(fs_start=1515)

A
GAAAAGAAGGACATCAAATGAAAGATTGT
GACA GAGAGTC

TTTTTAGGG
GCTAAT
PK2: -19.080000(kcal/mol): PK_start=1500 sp=0 s1=8 s2=5 l1=2 l2=8 L3=1 PK_end=1535
(fs_start=1515)

CA
GAAGGACATCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGG
TGGCCCT
GGAAAATC

PK3: -24.730000(kcal/mol): PK_start=1523 sp=0 s1=4 s2=7 l1=3 l2=9 L3=1 PK_end=1556
(fs_start=1515)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT C CCGGTCT
GGCCAGGGA
ACAAGGGAA

PK4: -23.190000(kcal/mol): PK_start=1530 sp=7 s1=7 s2=6 l1=8 l2=4 L3=0 PK_end=1567
(fs_start=1515)

CTCCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCC
GGACCGG AAGGGA
TTTCTTCA
GAAT

=====
(3689) JX447677
=====

PK1: -13.555000(kcal/mol): PK_start=1495 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1523
(fs_start=1515)

A
GAAAAGAAGGACATCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -19.080000(kcal/mol): PK_start=1500 sp=0 s1=8 s2=5 l1=2 l2=8 L3=1 PK_end=1535
(fs_start=1515)

CA
GAAGGACATCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGG
TGGCCCT
GGAAAATC

PK3: -24.730000(kcal/mol): PK_start=1523 sp=0 s1=4 s2=7 l1=3 l2=9 L3=1 PK_end=1556
(fs_start=1515)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT C CCGGTCT

GGCCAGGGA

ACAAGGGAA

PK4: -23.190000(kcal/mol): PK_start=1530 sp=7 s1=7 s2=6 l1=8 l2=4 L3=0 PK_end=1567
(fs_start=1515)

CTCCCACA

AGACAGGCTAATTTTTTTAGGGAAAATCTGGCC

GGACCGG AAGGGA

TTTCTTCA

GAAT

=====
(3690) JX447678
=====

PK1: -15.100000(kcal/mol): PK_start=1493 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1521
(fs_start=1513)

CA

GGAAAGAAGGACATCAAATGAAAGACTG

GAC AGAGAGTC

TTTTTTAGGG

GCTAA

PK2: -21.940000(kcal/mol): PK_start=1498 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1535
(fs_start=1513)

C

GAAGGACATCAAATGAAAGACTGCACTGAGAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1522 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1555
(fs_start=1513)

AAA

ACTGAGAGACAGGCTAATTTTTTTAGGGA

CCT TCCGGTTT

AGGCCGGGGA

AACAAAGGA

PK4: -20.745000(kcal/mol): PK_start=1528 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1565
(fs_start=1513)

TCCAACAA

AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT

GGGCCGGA AGGA

TCCTCA

GAATTT

=====
(3691) JX447679
=====

PK1: -15.100000(kcal/mol): PK_start=1493 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1521
(fs_start=1513)

CA

GGAAAGAAGGACATCAAATGAAAGACTG

GAC AGAGAGTC
TTTTTTAGGG
GCTAA
PK2: -21.940000(kcal/mol): PK_start=1498 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1535
(fs_start=1513)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1522 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1555
(fs_start=1513)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGGA
AACAAAGGA

PK4: -20.745000(kcal/mol): PK_start=1528 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1565
(fs_start=1513)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA AGGA
TCCTCA
GAATTT

=====
(3692) JX447680
=====

PK1: -15.100000(kcal/mol): PK_start=1492 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1520
(fs_start=1512)

CA
GGAAAGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1497 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1534
(fs_start=1512)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1521 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1554
(fs_start=1512)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT
AGGCCGGGGA
AACAAAGGA
PK4: -20.745000(kcal/mol): PK_start=1527 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1564
(fs_start=1512)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA AGGA
TCCTCA
GAATTT

=====
(3693) JX447681
=====

PK1: -15.100000(kcal/mol): PK_start=1493 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1521
(fs_start=1513)

CA
GGAAAGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1498 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1535
(fs_start=1513)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1522 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1555
(fs_start=1513)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGGA
AACAAAGGA

PK4: -20.745000(kcal/mol): PK_start=1528 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1565
(fs_start=1513)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA AGGA
TCCTCA
GAATTT

=====
(3694) JX447682
=====

PK1: -18.360000(kcal/mol): PK_start=1493 sp=0 s1=3 s2=9 l1=1 l2=5 l3=0 PK_end=1522 (fs_start=1513)

C
GGAAAGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTCC
TTTTTTTAGGGA
GCTAA

PK2: -28.160000(kcal/mol): PK_start=1496 sp=0 s1=10 s2=7 l1=1 l2=5 l3=0 PK_end=1535 (fs_start=1513)

C
AAGAAGGACATCAAATGAAAGACTGCCCTGAGAGA
GGGATTTTTT AATCGGA
TTGGCCTTC
AAAAT

PK3: -20.285000(kcal/mol): PK_start=1522 sp=0 s1=3 s2=8 l1=3 l2=9 l3=0 PK_end=1555 (fs_start=1513)

AAA
CCTGAGAGACAGGCTAATTTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AACAAAGGA

PK4: -22.465000(kcal/mol): PK_start=1528 sp=7 s1=8 s2=4 l1=8 l2=6 l3=0 PK_end=1565 (fs_start=1513)

TCCAACAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
GGACCGGA AGGA
TCCTCA
GAATTT

=====
(3695) JX447683
=====

PK1: -15.100000(kcal/mol): PK_start=1493 sp=0 s1=3 s2=8 l1=2 l2=5 l3=0 PK_end=1521 (fs_start=1513)

CA
GGAAAGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1498 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1535 (fs_start=1513)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1522 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1555
(fs_start=1513)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGGA
AACAAAGGA

PK4: -20.745000(kcal/mol): PK_start=1528 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1565
(fs_start=1513)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA AGGA
TCCTCA
GAATTT

=====
(3696) JX447684
=====

PK1: -15.100000(kcal/mol): PK_start=1493 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1521
(fs_start=1513)

CA
GGAAAGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1498 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1535
(fs_start=1513)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1522 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1555
(fs_start=1513)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGGA
AACAAAGGA

PK4: -20.745000(kcal/mol): PK_start=1528 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1565
(fs_start=1513)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA AGGA
TCCTCA
GAATTT

=====
(3697) JX447685
=====

PK1: -15.100000(kcal/mol): PK_start=1443 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1471
(fs_start=1463)

CA
GAAAAGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1448 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1485
(fs_start=1463)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1472 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1505
(fs_start=1463)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGA
AACAAAGGA

PK4: -20.745000(kcal/mol): PK_start=1478 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1515
(fs_start=1463)

TCCAACAA
AGACAGGCTAATTTTTTAGGAAAATTTGGCCT
GGCCGGA AGGA
TCCTCA
GAATTT

=====
(3698) JX447686
=====

PK1: -15.100000(kcal/mol): PK_start=1426 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1454
(fs_start=1446)

CA
GGAAAAGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1431 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1468
(fs_start=1446)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1455 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1488
(fs_start=1446)

AAA

ACTGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT

AGGCCGGGAA

AACAAAGGA

PK4: -20.745000(kcal/mol): PK_start=1461 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1498
(fs_start=1446)

TCCAACAA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGGCCGGA AGGA

TCCTCA

AAATTT

=====
(3699) JX447687
=====

PK1: -15.100000(kcal/mol): PK_start=1426 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1454
(fs_start=1446)

CA

GGAAAGAAGGACATCAAATGAAAGACTG

GAC AGAGAGTC

TTTTTTTAGGG

GCTAA

PK2: -21.940000(kcal/mol): PK_start=1431 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1468
(fs_start=1446)

C

GAAGGACATCAAATGAAAGACTGCACTGAGAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1455 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1488
(fs_start=1446)

AAA

ACTGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT

AGGCCGGGGA

AACAAAGGA

PK4: -20.745000(kcal/mol): PK_start=1461 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1498
(fs_start=1446)

TCCAACAA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGGCCGGA AGGA

```

                                TCCTCA
                                GAATTT
=====
(3700) JX447709
=====
PK1:  -15.585000(kcal/mol): PK_start=1427 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1455
(fs_start=1447)
                                A
GGAAGGAAGGACATCAAATGAAAGACTGT
                                GACA    GAGAGTC
                                TTTTGTAGGA
                                GCTAAT

PK2:  -21.940000(kcal/mol): PK_start=1432 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1469
(fs_start=1447)
                                C
GAAGGACATCAAATGAAAGACTGTACTGAGAGA
                                GATTTTTT    AATCGGA
                                TTGGCCTTC
                                GAAGAAT

PK3:  -19.320000(kcal/mol): PK_start=1455 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1489
(fs_start=1447)
                                AA
TACTGAGAGACAGGCTAATTTTTTAGGAAG
                                CCTTC    CGGTTT
                                GCCAGGGA
                                CACAAGGGAAG

PK4:  -25.245000(kcal/mol): PK_start=1462 sp=7 s1=8 s2=4 l1=8 l2=5 L3=0 PK_end=1498
(fs_start=1447)
                                TCCCACAA
AGACAGGCTAATTTTTTAGGAAGAATTTGGCCT
                                GGACCGGA    AGGG
                                TCCCAC
                                GAATT

=====
(3701) JX447710
=====
PK1:  -15.585000(kcal/mol): PK_start=1427 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1455
(fs_start=1447)
                                A
GGAAGGAAGGACATCAAATGAAAGACTGT
                                GACA    GAGAGTC
                                TTTTGTAGGA
                                GCTAAT

PK2:  -21.940000(kcal/mol): PK_start=1432 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1469
(fs_start=1447)
                                C
GAAGGACATCAAATGAAAGACTGTACTGAGAGA

```

```

          GATTTTTT   AATCGGA
                    TTGGCCTTC
    GAAGAAT

PK3:  -19.320000(kcal/mol): PK_start=1455 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1489
(fs_start=1447)
          AA
TACTGAGAGACAGGCTAATTTTTTAGGAAG
          CCTTC   CGGTTT
                    GCCAGGGA
    CACAAGGGAAG

PK4:  -25.245000(kcal/mol): PK_start=1462 sp=7 s1=8 s2=4 l1=8 l2=5 L3=0 PK_end=1498
(fs_start=1447)
                    TCCCACAA
AGACAGGCTAATTTTTTAGGAAGAATTTGGCCT
          GGACCGGA   AGGG
                    TCCCAC
    GAATT

=====
(3702) JX447711
=====
PK1:  -15.585000(kcal/mol): PK_start=1494 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1522
(fs_start=1514)
          A
GGAAGGAAGGACATCAAATGAAAGACTGT
          GACA   GAGAGTC
                    TTTTTAGGA
    GCTAAT

PK2:  -21.940000(kcal/mol): PK_start=1499 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1536
(fs_start=1514)
          C
GAAGGACATCAAATGAAAGACTGTACTGAGAGA
          GATTTTTT   AATCGGA
                    TTGGCCTTC
    GAAGAAT

PK3:  -19.320000(kcal/mol): PK_start=1522 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1556
(fs_start=1514)
          AA
TACTGAGAGACAGGCTAATTTTTTAGGAAG
          CCTTC   CGGTTT
                    GCCAGGGA
    CACAAGGGAAG

PK4:  -25.245000(kcal/mol): PK_start=1529 sp=7 s1=8 s2=4 l1=8 l2=5 L3=0 PK_end=1565
(fs_start=1514)
                    TCCCACAA
AGACAGGCTAATTTTTTAGGAAGAATTTGGCCT

```

```

                GGACCGGA    AGGG
                                TCCCAC
        GAATT

=====
(3703) JX447712
=====
PK1:  -15.585000(kcal/mol): PK_start=1494 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1522
(fs_start=1514)
                                A
GGAAGGAAGGACATCAAATGAAAGACTGT

                GACA    GAGAGTC
                                TTTTATAGGA
        GCTAAT

PK2:  -21.940000(kcal/mol): PK_start=1499 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1536
(fs_start=1514)
                                C
GAAGGACATCAAATGAAAGACTGTACTGAGAGA

                GATTTTTT    AATCGGA
                                TTGGCCTTC
        GAAGAAT

PK3:  -19.320000(kcal/mol): PK_start=1522 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1556
(fs_start=1514)
                                AA
TACTGAGAGACAGGCTAATTTTTATAGGAAG

                CCTTC    CGGTTT
                                GCCAGGGA
        CACAAGGGAAG

PK4:  -25.245000(kcal/mol): PK_start=1529 sp=7 s1=8 s2=4 l1=8 l2=5 L3=0 PK_end=1565
(fs_start=1514)
                                TCCCACAA
AGACAGGCTAATTTTTATAGGAAGAATTTGGCCT

                GGACCGGA    AGGG
                                TCCCAC
        GAATT

=====
(3704) JX447713
=====
PK1:  -15.585000(kcal/mol): PK_start=1494 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1522
(fs_start=1514)
                                A
GGAAGGAAGGACATCAAATGAAAGACTGT

                GACA    GAGAGTC
                                TTTTATAGGA
        GCTAAT

```

PK2: -21.940000(kcal/mol): PK_start=1499 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1536
(fs_start=1514)

C
GAAGGACATCAAATGAAAGACTGTACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GAAGAAT

PK3: -19.320000(kcal/mol): PK_start=1522 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1556
(fs_start=1514)

AA
TACTGAGAGACAGGCTAATTTTTTAGGAAG
CCTTC CGGTTT
GCCAGGGA
CACAAAGGGAAG

PK4: -25.245000(kcal/mol): PK_start=1529 sp=7 s1=8 s2=4 l1=8 l2=5 L3=0 PK_end=1565
(fs_start=1514)

TCCCACAA
AGACAGGCTAATTTTTTAGGAAGAATTTGGCCT
GGACCGGA AGGG
TCCCAC
GAATT

=====
(3705) JX447714

=====
PK1: -15.585000(kcal/mol): PK_start=1494 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1522
(fs_start=1514)

A
GGAAGGAAGGACATCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGA
GCTAAT

PK2: -21.940000(kcal/mol): PK_start=1499 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1536
(fs_start=1514)

C
GAAGGACATCAAATGAAAGACTGTACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GAAGAAT

PK3: -19.320000(kcal/mol): PK_start=1522 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1556
(fs_start=1514)

AA
TACTGAGAGACAGGCTAATTTTTTAGGAAG
CCTTC CGGTTT
GCCAGGGA
CACAAAGGGAAG

PK4: -25.245000(kcal/mol): PK_start=1529 sp=7 s1=8 s2=4 l1=8 l2=5 L3=0 PK_end=1565
(fs_start=1514)

TCCCACAA
AGACAGGCTAATTTTTTTAGGAAGAATTTGGCCT
GGACCGGA AGGG
TCCCAC
GAATT

=====
(3706) JX447716
=====

PK1: -15.585000(kcal/mol): PK_start=1494 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1522
(fs_start=1514)

A
GGAAGGAAGGACATCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGA
GCTAAT

PK2: -21.940000(kcal/mol): PK_start=1499 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1536
(fs_start=1514)

C
GAAGGACATCAAATGAAAGACTGTACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GAAGAAT

PK3: -19.320000(kcal/mol): PK_start=1522 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1556
(fs_start=1514)

AA
TACTGAGAGACAGGCTAATTTTTTTAGGAAG
CCTTC CGGTTT
GCCAGGGA
CACAAAGGAAG

PK4: -25.245000(kcal/mol): PK_start=1529 sp=7 s1=8 s2=4 l1=8 l2=5 L3=0 PK_end=1565
(fs_start=1514)

TCCCACAA
AGACAGGCTAATTTTTTTAGGAAGAATTTGGCCT
GGACCGGA AGGG
TCCCAC
GAATT

=====
(3707) JX447717
=====

PK1: -15.585000(kcal/mol): PK_start=1494 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1522
(fs_start=1514)

A
GGAAGGAAGGACATCAAATGAAAGACTGT
GACA GAGAGTC

TTTTTAGGG
GCTAAT
PK2: -21.940000(kcal/mol): PK_start=1499 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1536
(fs_start=1514)

C
GAAGGACATCAAATGAAAGACTGTACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAGAAT

PK3: -18.840000(kcal/mol): PK_start=1522 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1556
(fs_start=1514)

AA
TACTGAGAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTTT
GCCAGGGA
CACAAAGGAAG

PK4: -25.245000(kcal/mol): PK_start=1529 sp=7 s1=8 s2=4 l1=8 l2=5 L3=0 PK_end=1565
(fs_start=1514)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
GGACCGGA AGGG
TCCCAC
GAATT

=====
(3708) JX447718
=====

PK1: -15.585000(kcal/mol): PK_start=1494 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1522
(fs_start=1514)

A
GGAAGGAAGGACATCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGA
GCTAAT

PK2: -21.940000(kcal/mol): PK_start=1499 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1536
(fs_start=1514)

C
GAAGGACATCAAATGAAAGACTGTACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GAAGAAT

PK3: -19.320000(kcal/mol): PK_start=1522 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1556
(fs_start=1514)

AA
TACTGAGAGACAGGCTAATTTTTTAGGAAG
CCTTC CGGTTT

GCCAGGGA

CACAAAGGGAAG

PK4: -25.245000(kcal/mol): PK_start=1529 sp=7 s1=8 s2=4 l1=8 l2=5 L3=0 PK_end=1565
(fs_start=1514)

TCCCACAA

AGACAGGCTAATTTTTTTAGGAAGAATTTGGCCT

GGACCGGA AGGG

TCCCAC

GAATT

=====
(3709) JX447719
=====

PK1: -15.585000(kcal/mol): PK_start=1494 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1522
(fs_start=1514)

A

GGAAGGAAGGACATCAAATGAAAGACTGT

GACA GAGAGTC

TTTTTAGGA

GCTART

PK2: -20.460000(kcal/mol): PK_start=1499 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1535
(fs_start=1514)

C

GAAGGACATCAAATGAAAGACTGTACTGAGAGA

GATTTTTT R ATCGGA

TGGCCTTC

GAAGAATT

PK3: -19.320000(kcal/mol): PK_start=1522 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1556
(fs_start=1514)

AA

TACTGAGAGACAGGCTARTTTTTTTAGGAAG

CCTTC CGGTTT

GCCAGGGA

CACAAAGGGAAG

PK4: -25.245000(kcal/mol): PK_start=1529 sp=7 s1=8 s2=4 l1=8 l2=5 L3=0 PK_end=1565
(fs_start=1514)

TCCCACAA

AGACAGGCTARTTTTTTTAGGAAGAATTTGGCCT

GGACCGGA AGGG

TCCCAC

GAATT

=====
(3710) JX447720
=====

PK1: -15.585000(kcal/mol): PK_start=1427 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1455
(fs_start=1447)

A

GGAAGGAAGGACATCAAATGAAAGACTGT

```

          GACA   GAGAGTC
                TTTTATAGG
    GCTAAT
PK2:  -21.940000(kcal/mol): PK_start=1432 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1469
(fs_start=1447)
                C
GAAGGACATCAAATGAAAGACTGTACTGAGAGA
                GATTTTTT   AATCGGA
                TTGGCCTTC
    GGAGAAT
PK3:  -18.840000(kcal/mol): PK_start=1455 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1489
(fs_start=1447)
                AA
TACTGAGAGACAGGCTAATTTTTATAGGGAG
                CCTTC   CGGTTT
                GCCAGGGA
    CACAAGGGAAG
PK4:  -25.245000(kcal/mol): PK_start=1462 sp=7 s1=8 s2=4 l1=8 l2=5 L3=0 PK_end=1498
(fs_start=1447)
                TCCCACAA
AGACAGGCTAATTTTTATAGGGAGAATTTGGCCT
                GGACCGGA   AGGG
                TCCCAC
    GAATT
=====
(3711) JX447721
=====
PK1:  -12.160000(kcal/mol): PK_start=1262 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1300
(fs_start=1293)
                A
TTGGAAATGTGGAAAGGAAGGACATCAG
                GTC   AGAAAGT
                TTTTTTATAGG
    CACTGAGAGACAGGCTAA
PK2:  -21.940000(kcal/mol): PK_start=1278 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1315
(fs_start=1293)
                C
GAAGGACATCAGATGAAAGACTGCACTGAGAGA
                GATTTTTT   AATCGGA
                TTGGCCTTC
    GGAGAAT
PK3:  -17.120000(kcal/mol): PK_start=1301 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1335
(fs_start=1293)
                AA
CACTGAGAGACAGGCTAATTTTTATAGGGAG

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          CCTTC   CGGTTT
                GCCGGGAA
    AACAAAGGGGAG

PK4:  -20.495000(kcal/mol): PK_start=1308 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1345
(fs_start=1293)
                CCAACA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCTT
                GGGCCGGAG   GGGA
                        TCCTCA
                AAATTT

PK4B:  -25.145000(kcal/mol): PK_start=1308 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1371
(fs_start=1293)
                TCCAACAA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
                GGGCCGGA   GGGG
                        CCCAC
                AAATTTTCCTCAGAGCAGACCAGAACCAACAG

=====
(3712) JX447722
=====

PK1:  -12.160000(kcal/mol): PK_start=1262 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1300
(fs_start=1293)
                A
TTGGAAATGTGGAAAGGAAGGACATCAG
                GTC   AGAAAGT
                        TTTTTTAGG
                CACTGAGAGACAGGCTAA

PK2:  -21.940000(kcal/mol): PK_start=1278 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1315
(fs_start=1293)
                C
GAAGGACATCAGATGAAAGACTGCACTGAGAGA
                GATTTTTT   AATCGGA
                        TTGGCCTTC
                GGAGAAT

PK3:  -17.120000(kcal/mol): PK_start=1301 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1335
(fs_start=1293)
                AA
CACTGAGAGACAGGCTAATTTTTTAGGGAG
                CCTTC   CGGTTT
                        GCCGGGAA
                AACAAAGGGGAG

PK4:  -20.495000(kcal/mol): PK_start=1308 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1345
(fs_start=1293)
                CCAACA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCTT

```

GGGCCGGAG GGA
 TCCTCA
 AAATTT

PK4B: -25.145000(kcal/mol): PK_start=1308 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1371
 (fs_start=1293)

TCCAACAA
 AGACAGGCTAATTTTTAGGGAGAATTTGGCCT

GGGCCGGA GGG
 CCCCAC
 AAATTTTCCTCAGAGCAGACCAGAACCAACAG

=====
 (3713) JX447723
 =====

PK1: -12.160000(kcal/mol): PK_start=1262 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1300
 (fs_start=1293)

A
 TTGGAATGTGGAAAGGAAGGACATCAG

GTC AGAAAGT
 TTTTTTAGG
 CACTGAGAGACAGGCTAA

PK2: -21.940000(kcal/mol): PK_start=1278 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1315
 (fs_start=1293)

C
 GAAGGACATCAGATGAAAGACTGCACTGAGAGA

GATTTTTT AATCGGA
 TTGGCCTTC
 GGAGAAT

PK3: -17.120000(kcal/mol): PK_start=1301 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1335
 (fs_start=1293)

AA
 CACTGAGAGACAGGCTAATTTTTAGGGAG

CCTTC CGGTTT
 GCCGGGAA
 AACAAGGGGAG

PK4: -20.495000(kcal/mol): PK_start=1308 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1345
 (fs_start=1293)

CCAACA
 AGACAGGCTAATTTTTAGGGAGAATTTGGCCTT

GGGCCGGAG GGA
 TCCTCA
 AAATTT

PK4B: -25.145000(kcal/mol): PK_start=1308 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1371
 (fs_start=1293)

TCCAACAA
 AGACAGGCTAATTTTTAGGGAGAATTTGGCCT

GGGCCGGA GGGG
CCCCAC
AAATTTTCCTCAGAGCAGACCAGAACCAACAG

=====
(3714) JX447724
=====

PK1: -12.160000(kcal/mol): PK_start=1262 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1300
(fs_start=1293)

A
TTGGAAATGTGGAAAGGAAGGACATCAG

GTC AGAAAGT
TTTTTTAGG
CACTGAGAGACAGGCTAA

PK2: -21.940000(kcal/mol): PK_start=1278 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1315
(fs_start=1293)

C
GAAGGACATCAGATGAAAGACTGCACTGAGAGA

GATTTTTT AATCGGA
TTGGCCTTC
GGAGAAT

PK3: -17.120000(kcal/mol): PK_start=1301 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1335
(fs_start=1293)

AA
CACTGAGAGACAGGCTAATTTTTTAGGGAG

CCTTC CGGTTT
GCCGGGAA
AACAAAGGGGAG

PK4: -20.495000(kcal/mol): PK_start=1308 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1345
(fs_start=1293)

CCAACA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCTT
GGGCCGAG GGGA
TCCTCA
AAATTT

PK4B: -25.145000(kcal/mol): PK_start=1308 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1371
(fs_start=1293)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
GGGCCGGA GGGG
CCCCAC
AAATTTTCCTCAGAGCAGACCAGAACCAACAG

=====
(3715) JX447725
=====

PK1: -12.160000(kcal/mol): PK_start=1262 sp=0 s1=3 s2=7 l1=1 l2=18 l3=0 PK_end=1300
(fs_start=1293)

A
TTGGAATGTGGAAAGGAAGGACATCAG
GTC AGAAAGT
TTTTTTAGG
CACTGAGAGACAGGCTAA

PK2: -21.940000(kcal/mol): PK_start=1278 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1315
(fs_start=1293)

C
GAAGGACATCAGATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAGAAT

PK3: -17.120000(kcal/mol): PK_start=1301 sp=0 s1=5 s2=6 l1=2 l2=11 l3=0 PK_end=1335
(fs_start=1293)

AA
CACTGAGAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTTT
GCCGGGAA
AACAAGGGGAG

PK4: -20.495000(kcal/mol): PK_start=1308 sp=7 s1=9 s2=4 l1=6 l2=6 l3=0 PK_end=1345
(fs_start=1293)

CCAACA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCTT
GGGCCGGAG GGGA
TCCTCA
AAATTT

PK4B: -25.145000(kcal/mol): PK_start=1308 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=1371
(fs_start=1293)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
GGGCCGGA GGGG
CCCCAC
AAATTTTCCTCAGAGCAGACCAGAACCAACAG

=====
(3716) JX447726
=====

PK1: -15.140000(kcal/mol): PK_start=1264 sp=0 s1=3 s2=8 l1=2 l2=5 l3=0 PK_end=1292
(fs_start=1284)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -20.50000(kcal/mol): PK_start=1269 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1305
(fs_start=1284)

C
GAAGGACATCAAATGAAAGACTGCACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATA

PK3: -22.965000(kcal/mol): PK_start=1292 sp=0 s1=4 s2=6 l1=5 l2=8 L3=0 PK_end=1324
(fs_start=1284)

AAATA
CACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGT
AGGCCGGG
ACAAGGGA

PK4: -22.135000(kcal/mol): PK_start=1301 sp=9 s1=6 s2=5 l1=7 l2=7 L3=0 PK_end=1336
(fs_start=1284)

TCCCACA
ACAGGCTAATTTTTTAGGGAAAATATGGCCT
GCCGGA AGGGA
TTCCTCA
GGGAATT

=====
(3717) JX447727

=====
PK1: -15.140000(kcal/mol): PK_start=1487 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1515
(fs_start=1507)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -20.500000(kcal/mol): PK_start=1492 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1528
(fs_start=1507)

C
GAAGGACATCAAATGAAAGACTGCACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATA

PK3: -22.965000(kcal/mol): PK_start=1515 sp=0 s1=4 s2=6 l1=5 l2=8 L3=0 PK_end=1547
(fs_start=1507)

AAATA
CACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGT
AGGCCGGG
ACAAGGGA

PK4: -22.135000(kcal/mol): PK_start=1524 sp=9 s1=6 s2=5 l1=7 l2=7 L3=0 PK_end=1559
(fs_start=1507)

TCCCACA
ACAGGCTAATTTTTTAGGGAAAATATGGCCT
GCCGGA AGGGA
TTCCTCA
GGGAATT

=====
(3718) JX447729
=====

PK1: -15.140000(kcal/mol): PK_start=1487 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1515
(fs_start=1507)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -20.500000(kcal/mol): PK_start=1492 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1528
(fs_start=1507)

C
GAAGGACATCAAATGAAAGACTGCACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATA

PK3: -22.965000(kcal/mol): PK_start=1515 sp=0 s1=4 s2=6 l1=5 l2=8 L3=0 PK_end=1547
(fs_start=1507)

AAATA
CACTGAAAGACAGGCTAATTTTTTTAGGGA
CCCT TCCGGT
AGGCCGGG
ACAAGGGA

PK4: -22.135000(kcal/mol): PK_start=1524 sp=9 s1=6 s2=5 l1=7 l2=7 L3=0 PK_end=1559
(fs_start=1507)

TCCCACA
ACAGGCTAATTTTTTTAGGGAAAATATGGCCT
GCCGGA AGGGA
TTCCTCA
GGGAATT

=====
(3719) JX447730
=====

PK1: -15.140000(kcal/mol): PK_start=1264 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1292
(fs_start=1284)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAAAGTC

TTTTTTAGGG
GCTAA
PK2: -20.500000(kcal/mol): PK_start=1269 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1305
(fs_start=1284)

C
GAAGGACATCAAATGAAAGACTGCACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATA

PK3: -22.965000(kcal/mol): PK_start=1292 sp=0 s1=4 s2=6 l1=5 l2=8 L3=0 PK_end=1324
(fs_start=1284)

AAATA
CACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGT
AGGCCGGG
ACAAGGGA

PK4: -22.135000(kcal/mol): PK_start=1301 sp=9 s1=6 s2=5 l1=7 l2=7 L3=0 PK_end=1336
(fs_start=1284)

TCCCACA
ACAGGCTAATTTTTTAGGGAAAATATGGCCT
GCCGGA AGGGA
TTCCTCA
GGGAATT

=====
(3720) JX447731
=====

PK1: -15.140000(kcal/mol): PK_start=1264 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1292
(fs_start=1284)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -20.500000(kcal/mol): PK_start=1269 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1305
(fs_start=1284)

C
GAAGGACATCAAATGAAAGACTGCACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATA

PK3: -22.965000(kcal/mol): PK_start=1292 sp=0 s1=4 s2=6 l1=5 l2=8 L3=0 PK_end=1324
(fs_start=1284)

AAATA
CACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGT

AGGCCGGG

ACAAGGGA

PK4: -22.135000(kcal/mol): PK_start=1301 sp=9 s1=6 s2=5 l1=7 l2=7 L3=0 PK_end=1336
(fs_start=1284)

TCCCACA

ACAGGCTAATTTTTTAGGGAAAAATATGGCCT

GCCGGA AGGGA

TTCCTCA

GGGAATT

=====
(3721) JX447732
=====

PK1: -15.140000(kcal/mol): PK_start=1264 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1292
(fs_start=1284)

CA

GGAAGGAAGGACATCAAATGAAAGACTG

GAC AGAAAGTC

TTTTTTAGGG

GCTAA

PK2: -20.500000(kcal/mol): PK_start=1269 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1305
(fs_start=1284)

C

GAAGGACATCAAATGAAAGACTGCACTGAAAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAAATA

PK3: -22.965000(kcal/mol): PK_start=1292 sp=0 s1=4 s2=6 l1=5 l2=8 L3=0 PK_end=1324
(fs_start=1284)

AAATA

CACTGAAAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGT

AGGCCGGG

ACAAGGGA

PK4: -22.135000(kcal/mol): PK_start=1301 sp=9 s1=6 s2=5 l1=7 l2=7 L3=0 PK_end=1336
(fs_start=1284)

TCCCACA

ACAGGCTAATTTTTTAGGGAAAAATATGGCCT

GCCGGA AGGGA

TTCCTCA

GGGAATT

=====
(3722) JX447733
=====

PK1: -15.140000(kcal/mol): PK_start=1487 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1515
(fs_start=1507)

CA

GGAAGGAAGGACATCAAATGAAAGACTG

GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -20.50000(kcal/mol): PK_start=1492 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1528
(fs_start=1507)

C
GAAGGACATCAAATGAAAGACTGCACTGAAAGA

GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATA

PK3: -22.965000(kcal/mol): PK_start=1515 sp=0 s1=4 s2=6 l1=5 l2=8 L3=0 PK_end=1547
(fs_start=1507)

AAATA
CACTGAAAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGT
AGGCCGGG
ACAAGGGA

PK4: -22.135000(kcal/mol): PK_start=1524 sp=9 s1=6 s2=5 l1=7 l2=7 L3=0 PK_end=1559
(fs_start=1507)

TCCCACA
ACAGGCTAATTTTTTAGGGAAAAATATGGCCT

GCCGGA AGGGA
TTCCTCA
GGGAATT

=====
(3723) JX447734
=====

PK1: -15.140000(kcal/mol): PK_start=1487 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1515
(fs_start=1507)

CA
GGAAGGAAGGACATCAAATGAAAGACTG

GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -20.500000(kcal/mol): PK_start=1492 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1528
(fs_start=1507)

C
GAAGGACATCAAATGAAAGACTGCACTGAAAGA

GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATA

PK3: -22.965000(kcal/mol): PK_start=1515 sp=0 s1=4 s2=6 l1=5 l2=8 L3=0 PK_end=1547
(fs_start=1507)

AAATA
CACTGAAAGACAGGCTAATTTTTTAGGGA

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          CCCT   TCCGGT
                AGGCCGGG
          ACAAGGGA
PK4:  -22.135000(kcal/mol): PK_start=1524 sp=9 s1=6 s2=5 l1=7 l2=7 L3=0 PK_end=1559
(fs_start=1507)
                TCCCACA
ACAGGCTAATTTTTTAGGGAAAAATATGGCCT
                GCCGGA   AGGGA
                TTCCTCA
          GGAATT

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=====
(3724) JX447735
=====

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PK1:  -15.140000(kcal/mol): PK_start=1484 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1512
(fs_start=1504)
                CA
GGAAGGAAGGACATCAAATGAAAGACTG
                GAC   AGAAAGTC
                TTTTTTAGGG
          GCTAA

```

```

PK2:  -20.500000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)
                C
GAAGGACATCAAATGAAAGACTGCACTGAAAGA
                GATTTTTT A  ATCGGA
                TGGCCTTC
          GGAAAATA

```

```

PK3:  -22.965000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=6 l1=5 l2=8 L3=0 PK_end=1544
(fs_start=1504)
                AAATA
CACTGAAAGACAGGCTAATTTTTTAGGGA
                CCCT   TCCGGT
                AGGCCGGG
          ACAAGGGA

```

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PK4:  -22.135000(kcal/mol): PK_start=1521 sp=9 s1=6 s2=5 l1=7 l2=7 L3=0 PK_end=1556
(fs_start=1504)
                TCCCACA
ACAGGCTAATTTTTTAGGGAAAAATATGGCCT
                GCCGGA   AGGGA
                TTCCTCA
          GGAATT

```

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=====
(3725) JX447827
=====

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PK1: -15.100000(kcal/mol): PK_start=1436 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1464
(fs_start=1456)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1441 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1478
(fs_start=1456)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -22.025000(kcal/mol): PK_start=1464 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1498
(fs_start=1456)

AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCGGGGA
ACAAGGGA

PK4: -21.195000(kcal/mol): PK_start=1471 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1508
(fs_start=1456)

TCCCACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA AGGGA
TTCCTCA
GAATT

=====
(3726) JX447828
=====

PK1: -15.100000(kcal/mol): PK_start=1413 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1441
(fs_start=1433)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1418 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1455
(fs_start=1433)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -22.025000(kcal/mol): PK_start=1441 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=1475
(fs_start=1433)

AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCGGGGA
ACAAGGGA

PK4: -21.195000(kcal/mol): PK_start=1448 sp=7 s1=8 s2=5 l1=7 l2=5 l3=0 PK_end=1485
(fs_start=1433)

TCCCACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA AGGGA
TTCCTCA
GAATT

=====
(3727) JX447829
=====

PK1: -15.100000(kcal/mol): PK_start=1391 sp=0 s1=3 s2=8 l1=2 l2=5 l3=0 PK_end=1419
(fs_start=1411)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1396 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1433
(fs_start=1411)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -22.025000(kcal/mol): PK_start=1419 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=1453
(fs_start=1411)

AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCGGGGA
ACAAGGGA

PK4: -21.195000(kcal/mol): PK_start=1426 sp=7 s1=8 s2=5 l1=7 l2=5 l3=0 PK_end=1463
(fs_start=1411)

TCCCACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA AGGGA
TTCCTCA
GAATT

=====
(3728) JX447830
=====

PK1: -15.100000(kcal/mol): PK_start=1511 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1539
(fs_start=1531)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1516 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1553
(fs_start=1531)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -22.025000(kcal/mol): PK_start=1539 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1573
(fs_start=1531)

AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCGGGGA
ACAAGGGA

PK4: -21.195000(kcal/mol): PK_start=1546 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1583
(fs_start=1531)

TCCCACA
AGACAGGCTAATTTTTTAGGAAAATTTGGCCT
GGCCGGA AGGGA
TTCCTCA
GAATT

=====
(3729) JX447831
=====

PK1: -15.100000(kcal/mol): PK_start=1372 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1400
(fs_start=1392)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1377 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1414
(fs_start=1392)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA


```

                                TTGGCCTTC
          GGAAAAT
PK3:  -22.025000(kcal/mol): PK_start=1400 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1434
(fs_start=1392)
                                AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTTT
                                AGGCCGGGGA
          ACAAGGGA
PK4:  -21.195000(kcal/mol): PK_start=1407 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1444
(fs_start=1392)
                                TCCCACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                                GGGCCGGA   AGGGA
                                TTCCTCA
          GAATT
=====
(3730) JX447832
=====
PK1:  -15.100000(kcal/mol): PK_start=1395 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1423
(fs_start=1415)
                                CA
GGAAGGAAGGACATCAAATGAAAGACTG
                                GAC   AGAGAGTC
                                TTTTTTAGGG
          GCTAA
PK2:  -21.940000(kcal/mol): PK_start=1400 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1437
(fs_start=1415)
                                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                                GATTTTTT   AATCGGA
                                TTGGCCTTC
          GGAAAAT
PK3:  -22.025000(kcal/mol): PK_start=1423 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1457
(fs_start=1415)
                                AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTTT
                                AGGCCGGGGA
          ACAAGGGA
PK4:  -21.195000(kcal/mol): PK_start=1430 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1467
(fs_start=1415)
                                TCCCACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                                GGGCCGGA   AGGGA

```

TTCCTCA

GAATT

=====
(3731) JX447833
=====

PK1: -15.100000(kcal/mol): PK_start=1518 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1546
(fs_start=1538)

CA

GGAAGGAAGGACATCAAATGAAAGACTG

GAC AGAGAGTC

TTTTTTTAGGG

GCTAA

PK2: -21.940000(kcal/mol): PK_start=1523 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1560
(fs_start=1538)

C

GAAGGACATCAAATGAAAGACTGCACTGAGAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -22.025000(kcal/mol): PK_start=1546 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1580
(fs_start=1538)

AAA

CACTGAGAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT

AGGCCGGGGA

ACAAGGGA

PK4: -21.195000(kcal/mol): PK_start=1553 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1590
(fs_start=1538)

TCCCACA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGGCCGGA AGGGA

TTCCTCA

GAATT

=====
(3732) JX447834
=====

PK1: -15.100000(kcal/mol): PK_start=1270 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1298
(fs_start=1290)

CA

GGAAGGAAGGACATCAAATGAAAGACTG

GAC AGAGAGTC

TTTTTTTAGGG

GCTAA

PK2: -21.940000(kcal/mol): PK_start=1275 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1312
(fs_start=1290)

C

GAAGGACATCAAATGAAAGACTGCACTGAGAGA

```

          GATTTTTT   AATCGGA
                    TTGGCCTTC
      GGAAAAT

PK3:  -22.025000(kcal/mol): PK_start=1298 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1332
(fs_start=1290)
          AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA

          CCCT   TCCGGTTT
                    AGGCCGGGGA
      ACAAGGGA

PK4:  -21.195000(kcal/mol): PK_start=1305 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1342
(fs_start=1290)
                    TCCCACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

          GGGCCGGA   AGGGA
                    TTCCTCA
      GAATT

=====
(3733) JX447835
=====
PK1:  -15.100000(kcal/mol): PK_start=1494 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1522
(fs_start=1514)
          CA
GGAAGGAAGGACATCAAATGAAAGACTG

          GAC   AGAGAGTC
                    TTTTTTAGGG
      GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1499 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1536
(fs_start=1514)
          C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA

          GATTTTTT   AATCGGA
                    TTGGCCTTC
      GGAAAAT

PK3:  -22.025000(kcal/mol): PK_start=1522 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1556
(fs_start=1514)
          AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA

          CCCT   TCCGGTTT
                    AGGCCGGGGA
      ACAAGGGA

PK4:  -21.195000(kcal/mol): PK_start=1529 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1566
(fs_start=1514)
                    TCCCACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

```

```

GGGCCGGA    AGGGA
              TTCCTCA
GAATT
=====
(3734) JX447836
=====
PK1:  -15.100000(kcal/mol): PK_start=1494 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1522
(fs_start=1514)
              CA
GGAAGGAAGGACATCAAATGAAAGACTG
              GAC    AGAGAGTC
              TTTTTTAGGG
GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1499 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1536
(fs_start=1514)
              C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
              GATTTTTT    AATCGGA
              TTGGCCTTC
GGAAAAT

PK3:  -22.025000(kcal/mol): PK_start=1522 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1556
(fs_start=1514)
              AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA
              CCCT    TCCGGTTT
              AGGCCGGGGA
ACAAGGGA

PK4:  -21.195000(kcal/mol): PK_start=1529 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1566
(fs_start=1514)
              TCCCACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
              GGGCCGGA    AGGGA
              TTCCTCA
GAATT
=====
(3735) JX447837
=====
PK1:  -15.100000(kcal/mol): PK_start=1494 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1522
(fs_start=1514)
              CA
GGAAGGAAGGACATCAAATGAAAGACTG
              GAC    AGAGAGTC
              TTTTTTAGGG
GCTAA

```

PK2: -21.940000(kcal/mol): PK_start=1499 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1536
(fs_start=1514)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -22.025000(kcal/mol): PK_start=1522 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1556
(fs_start=1514)

AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCGGGGA
ACAAGGGA

PK4: -21.195000(kcal/mol): PK_start=1529 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1566
(fs_start=1514)

TCCCACA
AGACAGGCTAATTTTTTAGGAAAATTTGGCCT
GGGCCGGA AGGGA
TTCCTCA
GAATT

=====
(3736) JX447838
=====

PK1: -15.100000(kcal/mol): PK_start=1270 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1298
(fs_start=1290)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1275 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1312
(fs_start=1290)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -22.025000(kcal/mol): PK_start=1298 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1332
(fs_start=1290)

AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCGGGGA
ACAAGGGA

PK4: -21.195000(kcal/mol): PK_start=1305 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1342
(fs_start=1290)

```

                                TCCCACA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
                                GGGCCGGA   AGGGA
                                TTCCTCA
                                GAATT
```

=====
(3737) JX447839
=====

PK1: -15.100000(kcal/mol): PK_start=1269 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1297
(fs_start=1289)

```

                                CA
GGAAGGAAGGACATCAAATGAAAGACTG
                                GAC   AGAGAGTC
                                TTTTTTAGGG
                                GCTAA
```

PK2: -21.940000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1311
(fs_start=1289)

```

                                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                                GATTTTTT   AATCGGA
                                TTGGCCTTC
                                GGAAAAT
```

PK3: -22.025000(kcal/mol): PK_start=1297 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1331
(fs_start=1289)

```

                                AAA
CACTGAGAGACAGGCTAATTTTTTTAGGGA
                                CCCT   TCCGGTTT
                                AGGCCGGGGA
                                ACAAGGGA
```

PK4: -21.195000(kcal/mol): PK_start=1304 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1341
(fs_start=1289)

```

                                TCCCACA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
                                GGGCCGGA   AGGGA
                                TTCCTCA
                                GAATT
```

=====
(3738) JX447840
=====

PK1: -15.100000(kcal/mol): PK_start=1270 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1298
(fs_start=1290)

```

                                CA
GGAAGGAAGGACATCAAATGAAAGACTG
                                GAC   AGAGAGTC
```

TTTTTTAGGG

GCTAA

PK2: -21.940000(kcal/mol): PK_start=1275 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1312
(fs_start=1290)

C

GAAGGACATCAAATGAAAGACTGCACTGAGAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -22.025000(kcal/mol): PK_start=1298 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1332
(fs_start=1290)

AAA

CACTGAGAGACAGGCTAATTTTTTTAGGGA

CCCT TCCGGTTT

AGGCCGGGGA

ACAAGGGA

PK4: -21.195000(kcal/mol): PK_start=1305 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1342
(fs_start=1290)

TCCCACA

AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT

GGGCCGGA AGGGA

TTCCTCA

GAATT

=====
(3739) JX447841
=====

PK1: -15.100000(kcal/mol): PK_start=1270 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1298
(fs_start=1290)

CA

GGAAGGAAGGACATCAAATGAAAGACTG

GAC AGAGAGTC

TTTTTTAGGG

GCTAA

PK2: -21.940000(kcal/mol): PK_start=1275 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1312
(fs_start=1290)

C

GAAGGACATCAAATGAAAGACTGCACTGAGAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -22.025000(kcal/mol): PK_start=1298 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1332
(fs_start=1290)

AAA

CACTGAGAGACAGGCTAATTTTTTTAGGGA

CCCT TCCGGTTT

AGGCCGGGGA

ACAAGGGA

PK4: -21.195000(kcal/mol): PK_start=1305 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1342
(fs_start=1290)

TCCCACA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGGCCGGA AGGGA

TTCCTCA

GAATT

=====
(3740) JX447842
=====

PK1: -15.100000(kcal/mol): PK_start=1493 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1521
(fs_start=1513)

CA

GGAAGGAAGGACATCAAATGAAAGACTG

GAC AGAGAGTC

TTTTTTAGGG

GCTAA

PK2: -21.940000(kcal/mol): PK_start=1498 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1535
(fs_start=1513)

C

GAAGGACATCAAATGAAAGACTGCACTGAGAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -22.025000(kcal/mol): PK_start=1521 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1555
(fs_start=1513)

AAA

CACTGAGAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT

AGGCCGGGGA

ACAAGGGA

PK4: -21.195000(kcal/mol): PK_start=1528 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1565
(fs_start=1513)

TCCCACA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGGCCGGA AGGGA

TTCCTCA

GAATT

=====
(3741) JX447884
=====

PK1: -15.100000(kcal/mol): PK_start=1487 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1515
(fs_start=1507)

CA

GGAAGGAAGGACATCAAATGAAAGACTG

GAC AGAGAGTC
TTTTTTTAGGG
GCTAA
PK2: -21.940000(kcal/mol): PK_start=1492 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1529
(fs_start=1507)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1516 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1549
(fs_start=1507)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGGA
AACAAAGGA

PK4: -20.745000(kcal/mol): PK_start=1522 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1559
(fs_start=1507)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA AGGA
TCCTCA
GAATTT

=====
(3742) JX447885
=====

PK1: -15.100000(kcal/mol): PK_start=1487 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1515
(fs_start=1507)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1492 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1529
(fs_start=1507)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1516 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1549
(fs_start=1507)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA

```

          CCT   TCCGGTTT
                AGGCCGGGGA
AACAAAGGA
PK4:  -20.745000(kcal/mol): PK_start=1522 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1559
(fs_start=1507)
                TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGGCCGGA   AGGA
                TCCTCA
          GAATTT

```

```

=====
(3743) JX447886
=====

```

```

PK1:  -15.100000(kcal/mol): PK_start=1420 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1448
(fs_start=1440)
                CA
GGAAGGAAGGACATCAAATGAAAGACTG
                GAC   AGAGAGTC
                TTTTTTAGGG
          GCTAA

```

```

PK2:  -21.940000(kcal/mol): PK_start=1425 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1462
(fs_start=1440)
                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT   AATCGGA
                TTGGCCTTC
          GGAAAAT

```

```

PK3:  -18.565000(kcal/mol): PK_start=1449 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1482
(fs_start=1440)
                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                CCT   TCCGGTTT
                AGGCCGGGGA
          AACAAAGGA

```

```

PK4:  -20.745000(kcal/mol): PK_start=1455 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1492
(fs_start=1440)
                TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGGCCGGA   AGGA
                TCCTCA
          GAATTT

```

```

=====
(3744) JX447887
=====

```

PK1: -15.100000(kcal/mol): PK_start=1420 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1448 (fs_start=1440)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1425 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1462 (fs_start=1440)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1449 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1482 (fs_start=1440)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGA
AACAAAGGA

PK4: -20.745000(kcal/mol): PK_start=1455 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1492 (fs_start=1440)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA AGGA
TCCTCA
GAATTT

=====
(3745) JX447888
=====

PK1: -15.100000(kcal/mol): PK_start=1487 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1515 (fs_start=1507)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1492 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1529 (fs_start=1507)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1516 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1549
(fs_start=1507)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGGA
AACAAAGGA

PK4: -20.745000(kcal/mol): PK_start=1522 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1559
(fs_start=1507)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA AGGA
TCCTCA
GAATTT

=====
(3746) JX447889
=====

PK1: -15.100000(kcal/mol): PK_start=1487 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1515
(fs_start=1507)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1492 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1529
(fs_start=1507)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1516 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1549
(fs_start=1507)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGGA
AACAAAGGA

PK4: -20.745000(kcal/mol): PK_start=1522 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1559
(fs_start=1507)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA AGGA
TCCTCA
GAATTT

=====
(3747) JX447890
=====

PK1: -15.100000(kcal/mol): PK_start=1487 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1515
(fs_start=1507)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1492 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1529
(fs_start=1507)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1516 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1549
(fs_start=1507)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGA
AACAAAGGA

PK4: -20.745000(kcal/mol): PK_start=1522 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1559
(fs_start=1507)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGCCGGA AGGA
TCCTCA
GAATTT

=====
(3748) JX447891
=====

PK1: -15.100000(kcal/mol): PK_start=1487 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1515
(fs_start=1507)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1492 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1529
(fs_start=1507)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1516 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1549
(fs_start=1507)

AAA

ACTGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT

AGGCCGGGGA

AACAAAGGA

PK4: -20.745000(kcal/mol): PK_start=1522 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1559
(fs_start=1507)

TCCAACAA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGCCGGA AGGA

TCCTCA

GAATTT

=====
(3749) JX447936
=====

PK1: -15.100000(kcal/mol): PK_start=1446 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1474
(fs_start=1466)

CA

GGAAGGAAGGACATCAAATGAAAGACTG

GAC AGAGAGTC

TTTTTTAGGG

GCTAA

PK2: -21.940000(kcal/mol): PK_start=1451 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1488
(fs_start=1466)

C

GAAGGACATCAAATGAAAGACTGCACTGAGAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1475 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1508
(fs_start=1466)

AAA

ACTGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT

AGGCCAGGGA

AACAAAGGA

PK4: -22.915000(kcal/mol): PK_start=1481 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1518
(fs_start=1466)

TCCAACA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA AGGGA

```

                                TTCCTCA
                                GAATT
=====
(3750) JX448019
=====
PK1:  -12.520000(kcal/mol): PK_start=1426 sp=0 s1=3 s2=7 l1=3 l2=5 L3=0 PK_end=1453
(fs_start=1446)
                                CAA
GGAAGGAAGGACATCAAATAAAAGACTG
                                GAC   AGAGAGT
                                TTTTTTAGG
                                GCTAA

PK2:  -19.660000(kcal/mol): PK_start=1432 sp=0 s1=7 s2=7 l1=1 l2=8 L3=0 PK_end=1468
(fs_start=1446)
                                C
AAGGACATCAAATAAAAGACTGCAATGAGAGA
                                ATTTTTT   AATCGGA
                                TTGGCCTTC
                                GGGAAAAT

PK3:  -18.565000(kcal/mol): PK_start=1455 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1488
(fs_start=1446)
                                AAA
AATGAGAGACAGGCTAATTTTTTAGGGA
                                CCT   TCCGGTTT
                                AGGCCGGGAA
                                AGCAAGGGA

PK4:  -21.195000(kcal/mol): PK_start=1461 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1498
(fs_start=1446)
                                TCCAGCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                                GGGCCGGA   AGGGA
                                AAATT   TTCCTCA

=====
(3751) JX448020
=====
PK1:  -12.520000(kcal/mol): PK_start=1426 sp=0 s1=3 s2=7 l1=3 l2=5 L3=0 PK_end=1453
(fs_start=1446)
                                CAA
GGAAGGAAGGACATCAAATAAAAGACTG
                                GAC   AGAGAGT
                                TTTTTTAGG
                                GCTAA

PK2:  -19.660000(kcal/mol): PK_start=1432 sp=0 s1=7 s2=7 l1=1 l2=8 L3=0 PK_end=1468
(fs_start=1446)
                                C
AAGGACATCAAATAAAAGACTGCAATGAGAGA

```

```

                ATTTTTT   AATCGGA
                        TTGGCCTTC
GGGAAAAT
PK3:  -18.565000(kcal/mol): PK_start=1455 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1488
(fs_start=1446)
                AAA
AATGAGAGACAGGCTAATTTTTTTAGGGA
                CCT   TCCGGTTT
                        AGGCCGGGAA
AGCAAGGGA
PK4:  -21.195000(kcal/mol): PK_start=1461 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1498
(fs_start=1446)
                        TCCAGCA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
                GGGCCGGA   AGGGA
                        TTCCTCA
AAATT

=====
(3752) JX448021
=====
PK1:  -12.520000(kcal/mol): PK_start=1426 sp=0 s1=3 s2=7 l1=3 l2=5 L3=0 PK_end=1453
(fs_start=1446)
                CAA
GGAAGGAAGGACATCAAATAAAAGACTG
                GAC   AGAGAGT
                        TTTTTTAGG
GCTAA
PK2:  -19.660000(kcal/mol): PK_start=1432 sp=0 s1=7 s2=7 l1=1 l2=8 L3=0 PK_end=1468
(fs_start=1446)
                C
AAGGACATCAAATAAAAGACTGCAATGAGAGA
                ATTTTTT   AATCGGA
                        TTGGCCTTC
GGGAAAAT
PK3:  -18.565000(kcal/mol): PK_start=1455 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1488
(fs_start=1446)
                AAA
AATGAGAGACAGGCTAATTTTTTTAGGGA
                CCT   TCCGGTTT
                        AGGCCGGGAA
AGCAAGGGA
PK4:  -21.195000(kcal/mol): PK_start=1461 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1498
(fs_start=1446)
                        TCCAGCA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT

```



```

GGGCCGGA    AGGGA
              TTCCTCA
AAATT

=====
(3753) JX448022
=====
PK1:  -12.52000(kcal/mol): PK_start=1426 sp=0 s1=3 s2=7 l1=3 l2=5 L3=0 PK_end=1453
(fs_start=1446)
              CAA
GGAAGGAAGGACATCAAATAAAAGACTG
              GAC    AGAGAGT
              TTTTTTAGG
GCTAA

PK2:  -19.66000(kcal/mol): PK_start=1432 sp=0 s1=7 s2=7 l1=1 l2=8 L3=0 PK_end=1468
(fs_start=1446)
              C
AAGGACATCAAATAAAAGACTGCAATGAGAGA
              ATTTTTT    AATCGGA
              TTGGCCTTC
GGGAAAAT

PK3:  -18.56500(kcal/mol): PK_start=1455 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1488
(fs_start=1446)
              AAA
AATGAGAGACAGGCTAATTTTTTAGGGA
              CCT    TCCGGTTT
              AGGCCGGGAA
AGCAAGGGA

PK4:  -21.19500(kcal/mol): PK_start=1461 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1498
(fs_start=1446)
              TCCAGCA
AGACAGGCTAATTTTTTAGGAAAATTTGGCCT
              GGGCCGGA    AGGGA
              TTCCTCA
AAATT

=====
(3754) JX448024
=====
PK1:  -12.52000(kcal/mol): PK_start=1426 sp=0 s1=3 s2=7 l1=3 l2=5 L3=0 PK_end=1453
(fs_start=1446)
              CAA
GGAAGGAAGGACATCAAATAAAAGACTG
              GAC    AGAGAGT
              TTTTTTAGG
GCTAA

```

PK2: -19.660000(kcal/mol): PK_start=1432 sp=0 s1=7 s2=7 l1=1 l2=8 L3=0 PK_end=1468
(fs_start=1446)

C
AAGGACATCAAATAAAAGACTGCAATGAGAGA
 ATTTTTT AATCGGA
 TTGGCCTTC
 GGGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1455 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1488
(fs_start=1446)

AAA
AATGAGAGACAGGCTAATTTTTTAGGGA
 CCT TCCGGTTT
 AGGCCGGGAA
 AGCAAGGGA

PK4: -21.195000(kcal/mol): PK_start=1461 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1498
(fs_start=1446)

TCCAGCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
 GGGCCGGA AGGGA
 TTCCTCA
 AAATT

=====
(3755) JX448026
=====

PK1: -12.520000(kcal/mol): PK_start=1426 sp=0 s1=3 s2=7 l1=3 l2=5 L3=0 PK_end=1453
(fs_start=1446)

CAA
GGAAGGAAGGACATCAAATAAAAGACTG
 GAC AGAGAGT
 TTTTTTTAGG
 GCTAA

PK2: -19.660000(kcal/mol): PK_start=1432 sp=0 s1=7 s2=7 l1=1 l2=8 L3=0 PK_end=1468
(fs_start=1446)

C
AAGGACATCAAATAAAAGACTGCAATGAGAGA
 ATTTTTT AATCGGA
 TTGGCCTTC
 GGGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1455 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1488
(fs_start=1446)

AAA
AATGAGAGACAGGCTAATTTTTTAGGGA
 CCT TCCGGTTT
 AGGCCGGGAA
 AGCAAGGGA

PK4: -21.195000(kcal/mol): PK_start=1461 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1498
(fs_start=1446)

```

                                TCCAGCA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
                                GGGCCGGA   AGGGA
                                TTCCTCA
                                AAATT
```

=====
(3756) JX448027
=====

PK1: -12.520000(kcal/mol): PK_start=1426 sp=0 s1=3 s2=7 l1=3 l2=5 L3=0 PK_end=1453
(fs_start=1446)

```

                                CAA
GGAAGGAAGGACGTCAAATAAAAGACTG
                                GAC   AGAGAGT
                                TTTTTTAGG
                                GCTAA
```

PK2: -19.660000(kcal/mol): PK_start=1432 sp=0 s1=7 s2=7 l1=1 l2=8 L3=0 PK_end=1468
(fs_start=1446)

```

                                C
AAGGACGTCAAATAAAAGACTGCAATGAGAGA
                                ATTTTTT   AATCGGA
                                TTGGCCTTC
                                GGGAAAAT
```

PK3: -18.565000(kcal/mol): PK_start=1455 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1488
(fs_start=1446)

```

                                AAA
AATGAGAGACAGGCTAATTTTTTTAGGGA
                                CCT   TCCGGTTT
                                AGGCCGGGAA
                                AGCAAGGGA
```

PK4: -21.195000(kcal/mol): PK_start=1461 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1498
(fs_start=1446)

```

                                TCCAGCA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
                                GGGCCGGA   AGGGA
                                TTCCTCA
                                AAATT
```

=====
(3757) JX448028
=====

PK1: -12.360000(kcal/mol): PK_start=1483 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1521
(fs_start=1514)

```

                                A
TTGGAATGTGGGAAGGAAGGACACCAG
                                GTC   AGAAAGT
```

TTTTTTAGG
CACTGAGAGACAGGCTAA

PK2: -21.940000(kcal/mol): PK_start=1499 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1536
(fs_start=1514)

C
GAAGGACACCAGATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1523 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1556
(fs_start=1514)

AAA
ACTGAGAGACAGGCTAATTTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AACAAGGGG

PK4: -22.215000(kcal/mol): PK_start=1529 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1566
(fs_start=1514)

CCAACA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTT
GGACCGGAG GGGA
TCCTCA
AAATTT

PK4B: -26.865000(kcal/mol): PK_start=1529 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1592
(fs_start=1514)

TCCAACAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTT
GGACCGGA GGGG
CCCCGC
AAATTTTCCTCAGAGCAGACCAGAACCAACAG

=====
(3758) JX448029
=====

PK1: -12.360000(kcal/mol): PK_start=1257 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1295
(fs_start=1288)

A
TTGGAAATGTGGGAAGGAAGGACACCAG
GTC AGAAAGT
TTTTTTAGG
CACTGAGAGACAGGCTAA

PK2: -21.940000(kcal/mol): PK_start=1273 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1310
(fs_start=1288)

C
GAAGGACACCAGATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAAT

PK3: -20.285000(kcal/mol): PK_start=1297 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1330
(fs_start=1288)

AAA

ACTGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT

AGGCCAGGAA

AACAAAGGGG

PK4: -22.215000(kcal/mol): PK_start=1303 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1340
(fs_start=1288)

CCAACA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT

GGACCGGAG GGGA

TCCTCA

AAATTT

PK4B: -26.865000(kcal/mol): PK_start=1303 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1366
(fs_start=1288)

TCCAACAA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG

CCCCGC

AAATTTTCCTCAGAGCAGACCGGAGCCAACAG

=====

(3759) JX448030

=====

PK1: -12.360000(kcal/mol): PK_start=1483 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1521
(fs_start=1514)

A

TTGGAATGTGGGAAGGAAGGACACCAG

GTC AGAAAGT

TTTTTTAGG

CACTGAGAGACAGGCTAA

PK2: -21.940000(kcal/mol): PK_start=1499 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1536
(fs_start=1514)

C

GAAGGACACCAGATGAAAGACTGCACTGAGAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAAT

PK3: -20.285000(kcal/mol): PK_start=1523 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1556
(fs_start=1514)

AAA

ACTGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT

```

                AGGCCAGGAA
            AACAAGGGG

PK4:  -22.215000(kcal/mol): PK_start=1529 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1566
(fs_start=1514)
                CCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
                GGACCGGAG    GGGA
                TCCTCA
            AAATTT

PK4B:  -26.865000(kcal/mol): PK_start=1529 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1592
(fs_start=1514)
                TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
                GGACCGGA    GGGG
                CCCCCG
            AAATTTTCCTCAGAGCAGACCAGAACCAACAG

=====
(3760) JX448031
=====
PK1:  -12.360000(kcal/mol): PK_start=1483 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1521
(fs_start=1514)
                A
TTGGAAATGTGGGAAGGAAGGACACCAG
                GTC    AGAAAGT
                TTTTTTAGG
            CACTGAGAGACAGGCTAA

PK2:  -21.940000(kcal/mol): PK_start=1499 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1536
(fs_start=1514)
                C
GAAGGACACCAGATGAAAGACTGCACTGAGAGA
                GATTTTTT    AATCGGA
                TTGGCCTTC
            GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1523 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1556
(fs_start=1514)
                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                CCT    TCCGGTTT
                AGGCCAGGAA
            AACAAGGGG

PK4:  -22.215000(kcal/mol): PK_start=1529 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1566
(fs_start=1514)
                CCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
                GGACCGGAG    GGGA

```

TCCTCA

AAATTT

PK4B: -26.865000(kcal/mol): PK_start=1529 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1592
(fs_start=1514)

TCCAACAA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG

CCCCGC

AAATTTTCCTCAGAGCAGACCAGAGTCAACAG

=====

(3761) JX448057

=====

PK1: -12.160000(kcal/mol): PK_start=1486 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1524
(fs_start=1517)

A

TTGGAATGTGGAAGGAAGGACATCAG

GTC AGAAAGT

TTTTTTAGG

CACTGAGAGACAGGCTAA

PK2: -21.940000(kcal/mol): PK_start=1502 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1539
(fs_start=1517)

C

GAAGGACATCAGATGAAAGACTGCACTGAGAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1526 sp=0 s1=3 s2=8 l1=3 l2=6 L3=0 PK_end=1556
(fs_start=1517)

AAA

ACTGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT

AGGCCAGGAA

AAGGGG

PK4: -27.000000(kcal/mol): PK_start=1532 sp=7 s1=7 s2=5 l1=6 l2=6 L3=0 PK_end=1567
(fs_start=1517)

TTCCAA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCC

GGACCGG AGGGG

TCCCCAG

AAATTT

PK4B: -24.080000(kcal/mol): PK_start=1533 sp=8 s1=6 s2=4 l1=6 l2=33 L3=1 PK_end=1591
(fs_start=1517)

TTCCAA

GACAGGCTAATTTTTTAGGGAAAATTTGGCC

GACCGG A GGGG

CCCCAC
GAAATTTTCCCAGAGCAGACCGGAGCCAACAG

=====
(3762) JX448058
=====

PK1: -12.160000(kcal/mol): PK_start=1486 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1524
(fs_start=1517)

A
TTGGAAATGTGGAAAGGRAGGACATCAG
GTC AGAAAGT
TTTTTTAGG
CACTGAGAGACAGGCTAA

PK2: -21.940000(kcal/mol): PK_start=1502 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1539
(fs_start=1517)

C
GRAGGACATCAGATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1526 sp=0 s1=3 s2=8 l1=3 l2=6 L3=0 PK_end=1556
(fs_start=1517)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AAGGGG

PK4: -27.000000(kcal/mol): PK_start=1532 sp=7 s1=7 s2=5 l1=6 l2=6 L3=0 PK_end=1567
(fs_start=1517)

TTCCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCC
GGACCGG AGGGG
TCCCCAG
AAATTT

PK4B: -24.080000(kcal/mol): PK_start=1533 sp=8 s1=6 s2=4 l1=6 l2=33 L3=1 PK_end=1591
(fs_start=1517)

TTCCAA
GACAGGCTAATTTTTTAGGGAAAATTTGGCC
GACCGG A GGGG
CCCCAC
GAAATTTTCCCAGAGCAGACCGGAGCCAACAG

=====
(3763) JX448059
=====

PK1: -12.160000(kcal/mol): PK_start=1486 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1524
(fs_start=1517)

A
TTGGAAATGTGGAAAGGAAGGACATCAG


```

                GTC    AGAAAGT
                    TTTTTTAGG
            CACTGAGAGACAGGCTAA

PK2:  -21.940000(kcal/mol): PK_start=1502 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1539
(fs_start=1517)
                C
            GAAGGACATCAGATGAAAGACTGCACTGAGAGA
                    GATTTTTT    AATCGGA
                                TTGGCCTTC
                GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1526 sp=0 s1=3 s2=8 l1=3 l2=6 L3=0 PK_end=1556
(fs_start=1517)
                    AAA
            ACTGAGAGACAGGCTAATTTTTTAGGGA
                    CCT    TCCGGTTT
                                AGGCCAGGAA
                AAGGGG

PK4:  -27.000000(kcal/mol): PK_start=1532 sp=7 s1=7 s2=5 l1=6 l2=6 L3=0 PK_end=1567
(fs_start=1517)
                    TTCCAA
            AGACAGGCTAATTTTTTAGGGAAAATTTGGCC
                    GGACCGG    AGGGG
                                TCCCCAG
                AAATTT

PK4B:  -24.080000(kcal/mol): PK_start=1533 sp=8 s1=6 s2=4 l1=6 l2=33 L3=1 PK_end=1591
(fs_start=1517)
                    TTCCAA
            GACAGGCTAATTTTTTAGGGAAAATTTGGCC
                    GACCGG  A  GGGG
                                CCCCAC
                GAAATTTTCCCCAGAGCAGACCGGAGCCAACAG

=====
(3764) JX448060
=====
PK1:  -12.160000(kcal/mol): PK_start=1486 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1524
(fs_start=1517)
                A
            TTGGAATGTGGAAAGGAAGGACATCAG
                    GTC    AGAAAGT
                                TTTTTTAGG
            CACTGAGAGACAGGCTAA

PK2:  -21.940000(kcal/mol): PK_start=1502 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1539
(fs_start=1517)
                C
            GAAGGACATCAGATGAAAGACTGCACTGAGAGA

```

```

                GATTTTTT   AATCGGA
                    TTGGCCTTC
        GGAAAAT
PK3:  -20.285000(kcal/mol): PK_start=1526 sp=0 s1=3 s2=8 l1=3 l2=6 L3=0 PK_end=1556
(fs_start=1517)
                AAA
ACTGAGAGACAGGCTAATTTTTTTAGGGA
                CCT   TCCGGTTT
                    AGGCCAGGAA
                AAGGGG
PK4:  -27.000000(kcal/mol): PK_start=1532 sp=7 s1=7 s2=5 l1=6 l2=6 L3=0 PK_end=1567
(fs_start=1517)
                    TTCCAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCC
                GGACCGG   AGGGG
                    TCCCCAG
                AAATTT
PK4B:  -24.080000(kcal/mol): PK_start=1533 sp=8 s1=6 s2=4 l1=6 l2=33 L3=1 PK_end=1591
(fs_start=1517)
                    TTCCAA
GACAGGCTAATTTTTTTAGGGAAAATTTGGCC
                GACCGG  A  GGGG
                    CCCCAC
                GAAATTTTCCCAGAGCAGACCGGAGCCAACAG
=====
(3765) JX448061
=====
PK1:  -12.160000(kcal/mol): PK_start=1486 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1524
(fs_start=1517)
                A
TTGGAAATGTGGAAAGGAAGGACATCAG
                GTC   AGAAAGT
                    TTTTTTAGG
                CACTGAGAGACAGGCTAA
PK2:  -21.940000(kcal/mol): PK_start=1502 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1539
(fs_start=1517)
                C
GAAGGACATCAGATGAAAGACTGCACTGAGAGA
                GATTTTTT   AATCGGA
                    TTGGCCTTC
                GGAAAAT
PK3:  -20.285000(kcal/mol): PK_start=1526 sp=0 s1=3 s2=8 l1=3 l2=6 L3=0 PK_end=1556
(fs_start=1517)
                AAA
ACTGAGAGACAGGCTAATTTTTTTAGGGA

```

```

          CCT      TCCGGTTT
                AGGCCAGGAA
AAGGGG
PK4:  -27.000000(kcal/mol): PK_start=1532 sp=7 s1=7 s2=5 l1=6 l2=6 L3=0 PK_end=1567
(fs_start=1517)
                TTCCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCC
                GGACCGG      AGGGG
                TCCCCAG
          AAATTT

PK4B:  -24.080000(kcal/mol): PK_start=1533 sp=8 s1=6 s2=4 l1=6 l2=33 L3=1 PK_end=1591
(fs_start=1517)
                TTCCAA
GACAGGCTAATTTTTTAGGGAAAATTTGGCC
                GACCGG  A  GGGG
                CCCCAC
          GAAATTTTCCCCAGAGCAGACCGGAGCCAACAG

=====
(3766) JX448063
=====
PK1:  -12.160000(kcal/mol): PK_start=1486 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1524
(fs_start=1517)
                A
TTGGAAATGTGGAAAGGAAGGACATCAG
                GTC      AGAAAGT
                TTTTTTAGG
          CACTGAGAGACAGGCTAA

PK2:  -21.940000(kcal/mol): PK_start=1502 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1539
(fs_start=1517)
                C
GAAGGACATCAGATGAAAGACTGCACTGAGAGA
                GATTTTTT      AATCGGA
                TTGGCCTTC
          GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1526 sp=0 s1=3 s2=8 l1=3 l2=6 L3=0 PK_end=1556
(fs_start=1517)
                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                CCT      TCCGGTTT
                AGGCCAGGAA
          AAGGGG

PK4:  -27.000000(kcal/mol): PK_start=1532 sp=7 s1=7 s2=5 l1=6 l2=6 L3=0 PK_end=1567
(fs_start=1517)
                TTCCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCC

```

GGACCGG AGGGG
TCCCCAG
AAATTT

PK4B: -24.080000(kcal/mol): PK_start=1533 sp=8 s1=6 s2=4 l1=6 l2=33 L3=1 PK_end=1591
(fs_start=1517)

TTCCAA
GACAGGCTAATTTTTTAGGGAAAATTTGGCC

GACCGG A GGGG
CCCCAC
GAAATTTTCCCCAGAGCAGACCGGAGCCAACAG

=====
(3767) JX448064
=====

PK1: -12.160000(kcal/mol): PK_start=1477 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1515
(fs_start=1508)

A
TTGGAAATGTGGAAAGGAAGGACATCAG

GTC AGAAAGT
TTTTTTAGG
CACTGAGAGACAGGCTAA

PK2: -21.940000(kcal/mol): PK_start=1493 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1530
(fs_start=1508)

C
GAAGGACATCAGATGAAAGACTGCACTGAGAGA

GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1517 sp=0 s1=3 s2=8 l1=3 l2=6 L3=0 PK_end=1547
(fs_start=1508)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT
AGGCCAGGAA
AAGGGG

PK4: -27.000000(kcal/mol): PK_start=1523 sp=7 s1=7 s2=5 l1=6 l2=6 L3=0 PK_end=1558
(fs_start=1508)

TTCCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCC

GGACCGG AGGGG
TCCCCAG
AAATTT

PK4B: -24.080000(kcal/mol): PK_start=1524 sp=8 s1=6 s2=4 l1=6 l2=33 L3=1 PK_end=1582
(fs_start=1508)

TTCCAA
GACAGGCTAATTTTTTAGGGAAAATTTGGCC

GACCGG A GGGG
CCCCAC
GAAATTTTCCCCAGAGCAGACCGGAGCCAACAG

=====
(3768) JX448065
=====

PK1: -12.160000(kcal/mol): PK_start=1486 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1524
(fs_start=1517)

A
TTGGAAATGTGGAAAGGAAGGACATCAG

GTC AGAAAGT
TTTTTTAGG
CACTGAGAGACAGGCTAA

PK2: -21.940000(kcal/mol): PK_start=1502 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1539
(fs_start=1517)

C
GAAGGACATCAGATGAAAGACTGCACTGAGAGA

GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1526 sp=0 s1=3 s2=8 l1=3 l2=6 L3=0 PK_end=1556
(fs_start=1517)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT
AGGCCAGGAA
AAGGGG

PK4: -27.000000(kcal/mol): PK_start=1532 sp=7 s1=7 s2=5 l1=6 l2=6 L3=0 PK_end=1567
(fs_start=1517)

TTCCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCC

GGACCGG AGGGG
TCCCCAG
AAATTT

PK4B: -24.080000(kcal/mol): PK_start=1533 sp=8 s1=6 s2=4 l1=6 l2=33 L3=1 PK_end=1591
(fs_start=1517)

TTCCAA
GACAGGCTAATTTTTTAGGGAAAATTTGGCC

GACCGG A GGGG
CCCCAC
GAAATTTTCCCCAGAGCAGACCGGAGCCAACAG

=====
(3769) JX448066
=====

PK1: -12.160000(kcal/mol): PK_start=1486 sp=0 s1=3 s2=7 l1=1 l2=18 l3=0 PK_end=1524 (fs_start=1517)

A
TTGGAATGTGGAAGGAAGGACATCAG
GTC AGAAAGT
TTTTTTAGG
CACTGAGAGACAGGCTAA

PK2: -21.940000(kcal/mol): PK_start=1502 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1539 (fs_start=1517)

C
GAAGGACATCAGATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1526 sp=0 s1=3 s2=8 l1=3 l2=6 l3=0 PK_end=1556 (fs_start=1517)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGTTT
AGGCCAGGAA
AAGGGG

PK4: -27.000000(kcal/mol): PK_start=1532 sp=7 s1=7 s2=5 l1=6 l2=6 l3=0 PK_end=1567 (fs_start=1517)

TTCCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCC
GGACCGG AGGGG
TCCCCAG
AAATTT

PK4B: -24.080000(kcal/mol): PK_start=1533 sp=8 s1=6 s2=4 l1=6 l2=33 l3=1 PK_end=1591 (fs_start=1517)

TTCCAA
GACAGGCTAATTTTTTAGGGAAAATTTGGCC
GACCGG A GGGG
CCCCAC
GAAATTTTCCCCAGAGCAGACCGGAGCCAACAG

=====
(3770) JX448067
=====

PK1: -12.160000(kcal/mol): PK_start=1486 sp=0 s1=3 s2=7 l1=1 l2=18 l3=0 PK_end=1524 (fs_start=1517)

A
TTGGAATGTGGAAGGAAGGACATCAG
GTC AGAAAGT
TTTTTTAGG
CACTGAGAGACAGGCTAA

PK2: -21.940000(kcal/mol): PK_start=1502 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1539
(fs_start=1517)

C
GAAGGACATCAGATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1526 sp=0 s1=3 s2=8 l1=3 l2=6 L3=0 PK_end=1556
(fs_start=1517)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AAGGGG

PK4: -27.000000(kcal/mol): PK_start=1532 sp=7 s1=7 s2=5 l1=6 l2=6 L3=0 PK_end=1567
(fs_start=1517)

TTCCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCC
GGACCGG AGGGG
TCCCCAG
AAATTT

PK4B: -24.080000(kcal/mol): PK_start=1533 sp=8 s1=6 s2=4 l1=6 l2=33 L3=1 PK_end=1591
(fs_start=1517)

TTCCAA
GACAGGCTAATTTTTTAGGGAAAATTTGGCC
GACCGG A GGGG
CCCCAC
GAAATTTTCCCCAGAGCAGACCGGAGCCAACAG

=====
(3771) JX500694
=====

PK1: -15.100000(kcal/mol): PK_start=1588 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1616
(fs_start=1608)

CA
GAAAGGAAGGCCATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1593 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1630
(fs_start=1608)

C
GAAGGCCATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAGAAT

PK3: -18.840000(kcal/mol): PK_start=1616 sp=0 s1=5 s2=6 l1=2 l2=11 l3=0 PK_end=1650
(fs_start=1608)

AA
CACTGAGAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTTT
GCCAGGAA
AGCAAAGGGAG

PK4: -21.815000(kcal/mol): PK_start=1623 sp=7 s1=8 s2=4 l1=8 l2=6 l3=0 PK_end=1660
(fs_start=1608)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
GGACCGGA GGG
TCCTCA
AAATTT

=====
(3772) JX500695
=====

PK1: -15.100000(kcal/mol): PK_start=1598 sp=0 s1=3 s2=8 l1=2 l2=5 l3=0 PK_end=1626
(fs_start=1618)

CA
GAAAGGAAGGCCATCAAATGAAGGACTG
GAC AGAGAGTC
TTTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1603 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1640
(fs_start=1618)

C
GAAGGCCATCAAATGAAGGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAGAAT

PK3: -18.840000(kcal/mol): PK_start=1626 sp=0 s1=5 s2=6 l1=2 l2=11 l3=0 PK_end=1660
(fs_start=1618)

AA
CACTGAGAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTTT
GCCAGGAA
AGCAAGGGAG

PK4: -22.215000(kcal/mol): PK_start=1633 sp=7 s1=9 s2=4 l1=6 l2=6 l3=0 PK_end=1670
(fs_start=1618)

CCAGCA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCTT
GGACCGGAG GGG
TCCTCA
AAATTT

PK4B: -26.865000(kcal/mol): PK_start=1633 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1696
(fs_start=1618)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTTCCTCAGAGCAGACCAGAGCCATCAG

=====
(3773) JX500696
=====

PK1: -15.100000(kcal/mol): PK_start=1600 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1628
(fs_start=1620)

CA
GAAAGGAAGGCCATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1605 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1642
(fs_start=1620)

C
GAAGGCCATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1629 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1662
(fs_start=1620)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AGCAAAGGG

PK4: -21.815000(kcal/mol): PK_start=1635 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1672
(fs_start=1620)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
TCCTCA
AAATTT

=====
(3774) JX500697
=====

PK1: -15.585000(kcal/mol): PK_start=1605 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1633
(fs_start=1625)

A
GAAAGGAGGGACACCAAATGAAAGACTGT
GACA GAGAGTC

TTTTTAGGG
GCTAAT
PK2: -21.940000(kcal/mol): PK_start=1610 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1647
(fs_start=1625)

C
GAGGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAAT

PK3: -20.285000(kcal/mol): PK_start=1634 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1667
(fs_start=1625)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AGCAAGGGG

PK4: -27.000000(kcal/mol): PK_start=1640 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=1678
(fs_start=1625)

TTCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCC
GGACCGG AGGGG
TCCCCAG
AAATTT

PK4B: -24.080000(kcal/mol): PK_start=1641 sp=8 s1=6 s2=4 l1=9 l2=33 L3=1 PK_end=1702
(fs_start=1625)

TTCCAGCAA
GACAGGCTAATTTTTTAGGGAAAATTTGGCC
GACCGG A GGGG
CCCCAC
GAAATTTTCCCCAGAGCAGACCAGAACCAACAG

=====
(3775) JX500698
=====

PK1: -15.100000(kcal/mol): PK_start=1605 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1633
(fs_start=1625)

CA
GAAAGGAAGGCCATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1610 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1647
(fs_start=1625)

C
GAAGGCCATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA

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                                TTGGCCTTC
          GGAGACT
PK3:  -18.840000(kcal/mol): PK_start=1633 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1667
(fs_start=1625)
                                AC
CACTGAGAGACAGGCTAATTTTTTAGGGAG
                                CCTTC   CGGTTT
                                GCCAGGAA
          AACAAAGGGAG

PK4:  -21.815000(kcal/mol): PK_start=1640 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1677
(fs_start=1625)
                                TCCAACAA
AGACAGGCTAATTTTTTAGGGAGACTTTGGCCT
                                GGACCGGA   GGG
                                TCCTCA
          AAATTT

=====
(3776) JX500699
=====
PK1:  -15.100000(kcal/mol): PK_start=1605 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1633
(fs_start=1625)
                                CA
GAAAGGAAGGCCATCAAATGAAAGACTG
                                GAC   AGAGAGTC
                                TTTTTTAGGG
          GCTAA

PK2:  -20.460000(kcal/mol): PK_start=1610 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1646
(fs_start=1625)
                                C
GAAGGCCATCAAATGAAAGACTGCACTGAGAGA
                                GATTTTTT   A   ATCGGA
                                TGGCCTTC
          GGAGACTC

PK3:  -22.370000(kcal/mol): PK_start=1633 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1667
(fs_start=1625)
                                AC
CACTGAGAGACAGGCTAATTTTTTAGGGAG
                                CCTTC   CGGTCT
                                GCCAGGAA
          AACAAAGGGAG

PK4:  -25.345000(kcal/mol): PK_start=1640 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1677
(fs_start=1625)
                                TCCAACAA
AGACAGGCTAATTTTTTAGGGAGACTCTGGCCT
                                GGACCGGA   GGG

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                                TCCTCA
AAATTT

=====
(3777) JX500700
=====
PK1:  -15.100000(kcal/mol): PK_start=1605 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1633
(fs_start=1625)
                                CA
GAAAGGAAGGCCATCAAATGAAAGACTG
                                GAC   AGAGAGTC
                                TTTTTTAGGG
GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1610 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1647
(fs_start=1625)
                                C
GAAGGCCATCAAATGAAAGACTGCACTGAGAGA
                                GATTTTTT   AATCGGA
                                TTGGCCTTC
GAGAGCT

PK3:  -18.840000(kcal/mol): PK_start=1633 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1667
(fs_start=1625)
                                AC
CACTGAGAGACAGGCTAATTTTTTAGGGAG
                                CCTTC   CGGTTT
                                GCCAGGAA
AACAAAGGGAG

PK4:  -21.815000(kcal/mol): PK_start=1640 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1677
(fs_start=1625)
                                TCCAACAA
AGACAGGCTAATTTTTTAGGGAGACTTTGGCCT
                                GGACCGGA   GGG
                                TCCTCA
AAATTT

=====
(3778) JX500701
=====
PK1:  -15.100000(kcal/mol): PK_start=1605 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1633
(fs_start=1625)
                                CA
GAAAGGAAGGCCATCAAATGAAAGACTG
                                GAC   AGAGAGTC
                                TTTTTTAGGG
GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1610 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1647
(fs_start=1625)
                                C
GAAGGCCATCAAATGAAAGACTGCACTGAGAGA

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          GATTTTTT   AATCGGA
                    TTGGCCTTC
GGAGACT

PK3:  -18.840000(kcal/mol): PK_start=1633 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1667
(fs_start=1625)
          AC
CACTGAGAGACAGGCTAATTTTTTTAGGGAG
          CCTTC   CGGTTT
                    GCCAGGAA
AACAAAGGGAG

PK4:  -21.815000(kcal/mol): PK_start=1640 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1677
(fs_start=1625)
                    TCCAACAA
AGACAGGCTAATTTTTTTAGGGAGACTTTGGCCT
          GGACCGGA   GGA
                    TCCTCA
AAATTT

=====
(3779) JX500702
=====
PK1:  -15.100000(kcal/mol): PK_start=1605 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1633
(fs_start=1625)
          CA
GAAAGGAAGGCCATCAAATGAAAGACTG
          GAC   AGAGAGTC
                    TTTTTTAGGG
GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1610 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1647
(fs_start=1625)
          C
GAAGGCCATCAAATGAAAGACTGCACTGAGAGA
          GATTTTTT   AATCGGA
                    TTGGCCTTC
GGAGACT

PK3:  -18.840000(kcal/mol): PK_start=1633 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1667
(fs_start=1625)
          AC
CACTGAGAGACAGGCTAATTTTTTTAGGGAG
          CCTTC   CGGTTT
                    GCCAGGAA
AACAAAGGGAG

PK4:  -21.815000(kcal/mol): PK_start=1640 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1677
(fs_start=1625)
                    TCCAACAA
AGACAGGCTAATTTTTTTAGGGAGACTTTGGCCT

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                GGACCGGA    GGGA
                    TCCTCA
AAATTT

=====
(3780) JX500703
=====
PK1:  -15.585000(kcal/mol): PK_start=1606 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1634
(fs_start=1626)
                    A
GAAAGGAGGGGCACCAAATGAAAGACTGT
                GACA    GAGAGTC
                    TTTTATAGGG
                GCTAAT

PK2:  -21.940000(kcal/mol): PK_start=1611 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1648
(fs_start=1626)
                    C
GAGGGGCACCAAATGAAAGACTGTACTGAGAGA
                GATTTTTT    AATCGGA
                    TTGGCCTTC
                GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1635 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1668
(fs_start=1626)
                    AAA
ACTGAGAGACAGGCTAATTTTTATAGGGA
                CCT    TCCGGTTT
                    AGGCCAGGAA
                AGCAAGGGG

PK4:  -22.215000(kcal/mol): PK_start=1641 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1678
(fs_start=1626)
                    CCAGCA
AGACAGGCTAATTTTTATAGGAAAATTTGGCCTT
                GGACCGGAG    GGGA
                    TCCTCA
                AAATTT

PK4B:  -26.865000(kcal/mol): PK_start=1641 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1704
(fs_start=1626)
                    TCCAGCAA
AGACAGGCTAATTTTTATAGGAAAATTTGGCCT
                GGACCGGA    GGGG
                    CCCCAC
                AAATTTTCCTCAGAGCAGACCAGAACCAACAG

=====
(3781) JX500704
=====

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PK1: -15.100000(kcal/mol): PK_start=1605 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1633
(fs_start=1625)

CA
GAAAGGAAGGCCATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1610 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1647
(fs_start=1625)

C
GAAGGCCATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGCCTTC
GGAGACT

PK3: -18.840000(kcal/mol): PK_start=1633 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1667
(fs_start=1625)

AC
CACTGAGAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTTT
GCCAGGAA
AACAAAGGGAG

PK4: -21.815000(kcal/mol): PK_start=1640 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1677
(fs_start=1625)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAGACTTTGGCCT
GGACCGGA GGG
TCCTCA
AAATTT

=====
(3782) JX500705
=====

PK1: -15.100000(kcal/mol): PK_start=1642 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1670
(fs_start=1662)

CA
GAAAGGAAGGCCATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1647 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1684
(fs_start=1662)

C
GAAGGCCATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGCCTTC
GGAGACT

PK3: -18.840000(kcal/mol): PK_start=1670 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1704
(fs_start=1662)

AC
CACTGAGAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTTT
GCCAGGAA
AACAAAGGGAG

PK4: -21.815000(kcal/mol): PK_start=1677 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1714
(fs_start=1662)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAGACTTTGGCCT
GGACCGGA GGG
TCCTCA
AAATTT

=====
(3783) JX500706
=====

PK2: -20.330000(kcal/mol): PK_start=1610 sp=0 s1=8 s2=7 l1=4 l2=7 L3=0 PK_end=1650
(fs_start=1628)

AGAC
GAGGGACACCAAATGAGAGACTGTACTGAGGAG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK1: -11.420000(kcal/mol): PK_start=1610 sp=0 s1=3 s2=6 l1=2 l2=5 L3=0 PK_end=1634
(fs_start=1628)

AG
GAGGGACACCAAATGAGAGACTGTACTG
GAC AGAGAG
TTTTTTAG
GCTAA

PK3: -23.745000(kcal/mol): PK_start=1636 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1670
(fs_start=1628)

AAA
TGAGGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGAA
ACAAGGGG

PK4: -22.215000(kcal/mol): PK_start=1643 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1680
(fs_start=1628)

CCCACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGAG GGG
TCCTCA
AAATTT

PK4B: -26.865000(kcal/mol): PK_start=1643 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1706
(fs_start=1628)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTTCCTCAGAGCAGACCAGAACCAACAG

=====
(3784) JX500707
=====

PK1: -13.555000(kcal/mol): PK_start=1614 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1642
(fs_start=1634)

A
GAAGGGAAGGACATCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1619 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1655
(fs_start=1634)

C
GAAGGACATCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1642 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1676
(fs_start=1634)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGAA
ACAAGGGG

PK4: -28.540000(kcal/mol): PK_start=1649 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1686
(fs_start=1634)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
AAATTT

PK4B: -30.395000(kcal/mol): PK_start=1649 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1712
(fs_start=1634)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTTCCTCAGAGCAGACCAGAGCCAACAG

=====
(3785) JX500708
=====

PK1: -13.555000(kcal/mol): PK_start=1623 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1651
(fs_start=1643)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1628 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1664
(fs_start=1643)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1651 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1685
(fs_start=1643)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGGAG

PK4: -28.540000(kcal/mol): PK_start=1658 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1695
(fs_start=1643)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1658 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1721
(fs_start=1643)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCCCTTCAGAGCAGACCAGAGCCAACAG

=====
(3786) JX500709
=====

PK1: -13.355000(kcal/mol): PK_start=1610 sp=0 s1=4 s2=9 l1=2 l2=6 L3=0 PK_end=1643
(fs_start=1633)

AC
GGAAAGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTCTT

TTTTTAGGGAA
GCTAAT
PK2: -21.060000(kcal/mol): PK_start=1616 sp=0 s1=10 s2=6 l1=1 l2=6 L3=1 PK_end=1654
(fs_start=1633)

C
AAGGACACCAAATGAAAGATTGTACTTCTGAAAGA
GGGATTTTTT A ATCGGA
TGGCCTTC
AAAATC

PK3: -26.605000(kcal/mol): PK_start=1641 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1675
(fs_start=1633)

AAA
TTCTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCGGGA
ACAAGGGG

PK4: -25.075000(kcal/mol): PK_start=1648 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1685
(fs_start=1633)

CCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT
GGGCCGGAG GGGA
TCCTCA
GAACTT

PK4B: -29.725000(kcal/mol): PK_start=1648 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1711
(fs_start=1633)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGGCCGGA GGGG
CCCCAC
GAACTTTCCTCAGAGCAGAACACAGCCAACAG

=====
(3787) JX503071
=====

PK1: -13.555000(kcal/mol): PK_start=1507 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1535
(fs_start=1527)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1512 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1548
(fs_start=1527)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA

```

                                TGGCCTTC
          GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1535 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1569
(fs_start=1527)
                                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTCT
                                AGGCCAGGGA
          ACAAGGGG
PK4:  -26.235000(kcal/mol): PK_start=1542 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1579
(fs_start=1527)
                                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAGG   GGAA
                                TCTTCA
          GAATTT
PK4B:  -30.395000(kcal/mol): PK_start=1542 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1605
(fs_start=1527)
                                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                                GGACCGGA   GGGG
                                CCCCAC
          GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(3788) JX503072
=====
PK1:  -13.555000(kcal/mol): PK_start=1437 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1465
(fs_start=1457)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                                GACA   GAGAGTC
                                TTTTTAGGG
          GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1442 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1478
(fs_start=1457)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                                GATTTTTT   A   ATCGGA
                                TGGCCTTC
          GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1465 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1499
(fs_start=1457)
                                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTCT

```

AGGCCAGGGA

ACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=1472 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1509
(fs_start=1457)

CCAC

AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAGG GGAA

TCTTCA

GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1472 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1535
(fs_start=1457)

TCCCACAA

AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT

GGACCGGA GGGG

CCCCAC

GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(3789) JX503073
=====

PK1: -13.555000(kcal/mol): PK_start=1562 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1590
(fs_start=1582)

A

GAAAGGAAGGACACCAAATGAAAGATTGT

GACA GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1567 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1603
(fs_start=1582)

C

GAAGGACACCAAATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1590 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1624
(fs_start=1582)

A

TACTGAGAGACAGGCTAATTTTTTAGGGAAG

CCCTTC CGGTCT

GCCAGGGA

ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1597 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1634
(fs_start=1582)

CCAC

AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC

GGACCGGAAG GGAA

TCTTCA

GAATTT

=====
(3790) JX503074
=====

PK1: -10.425000(kcal/mol): PK_start=1528 sp=0 s1=4 s2=6 l1=2 l2=5 L3=0 PK_end=1554
(fs_start=1548)

AC

GAAAGGAAGGACACCAAATGAAAGATTGT

GACA GAGAGA

TTTTTTAG

GCTAA

PK2: -17.180000(kcal/mol): PK_start=1535 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=1569
(fs_start=1548)

C

AGGACACCAAATGAAAGATTGTACAGAGAGA

TTTTTT A ATCGGA

TGGCCTTC

AGGGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1556 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1590
(fs_start=1548)

A

TACAGAGAGACAGGCTAATTTTTTAGGGAAG

CCCTTC CGGTCT

GCCAGGGA

ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1563 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1600
(fs_start=1548)

CCAC

AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC

GGACCGGAAG GGAA

TCTTCA

GAATTT

=====
(3791) JX503075
=====

PK1: -13.555000(kcal/mol): PK_start=1431 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1459
(fs_start=1451)

A

GAAAGGAAGGACACCAAATGAAAGATTGT

GACA GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1436 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1472
(fs_start=1451)

C

GAAGGACACCAAATGAAAGATTGTACTGAGAGA

```

          GATTTTTT A ATCGGA
                                TGGCCTTC
      GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1459 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1493
(fs_start=1451)
          AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
          CCCT   TCCGGTCT
                                AGGCCAGGGA
          ACAAAGGA
PK4:  -26.925000(kcal/mol): PK_start=1466 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1503
(fs_start=1451)
                                TCCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
          GGACCGGA   AGGAA
                                TCCTTCA
          GAATT

=====
(3792) JX503076
=====
PK1:  -13.555000(kcal/mol): PK_start=1306 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1334
(fs_start=1326)
          A
GAAAGGAAGGACACCAAATGAAAGATTGT
          GACA   GAGAGTC
                                TTTTTAGGG
          GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1311 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1347
(fs_start=1326)
          C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
          GATTTTTT A ATCGGA
                                TGGCCTTC
          GGAAGATC
PK3:  -26.110000(kcal/mol): PK_start=1334 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1368
(fs_start=1326)
          A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
          CCCTTC   CGGTCT
                                GCCAGGGA
          ACAAGGGAAG
PK4:  -26.715000(kcal/mol): PK_start=1341 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1378
(fs_start=1326)
                                CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC

```

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                GGACCGGAAG    GGAA
                                TCTTCA
          GAATTT
=====
(3793) JX503080
=====
PK1:  -10.425000(kcal/mol): PK_start=1587 sp=0 s1=4 s2=6 l1=2 l2=5 L3=0 PK_end=1613
(fs_start=1607)
                                AC
GAAAGGAAGGACACCAAATGAAAGATTGT
                GACA    GAGAGA
                                TTTTTTAG
          GCTAA

PK2:  -17.180000(kcal/mol): PK_start=1594 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=1628
(fs_start=1607)
                                C
AGGACACCAAATGAAAGATTGTACAGAGAGA
                TTTTTT  A  ATCGGA
                                TGGCCTTC
          AGGGAAGATC

PK3:  -26.110000(kcal/mol): PK_start=1615 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1649
(fs_start=1607)
                                A
TACAGAGAGACAGGCTAATTTTTTAGGGAAG
                CCCTTC    CGGTCT
                                GCCAGGGA
          ACAAGGGAAG

PK4:  -26.715000(kcal/mol): PK_start=1622 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1659
(fs_start=1607)
                                CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
                GGACCGGAAG    GGAA
                                TCTTCA
          GAATTT

=====
(3794) JX503081
=====
PK1:  -10.425000(kcal/mol): PK_start=1279 sp=0 s1=4 s2=6 l1=2 l2=5 L3=0 PK_end=1305
(fs_start=1299)
                                AC
GAAAGGAAGGACACCAAATGAAAGATTGT
                GACA    GAGAGA
                                TTTTTTAG
          GCTAA

```


PK2: -17.180000(kcal/mol): PK_start=1286 sp=0 s1=6 s2=6 l1=1 l2=10 l3=1 PK_end=1320
(fs_start=1299)

C
AGGACACCAAATGAAAGATTGTACAGAGAGA
TTTTTT A ATCGGA
TGGCCTTC
AGGGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1307 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1341
(fs_start=1299)

A
TACAGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1314 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1351
(fs_start=1299)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(3795) JX503082
=====

PK1: -10.425000(kcal/mol): PK_start=1287 sp=0 s1=4 s2=6 l1=2 l2=5 l3=0 PK_end=1313
(fs_start=1307)

AC
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGA
TTTTTTAG
GCTAA

PK2: -17.180000(kcal/mol): PK_start=1294 sp=0 s1=6 s2=6 l1=1 l2=10 l3=1 PK_end=1328
(fs_start=1307)

C
AGGACACCAAATGAAAGATTGTACAGAGAGA
TTTTTT A ATCGGA
TGGCCTTC
AGGGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1315 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1349
(fs_start=1307)

A
TACAGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1322 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1359
(fs_start=1307)

```

                                CCAC
AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCTTC
                                GGACCGGAAG   GGAA
                                TCTTCA
                                GAATTT
```

=====
(3796) JX503083
=====

PK1: -10.425000(kcal/mol): PK_start=1263 sp=0 s1=4 s2=6 l1=2 l2=5 L3=0 PK_end=1289
(fs_start=1283)

```

                                AC
GAAAGGAAGGACACCAAATGAAAGATTGT
                                GACA   GAGAGA
                                TTTTTTAG
                                GCTAA
```

PK2: -17.180000(kcal/mol): PK_start=1270 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=1304
(fs_start=1283)

```

                                C
AGGACACCAAATGAAAGATTGTACAGAGAGA
                                TTTTTT   A   ATCGGA
                                TGGCCTTC
                                AGGGAAGATC
```

PK3: -26.110000(kcal/mol): PK_start=1291 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1325
(fs_start=1283)

```

                                A
TACAGAGAGACAGGCTAATTTTTTTAGGGAAG
                                CCCTTC   CGGTCT
                                GCCAGGGA
                                ACAAGGGAAG
```

PK4: -26.715000(kcal/mol): PK_start=1298 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1335
(fs_start=1283)

```

                                CCAC
AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCTTC
                                GGACCGGAAG   GGAA
                                TCTTCA
                                GAATTT
```

=====
(3797) JX574661
=====

PK1: -15.140000(kcal/mol): PK_start=1374 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1402
(fs_start=1394)

```

                                CA
GGAAGGAAGGACATCAAATGAAAGACTG
                                GAC   AGAAAGTC
```

```

                TTTTTTAGGG
          GCTAA
PK2:  -20.500000(kcal/mol): PK_start=1379 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1415
(fs_start=1394)
                C
GAAGGACATCAAATGAAAGACTGCACTGAAAGA
                GATTTTTT  A  ATCGGA
                TGGCCTTC
          GGAGGCTG
PK3:  -19.505000(kcal/mol): PK_start=1403 sp=0 s1=3 s2=6 l1=5 l2=9 L3=0 PK_end=1434
(fs_start=1394)
                GGCTG
ACTGAAAGACAGGCTAATTTTTTAGGGA
                CCT  TCCGGT
                AGGCCGGG
          AACAAGGGA
PK4:  -22.135000(kcal/mol): PK_start=1411 sp=9 s1=6 s2=5 l1=7 l2=7 L3=0 PK_end=1446
(fs_start=1394)
                TCCAACA
ACAGGCTAATTTTTTAGGGAGGCTGTGGCCT
                GCCGGA  AGGGA
                TTCCTCA
          GGAAATT

=====
(3798) JX574662
=====
PK1:  -15.140000(kcal/mol): PK_start=1374 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1402
(fs_start=1394)
                CA
GGAAGGAAGGACATCAAATGAAAGACTG
                GAC  AGAAAGTC
                TTTTTTAGGA
          GCTAA
PK2:  -21.980000(kcal/mol): PK_start=1379 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1416
(fs_start=1394)
                C
GAAGGACATCAAATGAAAGACTGCACTGAAAGA
                GATTTTTT  AATCGGA
                TTGGCCTTC
          GAAGACT
PK3:  -19.320000(kcal/mol): PK_start=1402 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1436
(fs_start=1394)
                AC
CACTGAAAGACAGGCTAATTTTTTAGGAAG
                CCTTC  CGGTTT

```

GCCAGGAA

AGCAAGGGAAG

PK4: -22.915000(kcal/mol): PK_start=1409 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1446
(fs_start=1394)

TCCAGCA

AGACAGGCTAATTTTTTTAGGAAGACTTTGGCCT

GGACCGGA AGGGA

TTCCTCA

AAATT

=====
(3799) JX574663
=====

PK1: -15.140000(kcal/mol): PK_start=1377 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1405
(fs_start=1397)

CA

GGAAGGAAGGACATCAAATGAAAGACTG

GAC AGAAAGTC

TTTTTTAGGG

GCTAA

PK2: -21.980000(kcal/mol): PK_start=1382 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1419
(fs_start=1397)

C

GAAGGACATCAAATGAAAGACTGCACTGAAAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAGGAT

PK3: -17.120000(kcal/mol): PK_start=1405 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1439
(fs_start=1397)

GA

CACTGAAAGACAGGCTAATTTTTTTAGGGAG

CCTTC CGGTTT

GCCGGGAA

AGCAAGGGAAG

PK4: -21.195000(kcal/mol): PK_start=1412 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1449
(fs_start=1397)

TCCAGCA

AGACAGGCTAATTTTTTTAGGGAGGATTTGGCCT

GGCCCGGA AGGGA

TTCCTCA

AAATT

=====
(3800) JX679207
=====

PK1: -15.625000(kcal/mol): PK_start=1286 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1314
(fs_start=1306)

A

GAAAGGAAGGACACCAAATGAAAGACTGT

GACA GAAAGTC
TTTTTAGGG
GCTAAT
PK2: -21.980000(kcal/mol): PK_start=1291 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1328
(fs_start=1306)

C
GAAGGACACCAAATGAAAGACTGTACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAACT

PK3: -26.955000(kcal/mol): PK_start=1314 sp=0 s1=4 s2=9 l1=2 l2=8 L3=0 PK_end=1349
(fs_start=1306)

AA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTTC
AGGCCAGGGAA
ACAAGGGG

PK4: -26.595000(kcal/mol): PK_start=1320 sp=6 s1=9 s2=4 l1=8 l2=6 L3=0 PK_end=1359
(fs_start=1306)

TCCCACAA
AAGACAGGCTAATTTTTTAGGGAACTTTGGCCT
GGGACCGGA GGGG
CTCCAG
AATTTC

PK4B: -27.205000(kcal/mol): PK_start=1320 sp=6 s1=9 s2=4 l1=8 l2=31 L3=0 PK_end=1384
(fs_start=1306)

TCCCACAA
AAGACAGGCTAATTTTTTAGGGAACTTTGGCCT
GGGACCGGA GGGG
TCCCAA
AATTTCTCCAGAGCAGACCAGAGCCAACAG

=====
(3801) JX960597
=====

PK1: -13.765000(kcal/mol): PK_start=1275 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1303
(fs_start=1295)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA AAGAGTC
TTTTTAGGG
GTTAAT

PK2: -17.010000(kcal/mol): PK_start=1280 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1316
(fs_start=1295)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAAA

GATTTTTT A ATGGA
 TGGCCTTC
 GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1303 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1337
 (fs_start=1295)

A
 TACTGAGAAACAGGTTAATTTTTTTAGGGAAG
 CCCTTC CGGTCT
 GCCAGGGA
 ACAAGGGGAG

PK4: -26.235000(kcal/mol): PK_start=1310 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1347
 (fs_start=1295)

CCAC
 AAACAGGTTAATTTTTTTAGGGAAGATCTGGCCTTC
 GGACCGGAGG GGAA
 TCTTCA
 GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1310 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1373
 (fs_start=1295)

TCCCACAA
 AAACAGGTTAATTTTTTTAGGGAAGATCTGGCCT
 GGACCGGA GGGG
 CCCCAC
 GAATTTTCTTCAGAACAGACCAGAGCCAACAG

=====
 (3802) JX960598
 =====

PK1: -12.955000(kcal/mol): PK_start=1287 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1315
 (fs_start=1307)

A
 GAAAGGAAGGACACCAAATGAAAGATTGT
 GACG GAGAGTC
 TTTTTAGGG
 GCTAAT

PK2: -18.720000(kcal/mol): PK_start=1292 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1328
 (fs_start=1307)

C
 GAAGGACACCAAATGAAAGATTGTACTGAGAGG
 GATTTTTT A ATCGGA
 TGGCCTTC
 GGAGAATC

PK3: -22.370000(kcal/mol): PK_start=1315 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1349
 (fs_start=1307)

AA
 TACTGAGAGGCAGGCTAATTTTTTTAGGGAG

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          CCTTC   CGGTCT
                GCCAGGGA
          CACAGGGGAAG

PK4:  -26.365000(kcal/mol): PK_start=1322 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1359
(fs_start=1307)
                CCAC
AGGCAGGCTAATTTTTTTAGGGAGAATCTGGCCTTC
                GGACCGGAAG   GGGA
                                TCTTCA
          GAATTT

PK4B:  -31.325000(kcal/mol): PK_start=1322 sp=7 s1=9 s2=4 l1=6 l2=32 L3=0 PK_end=1385
(fs_start=1307)
                CCCACA
AGGCAGGCTAATTTTTTTAGGGAGAATCTGGCCTTC
                GGACCGGAA   GGGG
                                CCCCAC
          GAATTTTCTTCAGAGCAGACCAGAGCCATCAG

=====
(3803) JX960599
=====
PK1:  -13.595000(kcal/mol): PK_start=1275 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1303
(fs_start=1295)
                A
GAAAGGAAGGACATCAAATGAAAGATTGT
                GACA   GAAAGTC
                                TTTTTAGGG
          GCTAAT

PK2:  -20.500000(kcal/mol): PK_start=1280 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1316
(fs_start=1295)
                C
GAAGGACATCAAATGAAAGATTGTACTGAAAGA
                GATTTTTT   A   ATCGGA
                                TGGCCTTC
          GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1303 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1337
(fs_start=1295)
                AAA
TACTGAAAGACAGGCTAATTTTTTTAGGGA
                CCCT   TCCGGTCT
                                AGGCCAGGAA
          ACAAGGGG

PK4:  -28.540000(kcal/mol): PK_start=1310 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1347
(fs_start=1295)
                CCAC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC

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                GGACCGGAGG    GGAA
                                CCTTCA
        AAACTT
PK4B:  -30.395000(kcal/mol): PK_start=1310 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1373
(fs_start=1295)
                                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                GGACCGGA    GGGG
                                CCCCAC
        AAACCTCCTTCAGAGCAGACCAGAGCCAACAG

```

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=====
(3804) JX960600
=====

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PK1:  -15.625000(kcal/mol): PK_start=1260 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1288
(fs_start=1280)

```

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                A
GAAAAGAAGGGCACCAAATGAAAGACTGT
                GACA    GAAAGTC
                                TTTTTAGGG
        GCCAAT

```

```

PK2:  -21.380000(kcal/mol): PK_start=1265 sp=0 s1=8 s2=5 l1=2 l2=8 L3=1 PK_end=1300
(fs_start=1280)

```

```

                CA
GAAGGGCACCAAATGAAAGACTGTACTGAAAGA
                GATTTTTT    A    ACCGG
                                TGGCCCT
        GGAAAATC

```

```

PK3:  -24.730000(kcal/mol): PK_start=1288 sp=0 s1=4 s2=7 l1=3 l2=9 L3=1 PK_end=1321
(fs_start=1280)

```

```

                AAA
TACTGAAAGACAGGCCAATTTTTTAGGGA
                CCCT    C    CCGGTCT
                                GGCCAGGGA
        GCAAGGGAA

```

```

PK4:  -23.190000(kcal/mol): PK_start=1295 sp=7 s1=7 s2=6 l1=8 l2=4 L3=0 PK_end=1332
(fs_start=1280)

```

```

                                CTCCCGCA
AGACAGGCCAATTTTTTAGGGAAAATCTGGCC
                GGACCGG    AAGGGA
                                TTTCTTCA
        GAAT

```

```

=====
(3805) JX960601
=====

```


PK1: -15.585000(kcal/mol): PK_start=1260 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1288
(fs_start=1280)

A
GAAAAGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCCAAT

PK2: -21.340000(kcal/mol): PK_start=1265 sp=0 s1=8 s2=5 l1=2 l2=8 L3=1 PK_end=1300
(fs_start=1280)

CA
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT A ACCGG
TGCCCT
GGAAAATC

PK3: -24.730000(kcal/mol): PK_start=1288 sp=0 s1=4 s2=7 l1=3 l2=9 L3=1 PK_end=1321
(fs_start=1280)

AAA
TACTGAGAGACAGGCCAATTTTTTAGGGA
CCCT C CCGGTCT
GGCCAGGGA
ACAAGGGAA

PK4: -23.190000(kcal/mol): PK_start=1295 sp=7 s1=7 s2=6 l1=8 l2=4 L3=0 PK_end=1332
(fs_start=1280)

CTCCCACA
AGACAGGCCAATTTTTTAGGGAAAATCTGGCC
GGACCGG AAGGGA
TTTCTTCA
GAAT

=====
(3806) JX960602
=====

PK1: -15.625000(kcal/mol): PK_start=1260 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1288
(fs_start=1280)

A
GAAAAGAAGGACACCAAATGAAAGACTGT
GACA GAAAGTC
TTTTTAGGG
GCCAAT

PK2: -22.760000(kcal/mol): PK_start=1265 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1301
(fs_start=1280)

C
GAAGGACACCAAATGAAAGACTGTACTGAAAGA
GATTTTTT A ACCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1288 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=1322
(fs_start=1280)

AAA
TACTGAAAGACAGGCCAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1295 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1332
(fs_start=1280)

CCAC
AGACAGGCCAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(3807) JX960603
=====

PK1: -15.100000(kcal/mol): PK_start=1269 sp=0 s1=3 s2=8 l1=2 l2=5 l3=0 PK_end=1297
(fs_start=1289)

CA
GGAGGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1311
(fs_start=1289)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -18.565000(kcal/mol): PK_start=1298 sp=0 s1=3 s2=8 l1=3 l2=9 l3=0 PK_end=1331
(fs_start=1289)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGAA
AACAAGGGA

PK4: -21.195000(kcal/mol): PK_start=1304 sp=7 s1=8 s2=5 l1=7 l2=5 l3=0 PK_end=1341
(fs_start=1289)

TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA AGGGA
TTCCTCA
AAATT

=====
(3808) JX960604
=====

PK1: -14.820000(kcal/mol): PK_start=1268 sp=0 s1=3 s2=8 l1=3 l2=3 L3=2 PK_end=1295
(fs_start=1289)

GCA
GGGAAGGAAGGACATCAAATGAAAGGCT
CGG AC AGAGAGTC
TTTTTTAGGG
TAA

PK2: -21.940000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1311
(fs_start=1289)

C
GAAGGACATCAAATGAAAGGCTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1298 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1331
(fs_start=1289)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AACAAGGGA

PK4: -22.915000(kcal/mol): PK_start=1304 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1341
(fs_start=1289)

TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(3809) JX960605
=====

PK1: -15.100000(kcal/mol): PK_start=1269 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1297
(fs_start=1289)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1311
(fs_start=1289)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1298 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1331
(fs_start=1289)

AAA

ACTGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT

AGGCCAGGGA

AACAAGGGA

PK4: -22.915000(kcal/mol): PK_start=1304 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1341
(fs_start=1289)

TCCAACA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA AGGGA

TTCCTCA

GAATT

=====
(3810) JX960606
=====

PK1: -15.100000(kcal/mol): PK_start=1269 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1297
(fs_start=1289)

CA

GGAAAGAAGGACATCAAATGAAAGACTG

GAC AGAGAGTC

TTTTTTTAGGG

GCTAA

PK2: -21.940000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1311
(fs_start=1289)

C

GAAGGACATCAAATGAAAGACTGCACTGAGAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1298 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1331
(fs_start=1289)

AAA

ACTGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT

AGGCCAGGGA

AACAAGGGA

PK4: -22.915000(kcal/mol): PK_start=1304 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1341
(fs_start=1289)

TCCAACA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA AGGGA

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                                TTCCTCA
                                GAATT
=====
(3811) JX960607
=====
PK1:  -15.100000(kcal/mol): PK_start=1269 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1297
(fs_start=1289)
                                CA
GGAAGGAAGGACATCAAATGAAAGACTG
                                GAC   AGAGAGTC
                                TTTTTTAGGG
                                GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1311
(fs_start=1289)
                                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                                GATTTTTT   AATCGGA
                                TTGGCCTTC
                                GGAGAAT

PK3:  -18.840000(kcal/mol): PK_start=1297 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1331
(fs_start=1289)
                                AA
CACTGAGAGACAGGCTAATTTTTTAGGGAG
                                CCTTC   CGGTTT
                                GCCAGGAA
                                AACAAAGGAAG

PK4:  -22.915000(kcal/mol): PK_start=1304 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1341
(fs_start=1289)
                                TCCAACA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
                                GGACCGGA   AGGGA
                                TTCCTCA
                                AAACT

=====
(3812) JX960608
=====
PK1:  -15.100000(kcal/mol): PK_start=1269 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1297
(fs_start=1289)
                                CA
GGAAGGAAGGACATCAAATGAAAGACTG
                                GAC   AGAGAGTC
                                TTTTTTAGGG
                                GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1311
(fs_start=1289)
                                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA

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          GATTTTTT   AATCGGA
                    TTGGCCTTC
      GGAAAAT

PK3:  -23.745000(kcal/mol): PK_start=1297 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1331
(fs_start=1289)
          AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA

          CCCT   TCCGGTTT
                    AGGCCAGGGA
      ACAAGGGA

PK4:  -22.915000(kcal/mol): PK_start=1304 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1341
(fs_start=1289)
                    TCCCACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

          GGACCGGA   AGGGA
                    TTCCTCA
      GAATT

=====
(3813) JX960609
=====
PK1:  -15.100000(kcal/mol): PK_start=1269 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1297
(fs_start=1289)
          CA
GGAAGGAAGGACATCAAATGAAAGACTG

          GAC   AGAGAGTC
                    TTTTTTAGGG
      GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1311
(fs_start=1289)
          C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA

          GATTTTTT   AATCGGA
                    TTGGCCTTC
      GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1298 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1331
(fs_start=1289)
          AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA

          CCT   TCCGGTTT
                    AGGCCAGGGA
      AACAAGGGA

PK4:  -22.915000(kcal/mol): PK_start=1304 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1341
(fs_start=1289)
                    TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

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                GGACCGGA    AGGGA
                                TTCCTCA
        GAATT

=====
(3814) JX960610
=====
PK1:  -15.10000(kcal/mol): PK_start=1269 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1297
(fs_start=1289)
                CA
GGAAGGAAGGACATCAAATGAAAGACTG

                GAC    AGAGAGTC
                                TTTTTTAGGG
        GCTAA

PK2:  -21.94000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1311
(fs_start=1289)
                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA

                GATTTTTT    AATCGGA
                                TTGGCCTTC
        GGAAAAT

PK3:  -20.28500(kcal/mol): PK_start=1298 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1331
(fs_start=1289)
                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA

                CCT    TCCGGTTT
                                AGGCCAGGGA
        AACAAAGGA

PK4:  -22.46500(kcal/mol): PK_start=1304 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1341
(fs_start=1289)
                                TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

                GGACCGGA    AGGA
                                TCCTCA
        GAATTT

=====
(3815) JX960611
=====
PK1:  -12.16000(kcal/mol): PK_start=1258 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1296
(fs_start=1289)
                A
TTGGAAATGTGGGAAGGAAGGACATCAG

                GTC    AGAAAGT
                                TTTTTTAGG
        CACTGAGAGACAGGCTAA

```

PK2: -21.940000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1311 (fs_start=1289)

C
GAAGGACATCAGATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1298 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1331 (fs_start=1289)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AACAAGGGA

PK4: -22.915000(kcal/mol): PK_start=1304 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1341 (fs_start=1289)

TCCAACA
AGACAGGCTAATTTTTTAGGAAAATTTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(3816) JX960612
=====

PK1: -15.100000(kcal/mol): PK_start=1269 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1297 (fs_start=1289)

CA
GGAAGGAAGGACATCAAATGAAGGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -20.460000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1310 (fs_start=1289)

C
GAAGGACATCAAATGAAGGACTGCACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAGACTG

PK3: -21.005000(kcal/mol): PK_start=1298 sp=0 s1=3 s2=6 l1=5 l2=9 L3=0 PK_end=1329 (fs_start=1289)

GACTG
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGT
AGGCCAGG
AACAAGGGA

PK4: -23.035000(kcal/mol): PK_start=1306 sp=9 s1=6 s2=5 l1=7 l2=7 L3=0 PK_end=1341
(fs_start=1289)

TCCAACA
ACAGGCTAATTTTTTAGGGAGACTGTGGCCT
ACCGGA AGGGA
TTCCTCA
GGCAATT

=====
(3817) JX960613
=====

PK1: -15.140000(kcal/mol): PK_start=1269 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1297
(fs_start=1289)

CA
GGAAGGAAGGACATCAAATGAAGGACTG
GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -20.500000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1310
(fs_start=1289)

C
GAAGGACATCAAATGAAGGACTGCACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAGACTG

PK3: -21.005000(kcal/mol): PK_start=1298 sp=0 s1=3 s2=6 l1=5 l2=9 L3=0 PK_end=1329
(fs_start=1289)

GACTG
ACTGAAAGACAGGCTAATTTTTTAGGGA
CCT TCCGGT
AGGCCAGG
AACAAAGGA

PK4: -22.585000(kcal/mol): PK_start=1306 sp=9 s1=6 s2=4 l1=8 l2=8 L3=0 PK_end=1341
(fs_start=1289)

TCCAACAA
ACAGGCTAATTTTTTAGGGAGACTGTGGCCT
ACCGGA AGGA
TCCTCA
GGCAATTT

=====
(3818) JX960614
=====

PK1: -15.100000(kcal/mol): PK_start=1269 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1297
(fs_start=1289)

CA
GGAAGGAAGGACATCAAATGAAGGACTG
GAC AGAGAGTC

```

                TTTTTTAGGG
            GCTAA

PK2:  -20.460000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1310
(fs_start=1289)
                C
GAAGGACATCAAATGAAGGACTGCACTGAGAGA
                GATTTTTT A  ATCGGA
                TGGCCTTC
            GGAGACTG

PK3:  -21.005000(kcal/mol): PK_start=1298 sp=0 s1=3 s2=6 l1=5 l2=9 L3=0 PK_end=1329
(fs_start=1289)
                GACTG
ACTGAGAGACAGGCTAATTTTTTAGGGA
                CCT   TCCGGT
                AGGCCAGG
            AACAAAGGGA

PK4:  -23.035000(kcal/mol): PK_start=1306 sp=9 s1=6 s2=5 l1=7 l2=7 L3=0 PK_end=1341
(fs_start=1289)
                TCCAACA
ACAGGCTAATTTTTTAGGGAGACTGTGGCCT
                ACCGGA   AGGGA
                TTCCTCA
            GGCAATT

=====
(3819) JX960616
=====
PK1:  -15.100000(kcal/mol): PK_start=1269 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1297
(fs_start=1289)
                CA
GAAAGGAAGGACATCAAATGAAAGACTG
                GAC   AGAGAGTC
                TTTTTTAGGG
            GCTAA

PK2:  -20.460000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1310
(fs_start=1289)
                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT A  ATCGGA
                TGGCCTTC
            GGAGGCTC

PK3:  -22.370000(kcal/mol): PK_start=1297 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1331
(fs_start=1289)
                GC
CACTGAGAGACAGGCTAATTTTTTAGGGAG
                CCTTC   CGGTCT

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GCCAGGCA

AACAAGGGAAG

PK4: -26.445000(kcal/mol): PK_start=1304 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1341
(fs_start=1289)

TCCAACA

AGACAGGCTAATTTTTTAGGGAGGCTCTGGCCT

GGACCGGA AGGGA

TTCCTCA

CAATT

=====
(3820) JX960623
=====

PK1: -15.100000(kcal/mol): PK_start=1275 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1303
(fs_start=1295)

CA

GGAAGGAAGGACATCAAATGAAAGACTG

GAC AGAGAGTC

TTTTTTAGGG

GAGAA

PK2: -16.350000(kcal/mol): PK_start=1280 sp=0 s1=8 s2=4 l1=2 l2=13 L3=2 PK_end=1318
(fs_start=1295)

CA

GAAGGACATCAAATGAAAGACTGCACTGAGAGA

GATTTTTT AA GAGG

TTCCAA

GGAAACTGTGGCC

PK3: -21.005000(kcal/mol): PK_start=1304 sp=0 s1=3 s2=6 l1=5 l2=9 L3=0 PK_end=1335
(fs_start=1295)

AACTG

ACTGAGAGACAGGAGAATTTTTTAGGGA

CCT TCCGGT

AGGCCAGG

AACAAGGGA

PK4: -23.035000(kcal/mol): PK_start=1312 sp=9 s1=6 s2=5 l1=7 l2=7 L3=0 PK_end=1347
(fs_start=1295)

TCCAACA

ACAGGAGAATTTTTTAGGGAAACTGTGGCCT

ACCGGA AGGGA

TTCCTCA

GGCAATT

=====
(3821) JX960628
=====

PK1: -15.100000(kcal/mol): PK_start=1269 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1297
(fs_start=1289)

CA

GGAAGGAAGGACATCAAATGAAAGACTG

GAC AGAGAGTC
TTTTTTAGGG
GCTAA
PK2: -20.460000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1310
(fs_start=1289)
C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA

GATTTTTT A ATCGGA
TGGCCTTC
GGAGGCTG
PK3: -21.005000(kcal/mol): PK_start=1298 sp=0 s1=3 s2=6 l1=5 l2=9 L3=0 PK_end=1329
(fs_start=1289)
GGCTG
ACTGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGT
AGGCCAGG
AACAAAGGA
PK4: -22.585000(kcal/mol): PK_start=1306 sp=9 s1=6 s2=4 l1=8 l2=8 L3=0 PK_end=1341
(fs_start=1289)
TCCAACAA
ACAGGCTAATTTTTTAGGGAGGCTGTGGCCT

ACCGGA AGGA
TCCTCA
GGCAATTT

=====
(3822) JX960633
=====
PK1: -15.140000(kcal/mol): PK_start=1270 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1298
(fs_start=1290)
CA
GGAGGGAAGGACATCAAATGAAAGACTG

GAC AGAAAGTC
TTTTTTAGGG
GCTAA
PK2: -20.500000(kcal/mol): PK_start=1275 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1311
(fs_start=1290)
C
GAAGGACATCAAATGAAAGACTGCACTGAAAGA

GATTTTTT A ATCGGA
TGGCCTTC
GGAGGCTG
PK3: -21.005000(kcal/mol): PK_start=1299 sp=0 s1=3 s2=6 l1=5 l2=9 L3=0 PK_end=1330
(fs_start=1290)
GGCTG
ACTGAAAGACAGGCTAATTTTTTAGGGA

CCT TCCGGT
 AGGCCAGG
 AACAAAGGA
 PK4: -22.585000(kcal/mol): PK_start=1307 sp=9 s1=6 s2=4 l1=8 l2=8 L3=0 PK_end=1342
 (fs_start=1290)
 TCCAACAA
 ACAGGCTAATTTTTTAGGGAGGCTGTGGCCT
 ACCGGA AGGA
 TCCTCA
 GGCAATTT

=====
 (3823) JX960634
 =====

PK1: -15.100000(kcal/mol): PK_start=1269 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1297
 (fs_start=1289)
 CA
 GGAAGGAAGGACATCAAATGAAAGACTG
 GAC AGAGAGTC
 TTTTTTAGGG
 GCTAA

PK2: -20.460000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1310
 (fs_start=1289)
 C
 GAAGGACATCAAATGAAAGACTGCACTGAGAGA
 GATTTTTT A ATCGGA
 TGGCCTTC
 GGAGGCTG

PK3: -21.005000(kcal/mol): PK_start=1298 sp=0 s1=3 s2=6 l1=5 l2=9 L3=0 PK_end=1329
 (fs_start=1289)
 GGCTG
 ACTGAGAGACAGGCTAATTTTTTAGGGA
 CCT TCCGGT
 AGGCCAGG
 AACAAAGGA

PK4: -23.035000(kcal/mol): PK_start=1306 sp=9 s1=6 s2=5 l1=7 l2=7 L3=0 PK_end=1341
 (fs_start=1289)
 TCCAACA
 ACAGGCTAATTTTTTAGGGAGGCTGTGGCCT
 ACCGGA AGGGA
 TTCCTCA
 GGCAATT

=====
 (3824) JX960635
 =====

PK1: -10.440000(kcal/mol): PK_start=1246 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1284 (fs_start=1277)

A
TTGGAATGTGGGAAGGAAGGACATCAA
GTT AGAAAGT
TTTTTTAGG
CACTGAGAGACAGGCTAA

PK2: -21.940000(kcal/mol): PK_start=1262 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1299 (fs_start=1277)

C
GAAGGACATCAAATGAAAGATTGCACTGAGAGA
GATTTTTT AATCGGA
TTGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1286 sp=0 s1=3 s2=8 l1=3 l2=6 L3=0 PK_end=1316 (fs_start=1277)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGTTT
AGGCCAGGAA
AAAGGA

PK4: -20.510000(kcal/mol): PK_start=1292 sp=7 s1=7 s2=4 l1=7 l2=5 L3=0 PK_end=1325 (fs_start=1277)

TTCCAAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCC
GGACCGG AAGG
TTCCCC
AAATT

=====
(3825) JX974235
=====

PK1: -13.555000(kcal/mol): PK_start=1421 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1449 (fs_start=1441)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1426 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1462 (fs_start=1441)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGCCTTC
GGAAAATC

PK3: -23.145000(kcal/mol): PK_start=1450 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1483
(fs_start=1441)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTCT
AGGCCGGGGA
AACAAGGGA

PK4: -26.045000(kcal/mol): PK_start=1456 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1493
(fs_start=1441)

CAAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGGCCGGAAG GGAA
TCTTCA
GAATTT

=====
(3826) JX974236
=====

PK1: -13.555000(kcal/mol): PK_start=1421 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1449
(fs_start=1441)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1426 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1462
(fs_start=1441)

C
GAAGGACACCAAATGAAAGATTGTTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -23.145000(kcal/mol): PK_start=1450 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1483
(fs_start=1441)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTCT
AGGCCGGGGA
AACAAGGGA

PK4: -26.045000(kcal/mol): PK_start=1456 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1493
(fs_start=1441)

CAAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGGCCGGAAG GGAA
TCTTCA
GAATTT

=====
(3827) JX974237
=====

PK1: -13.555000(kcal/mol): PK_start=1421 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1449
(fs_start=1441)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1426 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1462
(fs_start=1441)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -23.145000(kcal/mol): PK_start=1450 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1483
(fs_start=1441)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTCT
AGGCCGGGGA
AACAAAGGGA

PK4: -26.045000(kcal/mol): PK_start=1456 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1493
(fs_start=1441)

CAAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGCCGGAAG GGAA
TCTTCA
GAATTT

=====
(3828) JX974238
=====

PK1: -13.555000(kcal/mol): PK_start=1421 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1449
(fs_start=1441)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1426 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1462
(fs_start=1441)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA

TGGCCTTC

GGAAAATC

PK3: -23.145000(kcal/mol): PK_start=1450 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1483
(fs_start=1441)

AAA

ACTGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTCT

AGGCCGGGGA

AACAAGGGA

PK4: -26.045000(kcal/mol): PK_start=1456 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1493
(fs_start=1441)

CAAC

AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

GGGCCGGAAG GGAA

TCTTCA

GAATTT

=====
(3829) JX974239
=====

PK1: -13.555000(kcal/mol): PK_start=1421 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1449
(fs_start=1441)

A

GAAAGGAAGGACACCAAATGAAAGATTGT

GACA GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1426 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1462
(fs_start=1441)

C

GAAGGACACCAAATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAAATC

PK3: -26.605000(kcal/mol): PK_start=1449 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1483
(fs_start=1441)

AAA

TACTGAGAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT

AGGCCGGGGA

ACAAGGGA

PK4: -26.045000(kcal/mol): PK_start=1456 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1493
(fs_start=1441)

CCAC

AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

GGGCCGGAAG GGAA

```

                                TCTTCA
                                GAATTT

=====
(3830) JX974240
=====
PK1:  -13.555000(kcal/mol): PK_start=1421 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1449
(fs_start=1441)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                                GACA    GAGAGTC
                                TTTTtaggg
                                GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1426 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1462
(fs_start=1441)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                                GATTTTTT A  ATCGGA
                                TGGCCTTC
                                GGAAAATC

PK3:  -23.145000(kcal/mol): PK_start=1450 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1483
(fs_start=1441)
                                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCT    TCCGGTCT
                                AGGCCGGGGA
                                AACAAGGGA

PK4:  -26.045000(kcal/mol): PK_start=1456 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1493
(fs_start=1441)
                                CAAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                                GGGCCGGAAG    GGAA
                                TCTTCA
                                GAATTT

=====
(3831) JX974241
=====
PK1:  -13.555000(kcal/mol): PK_start=1421 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1449
(fs_start=1441)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                                GACA    GAGAGTC
                                TTTTtaggg
                                GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1426 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1462
(fs_start=1441)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA

```

GATTTTTT A ATCGGA
 TGGCCTTC
 GGAAAATC
 PK3: -23.145000(kcal/mol): PK_start=1450 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1483
 (fs_start=1441)
 AAA
 ACTGAGAGACAGGCTAATTTTTTAGGGA
 CCT TCCGGTCT
 AGGCCGGGGA
 AACAAGGGA
 PK4: -26.045000(kcal/mol): PK_start=1456 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1493
 (fs_start=1441)
 CAAC
 AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
 GGGCCGGAAG GGAA
 TCTTCA
 GAATTT
 =====
 (3832) JX974242
 =====
 PK1: -13.555000(kcal/mol): PK_start=1421 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1449
 (fs_start=1441)
 A
 GAAAGGAAGGACACCAAATGAAAGATTGT
 GACA GAGAGTC
 TTTTTAGGG
 GCTAAT
 PK2: -20.460000(kcal/mol): PK_start=1426 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1462
 (fs_start=1441)
 C
 GAAGGACACCAAATGAAAGATTGTACTGAGAGA
 GATTTTTT A ATCGGA
 TGGCCTTC
 GGAAAATC
 PK3: -23.145000(kcal/mol): PK_start=1450 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1483
 (fs_start=1441)
 AAA
 ACTGAGAGACAGGCTAATTTTTTAGGGA
 CCT TCCGGTCT
 AGGCCGGGGA
 AACAAGGGA
 PK4: -26.045000(kcal/mol): PK_start=1456 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1493
 (fs_start=1441)
 CAAC
 AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

```

GGGCCGGAAG    GGAA
                TCTTCA
GAATTT
=====
(3833) JX974243
=====
PK1:  -13.555000(kcal/mol): PK_start=1421 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1449
(fs_start=1441)
                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                GACA    GAGAGTC
                TTTTTAGGG
GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1426 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1462
(fs_start=1441)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT  A  ATCGGA
                TGGCCTTC
GGAAAATC

PK3:  -26.605000(kcal/mol): PK_start=1449 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1483
(fs_start=1441)
                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                CCCT    TCCGGTCT
                AGGCCGGGGA
ACAAGGGA

PK4:  -26.045000(kcal/mol): PK_start=1456 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1493
(fs_start=1441)
                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                GGGCCGGAAG    GGAA
                TCTTCA
GAATTT

=====
(3834) JX974244
=====
PK1:  -14.985000(kcal/mol): PK_start=1407 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1435
(fs_start=1427)
                A
GAAAGGAAGGACACCAAATGAAAGACTGT
                GACG    GAGAGTC
                TTTTTAGGG
GCTAAT

```

PK2: -20.330000(kcal/mol): PK_start=1412 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1449 (fs_start=1427)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1435 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1469 (fs_start=1427)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGA

PK4: -25.490000(kcal/mol): PK_start=1442 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1479 (fs_start=1427)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(3835) JX974245
=====

PK1: -15.025000(kcal/mol): PK_start=1413 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1441 (fs_start=1433)

A
GAAAGGAAGGACACCAGATGAAAGACTGT
GACG GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.370000(kcal/mol): PK_start=1418 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1455 (fs_start=1433)

C
GAAGGACACCAGATGAAAGACTGTACTGAAAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1441 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1475 (fs_start=1433)

AAA
TACTGAAAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -25.01000(kcal/mol): PK_start=1448 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1485
(fs_start=1433)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1448 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=1511
(fs_start=1433)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCCTTCAGAACAGACCAGAGCCAACAG

=====
(3836) JX974246
=====

PK1: -14.985000(kcal/mol): PK_start=1349 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1377
(fs_start=1369)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -18.720000(kcal/mol): PK_start=1354 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1390
(fs_start=1369)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1377 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=1411
(fs_start=1369)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
GTCAGGGG

PK4: -25.925000(kcal/mol): PK_start=1384 sp=7 s1=8 s2=5 l1=7 l2=5 l3=0 PK_end=1421
(fs_start=1369)

TCCCGTC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGGA
TCCTTCA
GAACT

PK4B: -27.515000(kcal/mol): PK_start=1384 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1447
(fs_start=1369)

TCCCGTCA
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CTCCAC
GAACTTCCTTCAGAACAGGCCAGGCCAACAG

=====
(3837) JX976632
=====

PK1: -14.985000(kcal/mol): PK_start=1516 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1544
(fs_start=1536)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1521 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1558
(fs_start=1536)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1544 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1578
(fs_start=1536)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
AGAGGGGG

PK4: -28.730000(kcal/mol): PK_start=1553 sp=9 s1=9 s2=4 l1=2 l2=8 L3=0 PK_end=1588
(fs_start=1536)

CA
GCAGGCTAATTTTTTAGGGAAAATTTGGCCTTCC
ACCGGAGGG GGAG
CCTTCA
GGGAACTT

PK4B: -24.965000(kcal/mol): PK_start=1553 sp=9 s1=7 s2=4 l1=6 l2=34 L3=0 PK_end=1614
(fs_start=1536)

CCCAGA
GCAGGCTAATTTTTTAGGGAAAATTTGGCCTT
ACCGGAG GGGG
CTCCAC
GGGAACTTCCTTCAGAGCAGGCCAGAACCAACAG

=====
(3838) JX976633
=====

PK1: -14.985000(kcal/mol): PK_start=1474 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1502
(fs_start=1494)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1479 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1516
(fs_start=1494)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAAT

PK3: -23.745000(kcal/mol): PK_start=1502 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1536
(fs_start=1494)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
AGAGGGGG

PK4: -28.730000(kcal/mol): PK_start=1511 sp=9 s1=9 s2=4 l1=2 l2=8 L3=0 PK_end=1546
(fs_start=1494)

CA
GCAGGCTAATTTTTTAGGGAAAATTTGGCCTTCC
ACCGGAGGG GGAG
CCTTCA
GGGAACTT

PK4B: -24.965000(kcal/mol): PK_start=1511 sp=9 s1=7 s2=4 l1=6 l2=34 L3=0 PK_end=1572
(fs_start=1494)

CCCAGA
GCAGGCTAATTTTTTAGGGAAAATTTGGCCTT
ACCGGAG GGGG
CTCCAC
GGGAACTTCCTTCAGAGCAGGCCAGAACCAACAG

=====
(3839) JX976634
=====

PK1: -14.985000(kcal/mol): PK_start=1475 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1503
(fs_start=1495)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC

TTTTTAGGG
GCTAAT
PK2: -20.330000(kcal/mol): PK_start=1480 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1517
(fs_start=1495)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1503 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1537
(fs_start=1495)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
AGAGGGGG

PK4: -28.730000(kcal/mol): PK_start=1512 sp=9 s1=9 s2=4 l1=2 l2=8 L3=0 PK_end=1547
(fs_start=1495)

CA
GCAGGCTAATTTTTTAGGGAAAATTTGGCCTTCC
ACCGGAGGG GGAG
CCTTCA
GGGAACTT

PK4B: -24.965000(kcal/mol): PK_start=1512 sp=9 s1=7 s2=4 l1=6 l2=34 L3=0 PK_end=1573
(fs_start=1495)

CCCAGA
GCAGGCTAATTTTTTAGGGAAAATTTGGCCTT
ACCGGAG GGGG
CTCCAC
GGGAACTTCTTCAGAGCAGGCCAGAACCAACAG

=====
(3840) JX976635
=====

PK1: -14.985000(kcal/mol): PK_start=1474 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1502
(fs_start=1494)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1479 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1516
(fs_start=1494)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA

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                                TTGGCCTTC
                GGAAAAAT
PK3:  -23.745000(kcal/mol): PK_start=1502 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1536
(fs_start=1494)
                                AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
                                CCCT    TCCGGTTT
                                AGGCCAGGGA
                AGAGGGGG
PK4:  -28.730000(kcal/mol): PK_start=1511 sp=9 s1=9 s2=4 l1=2 l2=8 L3=0 PK_end=1546
(fs_start=1494)
                                CA
GCAGGCTAATTTTTTAGGGAAAAATTTGGCCTTCC
                                ACCGGAGGG    GGAG
                                CCTTCA
                GGGAAGTT
PK4B: -24.965000(kcal/mol): PK_start=1511 sp=9 s1=7 s2=4 l1=6 l2=34 L3=0 PK_end=1572
(fs_start=1494)
                                CCCAGA
GCAGGCTAATTTTTTAGGGAAAAATTTGGCCTT
                                ACCGGAG    GGGG
                                CTCCAC
                GGGAAGTTCTTCAGAGCAGGCCAGAACCAACAG

=====
(3841) JX976636
=====
PK1:  -14.985000(kcal/mol): PK_start=1474 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1502
(fs_start=1494)
                                A
GAAAGGAAGGACACCAAATGAAAGACTGT
                                GACG    GAGAGTC
                                TTTTtaggg
                GCTAAT
PK2:  -20.330000(kcal/mol): PK_start=1479 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1516
(fs_start=1494)
                                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
                                GATTTTTT    AATCGGA
                                TTGGCCTTC
                GGAAAAAT
PK3:  -23.745000(kcal/mol): PK_start=1502 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1536
(fs_start=1494)
                                AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
                                CCCT    TCCGGTTT

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                                AGGCCAGGGA
          AGAGGGGG
PK4:  -28.730000(kcal/mol): PK_start=1511 sp=9 s1=9 s2=4 l1=2 l2=8 L3=0 PK_end=1546
(fs_start=1494)
                                CA
GCAGGCTAATTTTTTAGGGAAAATTTGGCCTTCC
                                ACCGGAGGG  GGAG
                                CCTTCA
          GGGAACCTT

PK4B:  -24.965000(kcal/mol): PK_start=1511 sp=9 s1=7 s2=4 l1=6 l2=34 L3=0 PK_end=1572
(fs_start=1494)
                                CCCAGA
GCAGGCTAATTTTTTAGGGAAAATTTGGCCTT
                                ACCGGAG  GGGG
                                CTCCAC
          GGGAACCTTCCTTCAGAGCAGGCCAGAACCAACAG

=====
(3842) JX976637
=====
PK1:  -14.985000(kcal/mol): PK_start=1474 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1502
(fs_start=1494)
                                A
GAAAGGAAGGACACCAAATGAAAGACTGT
                                GACG  GAGAGTC
                                TTTTTAGGG
          GCTAAT

PK2:  -20.330000(kcal/mol): PK_start=1479 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1516
(fs_start=1494)
                                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
                                GATTTTTT  AATCGGA
                                TTGGCCTTC
          GGAAAAT

PK3:  -23.745000(kcal/mol): PK_start=1502 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1536
(fs_start=1494)
                                AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
                                CCCT  TCCGGTTT
                                AGGCCAGGGA
          AGAGGGGG

PK4:  -28.730000(kcal/mol): PK_start=1511 sp=9 s1=9 s2=4 l1=2 l2=8 L3=0 PK_end=1546
(fs_start=1494)
                                CA
GCAGGCTAATTTTTTAGGGAAAATTTGGCCTTCC
                                ACCGGAGGG  GGAG

```

CCTTCA

GGGAACTT

PK4B: -24.965000(kcal/mol): PK_start=1511 sp=9 s1=7 s2=4 l1=6 l2=34 L3=0 PK_end=1572
(fs_start=1494)

CCCAGA

GCAGGCTAATTTTTTAGGGAAAATTTGGCCTT

ACCGGAG GGGG

CTCCAC

GGGAACTTCCTTCAGAGCAGGCCAGAACCAACAG

=====

(3843) JX976638

=====

PK1: -14.985000(kcal/mol): PK_start=1474 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1502
(fs_start=1494)

A

GAAAGGAAGGACACCAAATGAAAGACTGT

GACG GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1479 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1516
(fs_start=1494)

C

GAAGGACACCAAATGAAAGACTGTACTGAGAGG

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1502 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1536
(fs_start=1494)

AAA

TACTGAGAGGCAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT

AGGCCAGGGA

AGAGGGGG

PK4: -28.730000(kcal/mol): PK_start=1511 sp=9 s1=9 s2=4 l1=2 l2=8 L3=0 PK_end=1546
(fs_start=1494)

CA

GCAGGCTAATTTTTTAGGGAAAATTTGGCCTTCC

ACCGGAGGG GGAG

CCTTCA

GGGAACTT

PK4B: -24.965000(kcal/mol): PK_start=1511 sp=9 s1=7 s2=4 l1=6 l2=34 L3=0 PK_end=1572
(fs_start=1494)

CCCAGA

GCAGGCTAATTTTTTAGGGAAAATTTGGCCTT

ACCGGAG GGGG

CTCCAC
GGGAACTTCCTTCAGAGCAGGCCAGAACCAACAG

=====
(3844) JX976639
=====

PK1: -14.985000(kcal/mol): PK_start=1304 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1332
(fs_start=1324)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1309 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1346
(fs_start=1324)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1332 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1366
(fs_start=1324)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
AGAGGGGG

PK4: -28.730000(kcal/mol): PK_start=1341 sp=9 s1=9 s2=4 l1=2 l2=8 L3=0 PK_end=1376
(fs_start=1324)

CA
GCAGGCTAATTTTTTAGGGAAAATTTGGCCTTCC
ACCGGAGGG GGAG
CCTTCA
GGGAACTT

PK4B: -24.965000(kcal/mol): PK_start=1341 sp=9 s1=7 s2=4 l1=6 l2=34 L3=0 PK_end=1402
(fs_start=1324)

CCCAGA
GCAGGCTAATTTTTTAGGGAAAATTTGGCCTT
ACCGGAG GGGG
CTCCAC
GGGAACTTCCTTCAGAGCAGGCCAGAACCAACAG

=====
(3845) JX976640
=====

PK1: -14.985000(kcal/mol): PK_start=1474 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1502
(fs_start=1494)

A
GAAAGGAAGGACACCAAATGAAAGACTGT

GACG GAGAGTC
TTTTTAGGG
GCTAAT
PK2: -20.330000(kcal/mol): PK_start=1479 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1516
(fs_start=1494)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1502 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1536
(fs_start=1494)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
AGAGGGGG

PK4: -28.730000(kcal/mol): PK_start=1511 sp=9 s1=9 s2=4 l1=2 l2=8 L3=0 PK_end=1546
(fs_start=1494)

CA
GCAGGCTAATTTTTTAGGGAAAATTTGGCCTTCC
ACCGGAGGG GGAG
CCTTCA
GGGAACTT

PK4B: -24.965000(kcal/mol): PK_start=1511 sp=9 s1=7 s2=4 l1=6 l2=34 L3=0 PK_end=1572
(fs_start=1494)

CCCAGA
GCAGGCTAATTTTTTAGGGAAAATTTGGCCTT
ACCGGAG GGGG
CTCCAC
GGGAACTTCCTTCAGAGCAGGCCAGAACCAACAG

=====
(3846) JX976641
=====

PK1: -14.985000(kcal/mol): PK_start=1474 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1502
(fs_start=1494)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1479 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1516
(fs_start=1494)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG

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                GATTTTTT   AATCGGA
                TTGGCCTTC
        GGAAAAT

PK3:  -23.745000(kcal/mol): PK_start=1502 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1536
(fs_start=1494)
                AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTTT
                AGGCCAGGGA
        AGAGGGGG

PK4:  -28.730000(kcal/mol): PK_start=1511 sp=9 s1=9 s2=4 l1=2 l2=8 L3=0 PK_end=1546
(fs_start=1494)
                CA
GCAGGCTAATTTTTTAGGGAAAATTTGGCCTTCC
                ACCGGAGGG   GGAG
                CCTTCA
        GGGAACTT

PK4B:  -24.965000(kcal/mol): PK_start=1511 sp=9 s1=7 s2=4 l1=6 l2=34 L3=0 PK_end=1572
(fs_start=1494)
                CCCAGA
GCAGGCTAATTTTTTAGGGAAAATTTGGCCTT
                ACCGGAG   GGGG
                CTCCAC
        GGGAACTTCCTTCAGAGCAGGCCAGAACCAACAG

=====
(3847) JX976642
=====
PK1:  -14.985000(kcal/mol): PK_start=1516 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1544
(fs_start=1536)
                A
GAAAGGAAGGACACCAAATGAAAGACTGT
                GACG   GAGAGTC
                TTTTTAGGG
        GCTAAT

PK2:  -20.330000(kcal/mol): PK_start=1521 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1558
(fs_start=1536)
                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
                GATTTTTT   AATCGGA
                TTGGCCTTC
        GGAAAAT

PK3:  -23.745000(kcal/mol): PK_start=1544 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1578
(fs_start=1536)
                AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA

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          CCCT   TCCGGTTT
                AGGCCAGGGA
AGAGGGGG
PK4:  -28.730000(kcal/mol): PK_start=1553 sp=9 s1=9 s2=4 l1=2 l2=8 L3=0 PK_end=1588
(fs_start=1536)
                CA
GCAGGCTAATTTTTTAGGGAAAATTTGGCCTTCC
                ACCGGAGGG   GGAG
                                CCTTCA
                GGGAAGTT

PK4B:  -24.965000(kcal/mol): PK_start=1553 sp=9 s1=7 s2=4 l1=6 l2=34 L3=0 PK_end=1614
(fs_start=1536)
                CCCAGA
GCAGGCTAATTTTTTAGGGAAAATTTGGCCTT
                ACCGGAG   GGGG
                                CTCCAC
                GGGAAGTTTCCTTCAGAGCAGGCCAGAACCAACAG

=====
(3848) JX976646
=====
PK1:  -14.985000(kcal/mol): PK_start=1475 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1503
(fs_start=1495)
                A
GAAAGGAAGGACACCAAATGAAAGACTGT
                GACG   GAGAGTC
                                TTTTTAGGG
                GCTAAT

PK2:  -20.330000(kcal/mol): PK_start=1480 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1517
(fs_start=1495)
                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
                GATTTTTT   AATCGGA
                                TTGGCCTTC
                GGAAAAT

PK3:  -23.745000(kcal/mol): PK_start=1503 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1537
(fs_start=1495)
                AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTTT
                                AGGCCAGGGA
                AGAGGGGG

PK4:  -28.730000(kcal/mol): PK_start=1512 sp=9 s1=9 s2=4 l1=2 l2=8 L3=0 PK_end=1547
(fs_start=1495)
                CA
GCAGGCTAATTTTTTAGGGAAAATTTGGCCTTCC

```



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                ACCGGAGGG    GGAG
                                CCTTCA
                GGGAACTT

PK4B:  -24.965000(kcal/mol): PK_start=1512 sp=9 s1=7 s2=4 l1=6 l2=34 L3=0 PK_end=1573
(fs_start=1495)
                CCCAGA
GCAGGCTAATTTTTTAGGGAAAATTTGGCCTT
                ACCGGAG    GGGG
                                CTCCAC
                GGGAACTTCCTTCAGAGCAGGCCAGAACCAACAG

=====
(3849) JX976647
=====
PK1:  -14.985000(kcal/mol): PK_start=1405 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1433
(fs_start=1425)
                A
GAAAGGAAGGACACCAAATGAAAGACTGT
                GACG    GAGAGTC
                                TTTTTAGGG
                GCTAAT

PK2:  -20.330000(kcal/mol): PK_start=1410 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1447
(fs_start=1425)
                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
                GATTTTTT    AATCGGA
                                TTGGCCTTC
                GGAAAAT

PK3:  -23.745000(kcal/mol): PK_start=1433 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1467
(fs_start=1425)
                AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
                CCCT    TCCGGTTT
                                AGGCCAGGGA
                AGAGGGGG

PK4:  -28.730000(kcal/mol): PK_start=1442 sp=9 s1=9 s2=4 l1=2 l2=8 L3=0 PK_end=1477
(fs_start=1425)
                CA
GCAGGCTAATTTTTTAGGGAAAATTTGGCCTTCC
                ACCGGAGGG    GGAG
                                CCTTCA
                GGGAACTT

PK4B:  -24.965000(kcal/mol): PK_start=1442 sp=9 s1=7 s2=4 l1=6 l2=34 L3=0 PK_end=1503
(fs_start=1425)
                CCCAGA
GCAGGCTAATTTTTTAGGGAAAATTTGGCCTT

```

ACCGGAG GGGG
CTCCAC
GGGAACTTCCTTCAGAGCAGGCCAGAACCAACAG

=====
(3850) JX976648
=====

PK1: -14.985000(kcal/mol): PK_start=1305 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1333
(fs_start=1325)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1310 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1347
(fs_start=1325)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1333 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1367
(fs_start=1325)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
AGAGGGGG

PK4: -28.730000(kcal/mol): PK_start=1342 sp=9 s1=9 s2=4 l1=2 l2=8 L3=0 PK_end=1377
(fs_start=1325)

CA
GCAGGCTAATTTTTTAGGGAAAATTTGGCCTTCC
ACCGGAGGG GGAG
CCTTCA
GGGAACTT

PK4B: -24.965000(kcal/mol): PK_start=1342 sp=9 s1=7 s2=4 l1=6 l2=34 L3=0 PK_end=1403
(fs_start=1325)

CCCAGA
GCAGGCTAATTTTTTAGGGAAAATTTGGCCTT
ACCGGAG GGGG
CTCCAC
GGGAACTTCCTTCAGAGCAGGCCAGAACCAACAG

=====
(3851) JX976649
=====

PK1: -14.985000(kcal/mol): PK_start=1476 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1504
(fs_start=1496)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1481 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1518
(fs_start=1496)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1504 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1538
(fs_start=1496)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
AGAGGGGG

PK4: -28.730000(kcal/mol): PK_start=1513 sp=9 s1=9 s2=4 l1=2 l2=8 L3=0 PK_end=1548
(fs_start=1496)

CA
GCAGGCTAATTTTTTAGGGAAAATTTGGCCTTCC
ACCGGAGGG GGAG
CCTTCA
GGGAACTT

PK4B: -24.965000(kcal/mol): PK_start=1513 sp=9 s1=7 s2=4 l1=6 l2=34 L3=0 PK_end=1574
(fs_start=1496)

CCCAGA
GCAGGCTAATTTTTTAGGGAAAATTTGGCCTT
ACCGGAG GGGG
CTCCAC
GGGAACTTCTTCAGAGCAGGCCAGAACCAACAG

=====
(3852) JX976650
=====

PK1: -14.985000(kcal/mol): PK_start=1475 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1503
(fs_start=1495)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1480 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1517
(fs_start=1495)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAAT

PK3: -23.745000(kcal/mol): PK_start=1503 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1537
(fs_start=1495)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
AGAGGGGG

PK4: -28.730000(kcal/mol): PK_start=1512 sp=9 s1=9 s2=4 l1=2 l2=8 L3=0 PK_end=1547
(fs_start=1495)

CA
GCAGGCTAATTTTTTAGGGAAAATTTGGCCTTCC
ACCGGAGGG GGAG
CCTTCA
GGGAACTT

PK4B: -24.965000(kcal/mol): PK_start=1512 sp=9 s1=7 s2=4 l1=6 l2=34 L3=0 PK_end=1573
(fs_start=1495)

CCCAGA
GCAGGCTAATTTTTTAGGGAAAATTTGGCCTT
ACCGGAG GGGG
CTCCAC
GGGAACTTCCTTCAGAGCAGACCAGAACCAACAG

=====
(3853) JX976651
=====

PK1: -14.985000(kcal/mol): PK_start=1305 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1333
(fs_start=1325)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1310 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1347
(fs_start=1325)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAAT

PK3: -23.745000(kcal/mol): PK_start=1333 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1367
(fs_start=1325)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
AGAGGGGG

PK4: -28.730000(kcal/mol): PK_start=1342 sp=9 s1=9 s2=4 l1=2 l2=8 L3=0 PK_end=1377
(fs_start=1325)

CA
GCAGGCTAATTTTTTAGGGAAAATTTGGCCTTCC
ACCGGAGGG GGAG
CCTTCA
GGGAACTT

PK4B: -24.965000(kcal/mol): PK_start=1342 sp=9 s1=7 s2=4 l1=6 l2=34 L3=0 PK_end=1403
(fs_start=1325)

CCCAGA
GCAGGCTAATTTTTTAGGGAAAATTTGGCCTT
ACCGGAG GGGG
CTCCAC
GGGAACTTCCTTCAGAGCAGGCCAGAACCAACAG

=====
(3854) JX976652

=====
PK1: -14.985000(kcal/mol): PK_start=1305 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1333
(fs_start=1325)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1310 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1347
(fs_start=1325)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1333 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1367
(fs_start=1325)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
AGAGGGGG

PK4: -28.730000(kcal/mol): PK_start=1342 sp=9 s1=9 s2=4 l1=2 l2=8 L3=0 PK_end=1377
(fs_start=1325)

CA
GCAGGCTAATTTTTTAGGGAAAATTTGGCCTTCC
ACCGGAGGG GGAG
CCTTCA
GGGAACTT

PK4B: -24.965000(kcal/mol): PK_start=1342 sp=9 s1=7 s2=4 l1=6 l2=34 L3=0 PK_end=1403
(fs_start=1325)

CCCAGA
GCAGGCTAATTTTTTAGGGAAAATTTGGCCTT
ACCGGAG GGGG
CTCCAC
GGGAACTTCCTTCAGAGCAGGCCAGAACCAACAG

=====
(3855) JX976659
=====

PK1: -14.985000(kcal/mol): PK_start=1475 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1503
(fs_start=1495)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1480 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1517
(fs_start=1495)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1503 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1537
(fs_start=1495)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
AGAGGGGG

PK4: -28.730000(kcal/mol): PK_start=1512 sp=9 s1=9 s2=4 l1=2 l2=8 L3=0 PK_end=1547
(fs_start=1495)

CA
GCAGGCTAATTTTTTAGGGAAAATTTGGCCTTCC
ACCGGAGGG GGAG
CCTTCA
GGGAACTT

PK4B: -24.965000(kcal/mol): PK_start=1512 sp=9 s1=7 s2=4 l1=6 l2=34 L3=0 PK_end=1573
(fs_start=1495)

CCCAGA
GCAGGCTAATTTTTTAGGGAAAATTTGGCCTT
ACCGGAG GGGG
CTCCAC
GGGAACTTCCTTCAGAGCAGGCCAGAACCAACAG

=====
(3856) JX976660
=====

PK1: -14.985000(kcal/mol): PK_start=1475 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1503
(fs_start=1495)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1480 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1517
(fs_start=1495)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1503 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1537
(fs_start=1495)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
AGAGGGGG

PK4: -30.510000(kcal/mol): PK_start=1512 sp=9 s1=9 s2=4 l1=2 l2=8 L3=0 PK_end=1547
(fs_start=1495)

CA
GCAGGCTAATTTTTTAGGGAAAATTTGGCCTTCC
ACCGGAGGG GGAG
CCTCCA
GGGAACTT

PK4B: -21.795000(kcal/mol): PK_start=1513 sp=10 s1=5 s2=4 l1=8 l2=35 L3=0
PK_end=1573 (fs_start=1495)

TCCCAGAG
CAGGCTAATTTTTTAGGGAAAATTTGGCCT
CCGGA GGGG
CTCCAC
AGGGAACCTTCCTCCAGAGCAGGCCAGAACCAACAG

=====
(3857) JX976661
=====

PK1: -14.985000(kcal/mol): PK_start=1475 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1503
(fs_start=1495)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1480 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1517
(fs_start=1495)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAAT

PK3: -23.745000(kcal/mol): PK_start=1503 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1537
(fs_start=1495)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
AGAGGGGG

PK4: -30.510000(kcal/mol): PK_start=1512 sp=9 s1=9 s2=4 l1=2 l2=8 L3=0 PK_end=1547
(fs_start=1495)

CA
GCAGGCTAATTTTTTAGGGAAAATTTGGCCTTCC
ACCGGAGGG GGAG
CCTCCA
GGGAACTT

PK4B: -21.795000(kcal/mol): PK_start=1513 sp=10 s1=5 s2=4 l1=8 l2=35 L3=0
PK_end=1573 (fs_start=1495)

TCCCAGAG
CAGGCTAATTTTTTAGGGAAAATTTGGCCT
CCGGA GGGG
CTCCAC
AGGGAACTTCTCCAGAGCAGGCCAGAACCAACAG

=====
(3858) JX976662
=====

PK1: -14.985000(kcal/mol): PK_start=1475 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1503
(fs_start=1495)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC

TTTTTAGGG
GCTAAT
PK2: -20.330000(kcal/mol): PK_start=1480 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1517
(fs_start=1495)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1503 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1537
(fs_start=1495)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
AGAGGGGG

PK4: -28.730000(kcal/mol): PK_start=1512 sp=9 s1=9 s2=4 l1=2 l2=8 L3=0 PK_end=1547
(fs_start=1495)

CA
GCAGGCTAATTTTTTAGGGAAAATTTGGCCTTCC
ACCGGAGGG GGAG
CCTTCA
GGGAACTT

PK4B: -24.965000(kcal/mol): PK_start=1512 sp=9 s1=7 s2=4 l1=6 l2=34 L3=0 PK_end=1573
(fs_start=1495)

CCCAGA
GCAGGCTAATTTTTTAGGGAAAATTTGGCCTT
ACCGGAG GGGG
CTCCAC
GGGAACTTCTTCAGAGCAGGCCAGAACCAACAG

=====
(3859) JX976663
=====

PK1: -14.315000(kcal/mol): PK_start=1475 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1503
(fs_start=1495)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GGCG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.360000(kcal/mol): PK_start=1480 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1517
(fs_start=1495)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGG

TTGGCCTTC
GGAAAAAT
PK3: -23.745000(kcal/mol): PK_start=1503 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1537
(fs_start=1495)

AAA
TACTGAGAGGCGGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
AGAGGGGG

PK4: -28.730000(kcal/mol): PK_start=1512 sp=9 s1=9 s2=4 l1=2 l2=8 L3=0 PK_end=1547
(fs_start=1495)

CA
GCGGGCTAATTTTTTAGGGAAAAATTTGGCCTTCC
ACCGGAGGG GGAG
CCTTCA
GGGAACTT

PK4B: -24.965000(kcal/mol): PK_start=1512 sp=9 s1=7 s2=4 l1=6 l2=34 L3=0 PK_end=1573
(fs_start=1495)

CCCAGA
GCGGGCTAATTTTTTAGGGAAAAATTTGGCCTT
ACCGGAG GGGG
CTCCAC
GGGAACTTCCTTCAGAGCAGGCCAGAACCAACAG

=====
(3860) JX976664
=====

PK1: -14.985000(kcal/mol): PK_start=1473 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1501
(fs_start=1493)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1478 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1515
(fs_start=1493)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAAT

PK3: -23.745000(kcal/mol): PK_start=1501 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1535
(fs_start=1493)

AAA
TACTGAGAGGCGGGCTAATTTTTTAGGGA
CCCT TCCGGTTT

```

                                AGGCCAGGGA
          AGAGGGGG
PK4:  -28.730000(kcal/mol): PK_start=1510 sp=9 s1=9 s2=4 l1=2 l2=8 L3=0 PK_end=1545
(fs_start=1493)
                                CA
GCAGGCTAATTTTTTAGGGAAAATTTGGCCTTCC
                                ACCGGAGGG  GGAG
                                CCTTCA
          GGGAACCTT

PK4B:  -24.965000(kcal/mol): PK_start=1510 sp=9 s1=7 s2=4 l1=6 l2=34 L3=0 PK_end=1571
(fs_start=1493)
                                CCCAGA
GCAGGCTAATTTTTTAGGGAAAATTTGGCCTT
                                ACCGGAG  GGGG
                                CTCCAC
          GGGAACCTTCCTTCAGAGCAGGCCAGAACCAACAG

=====
(3861) JX976665
=====
PK1:  -14.985000(kcal/mol): PK_start=1475 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1503
(fs_start=1495)
                                A
GAAAGGAAGGACACCAAATGAAAGACTGT
                                GACG  GAGAGTC
                                TTTTTAGGG
          GCTAAT

PK2:  -20.330000(kcal/mol): PK_start=1480 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1517
(fs_start=1495)
                                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
                                GATTTTTT  AATCGGA
                                TTGGCCTTC
          GGAAAAT

PK3:  -23.745000(kcal/mol): PK_start=1503 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1537
(fs_start=1495)
                                AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
                                CCCT  TCCGGTTT
                                AGGCCAGGGA
          AGAGGGGG

PK4:  -28.730000(kcal/mol): PK_start=1512 sp=9 s1=9 s2=4 l1=2 l2=8 L3=0 PK_end=1547
(fs_start=1495)
                                CA
GCAGGCTAATTTTTTAGGGAAAATTTGGCCTTCC
                                ACCGGAGGG  GGAG

```

CCTTCA

GGGAACTT

PK4B: -24.965000(kcal/mol): PK_start=1512 sp=9 s1=7 s2=4 l1=6 l2=34 L3=0 PK_end=1573
(fs_start=1495)

CCCAGA

GCAGGCTAATTTTTTAGGGAAAATTTGGCCTT

ACCGGAG GGGG

CTCCAC

GGGAACTTCCTTCAGAGCAGACCAGAACCAACAG

=====
(3862) JX976666
=====

PK1: -14.985000(kcal/mol): PK_start=1475 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1503
(fs_start=1495)

A

GAAAGGAAGGACACCAAATGAAAGACTGT

GACG GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1480 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1517
(fs_start=1495)

C

GAAGGACACCAAATGAAAGACTGTACTGAGAGG

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1503 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1537
(fs_start=1495)

AAA

TACTGAGAGGCAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT

AGGCCAGGGA

AGAGGGGG

PK4: -28.730000(kcal/mol): PK_start=1512 sp=9 s1=9 s2=4 l1=2 l2=8 L3=0 PK_end=1547
(fs_start=1495)

CA

GCAGGCTAATTTTTTAGGGAAAATTTGGCCTTCC

ACCGGAGGG GGAG

CCTTCA

GGGAACTT

PK4B: -24.965000(kcal/mol): PK_start=1512 sp=9 s1=7 s2=4 l1=6 l2=34 L3=0 PK_end=1573
(fs_start=1495)

CCCAGA

GCAGGCTAATTTTTTAGGGAAAATTTGGCCTT

ACCGGAG GGGG

CTCCAC
GGGAACTTCCTTCAGAGCAGGCCAGAACCAACAG

=====
(3863) JX976667
=====

PK1: -14.985000(kcal/mol): PK_start=1475 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1503
(fs_start=1495)

A
GAAAGGAAGGACACCAAATGGAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1480 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1517
(fs_start=1495)

C
GAAGGACACCAAATGGAAGACTGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1503 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1537
(fs_start=1495)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
AGAGGGGG

PK4: -28.730000(kcal/mol): PK_start=1512 sp=9 s1=9 s2=4 l1=2 l2=8 L3=0 PK_end=1547
(fs_start=1495)

CA
GCAGGCTAATTTTTTAGGGAAAATTTGGCCTTCC
ACCGGAGGG GGAG
CCTTCA
GGGAACTT

PK4B: -24.965000(kcal/mol): PK_start=1512 sp=9 s1=7 s2=4 l1=6 l2=34 L3=0 PK_end=1573
(fs_start=1495)

CCCAGA
GCAGGCTAATTTTTTAGGGAAAATTTGGCCTT
ACCGGAG GGGG
CTCCAC
GGGAACTTCCTTCAGAGCAGGCCAGAACCAACAG

=====
(3864) JX976668
=====

PK1: -14.985000(kcal/mol): PK_start=1475 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1503
(fs_start=1495)

A
GAAAGGAAGGACACCAAATGAAAGACTGT

GACG GAGAGTC
TTTTTAGGG
GCTAAT
PK2: -20.330000(kcal/mol): PK_start=1480 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1517
(fs_start=1495)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1503 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1537
(fs_start=1495)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
AGAGGGGG

PK4: -28.730000(kcal/mol): PK_start=1512 sp=9 s1=9 s2=4 l1=2 l2=8 L3=0 PK_end=1547
(fs_start=1495)

CA
GCAGGCTAATTTTTTAGGGAAAATTTGGCCTTCC
ACCGGAGGG GGAG
CCTTCA
GGGAACTT

PK4B: -24.965000(kcal/mol): PK_start=1512 sp=9 s1=7 s2=4 l1=6 l2=34 L3=0 PK_end=1573
(fs_start=1495)

CCCAGA
GCAGGCTAATTTTTTAGGGAAAATTTGGCCTT
ACCGGAG GGGG
CTCCAC
GGGAACTTCCTTCAGAGCAGGCCAGAACCAACAG

=====
(3865) JX976669
=====

PK1: -14.985000(kcal/mol): PK_start=1475 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1503
(fs_start=1495)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1480 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1517
(fs_start=1495)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG

GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT
PK3: -23.745000(kcal/mol): PK_start=1503 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1537
(fs_start=1495)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT
AGGCCAGGGA
AGAGGGGG

PK4: -28.730000(kcal/mol): PK_start=1512 sp=9 s1=9 s2=4 l1=2 l2=8 L3=0 PK_end=1547
(fs_start=1495)

CA
GCAGGCTAATTTTTTAGGGAAAATTTGGCCTTCC

ACCGGAGGG GGAG
CCTTCA
GGGAACTT

PK4B: -24.965000(kcal/mol): PK_start=1512 sp=9 s1=7 s2=4 l1=6 l2=34 L3=0 PK_end=1573
(fs_start=1495)

CCCAGA
GCAGGCTAATTTTTTAGGGAAAATTTGGCCTT

ACCGGAG GGGG
CTCCAC
GGGAACTTCCTTCAGAGCAGGCCAGAACCAACAG

=====
(3866) JX976670
=====

PK1: -12.620000(kcal/mol): PK_start=1415 sp=0 s1=3 s2=7 l1=2 l2=23 L3=1 PK_end=1459
(fs_start=1453)

AA
GTTGGAAATGTGGAAAGGAAGGACACCA

GGT C AGAAAGT
TTTTTTAGG
ACTGAAAGGAAAGGCAGGCTAA

PK2: -17.190000(kcal/mol): PK_start=1439 sp=0 s1=6 s2=7 l1=2 l2=9 L3=0 PK_end=1475
(fs_start=1453)

GC
ACCAAATGAAAGACTGGACTGAAAGGGAAAG

TTTTTT AATCGGA
TTGGCCTTC
AGGGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1461 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1495
(fs_start=1453)

AAA
AAGGGAAAGGCAGGCTAATTTTTTAGGGA

```

          CCCT   TCCGGTTT
                AGGCCAGGGA
ACAAGGGG
PK4:  -26.865000(kcal/mol): PK_start=1468 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1531
(fs_start=1453)
                TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA   GGGG
                        CCCCAC
                GAATTTTCATACAGAACAGACTAGAGCCAACAG

```

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=====
(3867) JX976671
=====

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```

PK1:  -11.500000(kcal/mol): PK_start=1490 sp=0 s1=3 s2=7 l1=5 l2=23 L3=1 PK_end=1537
(fs_start=1531)
                CCAAA
GCTGTTGGAAATGTGGAAAGGAAGGACA
                TGT   C   AGAAAGT
                        TTTTTTAGG
                ACTGAAAGGGAAAGGCAGGCTAA

```

```

PK2:  -17.190000(kcal/mol): PK_start=1517 sp=0 s1=6 s2=7 l1=2 l2=9 L3=0 PK_end=1553
(fs_start=1531)
                GC
ACCAAATGAAAGACTGTACTGAAAGGGAAAG
                TTTTTT   AATCGGA
                        TTGGCCTTC
                AGGGAAAAT

```

```

PK3:  -23.745000(kcal/mol): PK_start=1539 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1573
(fs_start=1531)
                AAA
AAGGGAAAGGCAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTTT
                        AGGCCAGGGA
                ACAAGGGG

```

```

PK4:  -26.865000(kcal/mol): PK_start=1546 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1609
(fs_start=1531)
                TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA   GGGG
                        CCCCAC
                GAATTTTCATACAGAACAGACTAGAGCCAACAG

```

```

=====
(3868) JX976672
=====

```


PK3: -23.745000(kcal/mol): PK_start=1551 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=1585
(fs_start=1543)

AAA
AAGGGAAAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -26.865000(kcal/mol): PK_start=1558 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=1621
(fs_start=1543)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCATACAGAACAGACTAGAGCCAACAG

=====
(3870) JX976674
=====

PK1: -11.500000(kcal/mol): PK_start=1502 sp=0 s1=3 s2=7 l1=5 l2=23 l3=1 PK_end=1549
(fs_start=1543)

CCAAA
GCTGTTGGAAATGTGGAAAGGAAGGACA
TGT C AGAAAGT
TTTTTTAGG
ACTGAAAGGGAAAGGCAGGCTAA

PK2: -17.190000(kcal/mol): PK_start=1529 sp=0 s1=6 s2=7 l1=2 l2=9 l3=0 PK_end=1565
(fs_start=1543)

GC
ACCAAATGAAAGACTGTACTGAAAGGGAAAG
TTTTTT AATCGGA
TTGGCCTTC
AGGGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1551 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=1585
(fs_start=1543)

AAA
AAGGGAAAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -26.865000(kcal/mol): PK_start=1558 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=1621
(fs_start=1543)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCATACAGAACAGACTAGAGCCAACAG


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                                TTGGCCTTC
                AGGGAAAAT
PK3:  -23.745000(kcal/mol): PK_start=1551 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1585
(fs_start=1543)
                                AAA
AAGGGAAAGGCAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTTT
                                AGGCCAGGAA
                ACAAGGGG
PK4:  -26.865000(kcal/mol): PK_start=1558 sp=7 s1=8 s2=4 l1=8 l2=31 L3=0 PK_end=1620
(fs_start=1543)
                                TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
                                GGACCGGA   GGGG
                                CCCCAC
                AATTTTCATACAGAACAGACTAGAGCCAACAG

=====
(3873) JX976677
=====
PK1:  -11.500000(kcal/mol): PK_start=1426 sp=0 s1=3 s2=7 l1=5 l2=23 L3=1 PK_end=1473
(fs_start=1467)
                                CCAAA
GCTGTTGGAAATGTGGAAAGGAAGGACA
                                TGT   C   AGAAAGT
                                TTTTTTAGG
                ACTGAAAGGGAAAGGCAGGCTAA
PK2:  -17.190000(kcal/mol): PK_start=1453 sp=0 s1=6 s2=7 l1=2 l2=9 L3=0 PK_end=1489
(fs_start=1467)
                                GC
ACCAAATGAAAGACTGTACTGAAAGGGAAAG
                                TTTTTT   AATCGGA
                                TTGGCCTTC
                AGGGAAAAT
PK3:  -23.745000(kcal/mol): PK_start=1475 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1509
(fs_start=1467)
                                AAA
AAGGGAAAGGCAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTTT
                                AGGCCAGGGA
                ACAAGGGG
PK4:  -26.865000(kcal/mol): PK_start=1482 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1545
(fs_start=1467)
                                TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
                                GGACCGGA   GGGG

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CCCCAC
GAATTTTCATACAGAACAGACTAGAGCCAACAG

=====
(3874) JX976678
=====

PK1: -11.500000(kcal/mol): PK_start=1502 sp=0 s1=3 s2=7 l1=5 l2=23 L3=1 PK_end=1549
(fs_start=1543)

CCAAA
GCTGTTGGAAATGTGGAAAGGAAGGACA
TGT C AGAAAGT
TTTTTTAGG
ACTGAAAGGGAAAGGCAGGCTAA

PK2: -17.190000(kcal/mol): PK_start=1529 sp=0 s1=6 s2=7 l1=2 l2=9 L3=0 PK_end=1565
(fs_start=1543)

GC
ACCAAATGAAAGACTGTACTGAAAGGGAAAG
TTTTTT AATCGGA
TTGGCCTTC
AGGGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1551 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1585
(fs_start=1543)

AAA
AAGGGAAAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -26.865000(kcal/mol): PK_start=1558 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1621
(fs_start=1543)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCATACAGAACAGACTAGAGCCAACAG

=====
(3875) JX976679
=====

PK1: -11.500000(kcal/mol): PK_start=1453 sp=0 s1=3 s2=7 l1=5 l2=23 L3=1 PK_end=1500
(fs_start=1494)

CCAAA
GCTGTTGGAAATGTGGAAAGGAAGGACA
TGT C AGAAAGT
TTTTTTAGG
ACTGAAAGGGAAAGGCAGGCTAA

PK2: -17.190000(kcal/mol): PK_start=1480 sp=0 s1=6 s2=7 l1=2 l2=9 L3=0 PK_end=1516
(fs_start=1494)

GC
ACCAAATGAAAGACTGTACTGAAAGGGAAAG

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          TTTTTT   AATCGGA
                    TTGGCCTTC
AGGGAAAAT

PK3:  -23.745000(kcal/mol): PK_start=1502 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1536
(fs_start=1494)
                    AAA
AAGGGAAAGGCAGGCTAATTTTTTAGGGA
                    CCCT   TCCGGTTT
                    AGGCCAGGGA
          ACAAGGGG

PK4:  -26.865000(kcal/mol): PK_start=1509 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1572
(fs_start=1494)
                    TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
                    GGACCGGA   GGGG
                    CCCCAC
          GAATTTTCATACAGAACAGACTAGAGCCAACAG

=====
(3876) JX976680
=====
PK1:  -11.500000(kcal/mol): PK_start=1401 sp=0 s1=3 s2=7 l1=5 l2=23 L3=1 PK_end=1448
(fs_start=1442)
                    CCAAA
GCTGTTGGAAATGTGGAAAGGAAGGACA
                    TGT   C   AGAAAGT
                    TTTTTTAGG
          ACTGAAAGGGAAAGGCAGGCTAA

PK2:  -17.190000(kcal/mol): PK_start=1428 sp=0 s1=6 s2=7 l1=2 l2=9 L3=0 PK_end=1464
(fs_start=1442)
                    GC
ACCAAATGAAAGACTGTACTGAAAGGGAAAG
                    TTTTTT   AATCGGA
                    TTGGCCTTC
          AGGGAAAAT

PK3:  -23.745000(kcal/mol): PK_start=1450 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1484
(fs_start=1442)
                    AAA
AAGGGAAAGGCAGGCTAATTTTTTAGGGA
                    CCCT   TCCGGTTT
                    AGGCCAGGGA
          ACAAGGGG

PK4:  -26.865000(kcal/mol): PK_start=1457 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1520
(fs_start=1442)
                    TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT

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GGACCGGA GGGG
CCCCAC
GAATTCATACAGAACAGACTAGAGCCAACAG

=====
(3877) JX976681
=====

PK1: -11.50000(kcal/mol): PK_start=1477 sp=0 s1=3 s2=7 l1=5 l2=23 L3=1 PK_end=1524
(fs_start=1518)

CCAAA
GCTGTTGAAATGTGAAAGGAAGGACA

TGT C AGAAAGT

TTTTTTAGG
ACTGAAAGGAAAGGCAGGCTAA

PK2: -17.19000(kcal/mol): PK_start=1504 sp=0 s1=6 s2=7 l1=2 l2=9 L3=0 PK_end=1540
(fs_start=1518)

GC
ACCAAATGAAAGACTGTACTGAAAGGGAAAG

TTTTTT AATCGGA

TTGGCCTTC
AGGGAAAAT

PK3: -23.74500(kcal/mol): PK_start=1526 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1560
(fs_start=1518)

AAA
AAGGGAAAGGCAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT

AGGCCAGGGA
ACAAGGGG

PK4: -26.86500(kcal/mol): PK_start=1533 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1596
(fs_start=1518)

TCCCACAA
AGGCAGGCTAATTTTTTAGGAAAATTTGGCCT

GGACCGGA GGGG

CCCCAC
GAATTCATACAGAACAGACTAGAGCCAACAG

=====
(3878) JX976682
=====

PK1: -11.50000(kcal/mol): PK_start=1437 sp=0 s1=3 s2=7 l1=5 l2=23 L3=1 PK_end=1484
(fs_start=1478)

CCAAA
GCTGTTGAAATGTGAAAGGAAGGACA

TGT C AGAAAGT

TTTTTTAGG
ACTGAAAGGAAAGGCAGGCTAA

PK2: -17.190000(kcal/mol): PK_start=1464 sp=0 s1=6 s2=7 l1=2 l2=9 L3=0 PK_end=1500
(fs_start=1478)

GC
ACCAAATGAAAGACTGTACTGAAAGGGAAAG
TTTTTT AATCGGA
TTGGCCTTC
AGGGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1486 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1520
(fs_start=1478)

AAA
AAGGGAAAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -26.865000(kcal/mol): PK_start=1493 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1556
(fs_start=1478)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCATACAGAACAGACTAGAGCCAACAG

=====
(3879) JX976683
=====

PK1: -11.500000(kcal/mol): PK_start=1514 sp=0 s1=3 s2=7 l1=5 l2=23 L3=1 PK_end=1561
(fs_start=1555)

CCAAA
GCTGTTGGAAATGTGGAAAGGAAGGACA
TGT C AGAAAGT
TTTTTTAGG
ACTGAAAGGGAAAGGCAGGCTAA

PK2: -17.190000(kcal/mol): PK_start=1541 sp=0 s1=6 s2=7 l1=2 l2=9 L3=0 PK_end=1577
(fs_start=1555)

GC
ACCAAATGAAAGACTGTACTGAAAGGGAAAG
TTTTTT AATCGGA
TTGGCCTTC
AGGGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1563 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1597
(fs_start=1555)

AAA
AAGGGAAAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -26.865000(kcal/mol): PK_start=1570 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=1633
(fs_start=1555)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCATACAGAACAGACTAGAGCCAACAG

=====
(3880) JX976684
=====

PK1: -11.500000(kcal/mol): PK_start=1403 sp=0 s1=3 s2=7 l1=5 l2=23 l3=1 PK_end=1450
(fs_start=1444)

CCAAA
GCTGTTGGAAATGTGGAAAGGAAGGACA
TGT C AGAAAGT
TTTTTTAGG
ACTGAAAGGGAAAGGCAGGCTAA

PK2: -17.190000(kcal/mol): PK_start=1430 sp=0 s1=6 s2=7 l1=2 l2=9 l3=0 PK_end=1466
(fs_start=1444)

GC
ACCAAATGAAAGACTGTACTGAAAGGGAAAG
TTTTTT AATCGGA
TTGGCCTTC
AGGGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1452 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=1486
(fs_start=1444)

AAA
AAGGGAAAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -26.865000(kcal/mol): PK_start=1459 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=1522
(fs_start=1444)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCATACAGAACAGACTAGAGCCAACAG

=====
(3881) JX976685
=====

PK1: -11.500000(kcal/mol): PK_start=1453 sp=0 s1=3 s2=7 l1=5 l2=23 l3=1 PK_end=1500
(fs_start=1494)

CCAAA
GCTGTTGGAAATGTGGAAAGGAAGGACA
TGT C AGAAAGT

TTTTTTAGG
ACTGAAAGGGAAAGGCAGGCTAA
PK2: -17.190000(kcal/mol): PK_start=1480 sp=0 s1=6 s2=7 l1=2 l2=9 L3=0 PK_end=1516
(fs_start=1494)

GC
ACCAAATGAAAGACTGTACTGAAAGGGAAAG
TTTTTT AATCGGA
TTGGCCTTC
AGGGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1502 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1536
(fs_start=1494)

AAA
AAGGGAAAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -26.865000(kcal/mol): PK_start=1509 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1572
(fs_start=1494)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCATACAGAACAGACTAGAGCCAACAG

=====
(3882) JX976686
=====

PK1: -11.500000(kcal/mol): PK_start=1465 sp=0 s1=3 s2=7 l1=5 l2=23 L3=1 PK_end=1512
(fs_start=1506)

CCAAA
GCTGTTGGAAATGTGGAAAGGAAGGACA
TGT C AGAAAGT
TTTTTTAGG
ACTGAAAGGGAAAGGCAGGCTAA

PK2: -17.190000(kcal/mol): PK_start=1492 sp=0 s1=6 s2=7 l1=2 l2=9 L3=0 PK_end=1528
(fs_start=1506)

GC
ACCAAATGAAAGACTGTACTGAAAGGGAAAG
TTTTTT AATCGGA
TTGGCCTTC
AGGGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1514 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1548
(fs_start=1506)

AAA
AAGGGAAAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT

AGGCCAGGAA

ACAAGGGG

PK4: -26.865000(kcal/mol): PK_start=1521 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1584
(fs_start=1506)

TCCCACAA

AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG

CCCCAC

AAATTTTCATACAGAACAGACTAGAGCCAACAG

=====
(3883) JX976688
=====

PK1: -11.500000(kcal/mol): PK_start=1292 sp=0 s1=3 s2=7 l1=5 l2=23 L3=1 PK_end=1339
(fs_start=1333)

CCAAA

GCTGTTGGAAATGTGGAAAGGAAGGACA

TGT C AGAAAGT

TTTTTTAGG

ACTGAAAGGGAAAGGCAGGCTAA

PK2: -17.190000(kcal/mol): PK_start=1319 sp=0 s1=6 s2=7 l1=2 l2=9 L3=0 PK_end=1355
(fs_start=1333)

GC

ACCAAATGAAAGACTGTACTGAAAGGGAAAG

TTTTTT AATCGGA

TTGGCCTTC

AGGGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1341 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1375
(fs_start=1333)

AAA

AAGGGAAAGGCAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT

AGGCCAGGGA

ACAAGGGG

PK4: -26.865000(kcal/mol): PK_start=1348 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1411
(fs_start=1333)

TCCCACAA

AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG

CCCCAC

GAATTTTCATACAGAACAGACTAGAGCCAACAG

=====
(3884) JX976689
=====

PK1: -11.500000(kcal/mol): PK_start=1292 sp=0 s1=3 s2=7 l1=5 l2=23 L3=1 PK_end=1339
(fs_start=1333)

CCAAA

GCTGTTGGAAATGTGGAAAGGAAGGACA

```

          TGT C AGAAAGT
                TTTTTTAGG
          ACTGAAAGGAAAGGCAGGCTAA

PK2:  -17.190000(kcal/mol): PK_start=1319 sp=0 s1=6 s2=7 l1=2 l2=9 L3=0 PK_end=1355
(fs_start=1333)
                GC
          ACCAAATGAAAGACTGTACTGAAAGGGAAAG
                TTTTTT AATCGGA
                TTGGCCTTC
          AGGGAAAAT

PK3:  -23.745000(kcal/mol): PK_start=1341 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1375
(fs_start=1333)
                AAA
          AAGGGAAAGGCAGGCTAATTTTTTAGGGA
                CCCT TCCGGTTT
                AGGCCAGGGA
          ACAAGGGG

PK4:  -26.865000(kcal/mol): PK_start=1348 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1411
(fs_start=1333)
                TCCCACAA
          AGGCAGGCTAATTTTTTAGGAAAATTTGGCCT
                GGACCGGA GGGG
                CCCAC
          GAATTCATACAGAACAGACTAGAGCCAACAG

=====
(3885) JX976691
=====
PK1:  -11.500000(kcal/mol): PK_start=1438 sp=0 s1=3 s2=7 l1=5 l2=23 L3=1 PK_end=1485
(fs_start=1479)
                CCAAA
          GCTGTTGAAATGTGAAAGGAAGGACA
                TGT C AGAAAGT
                TTTTTTAGG
          ACTGAAAGGAAAGGCAGGCTAA

PK2:  -17.190000(kcal/mol): PK_start=1465 sp=0 s1=6 s2=7 l1=2 l2=9 L3=0 PK_end=1501
(fs_start=1479)
                GC
          ACCAAATGAAAGACTGTACTGAAAGGGAAAG
                TTTTTT AATCGGA
                TTGGCCTTC
          AGGGAAAAT

PK3:  -23.745000(kcal/mol): PK_start=1487 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1521
(fs_start=1479)
                AAA
          AAGGGAAAGGCAGGCTAATTTTTTAGGGA

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          CCCT   TCCGGTTT
                AGGCCAGGGA
ACAAGGGG
PK4:  -26.865000(kcal/mol): PK_start=1494 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1557
(fs_start=1479)
                TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA   GGGG
                        CCCCAC
                GAATTTTCATACAGAACAGACTAGAGCCAACAG

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=====
(3886) JX976692
=====

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PK1:  -11.500000(kcal/mol): PK_start=1504 sp=0 s1=3 s2=7 l1=5 l2=23 L3=1 PK_end=1551
(fs_start=1545)
                CCAAA
GCTGTTGGAAATGTGGAAAGGAAGGACA
                TGT   C   AGAAAGT
                        TTTTTTAGG
                ACTGAAAGGGAAAGGCAGGCTAA

```

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PK2:  -17.190000(kcal/mol): PK_start=1531 sp=0 s1=6 s2=7 l1=2 l2=9 L3=0 PK_end=1567
(fs_start=1545)
                GC
ACCAAATGAAAGACTGTACTGAAAGGGAAAG
                TTTTTT   AATCGGA
                        TTGGCCTTC
                AGGGAAAAT

```

```

PK3:  -23.745000(kcal/mol): PK_start=1553 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1587
(fs_start=1545)
                AAA
AAGGGAAAGGCAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTTT
                        AGGCCAGGGA
                ACAAGGGG

```

```

PK4:  -26.865000(kcal/mol): PK_start=1560 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1623
(fs_start=1545)
                TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA   GGGG
                        CCCCAC
                GAATTTTCATACAGAACAGACTAGAGCCAACAG

```

```

=====
(3887) JX976693
=====

```


PK3: -23.745000(kcal/mol): PK_start=1541 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1575
(fs_start=1533)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1548 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1585
(fs_start=1533)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1548 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1611
(fs_start=1533)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCCTTCAGAACAGACCAGAGCCAACAG

=====
(3889) JX976708
=====

PK1: -14.985000(kcal/mol): PK_start=1502 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1530
(fs_start=1522)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -18.150000(kcal/mol): PK_start=1507 sp=0 s1=8 s2=6 l1=2 l2=7 L3=0 PK_end=1543
(fs_start=1522)

CA
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGG
TTGGCCYT
GGAAAAT

PK3: -21.200000(kcal/mol): PK_start=1530 sp=0 s1=4 s2=7 l1=3 l2=9 L3=1 PK_end=1563
(fs_start=1522)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT Y CCGGTTT
GGCCAGGGA
ACAAGGGGA

PK4: -21.990000(kcal/mol): PK_start=1537 sp=7 s1=7 s2=6 l1=8 l2=4 L3=0 PK_end=1574
(fs_start=1522)

YTGCCACA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCC
GGACCGG AGGGGA
TTCCTTCA
GAAT

PK4B: -23.610000(kcal/mol): PK_start=1537 sp=7 s1=7 s2=4 l1=9 l2=32 L3=1 PK_end=1599
(fs_start=1522)

YTGCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCC
GGACCGG A GGGG
CCCCAC
GAATTTTCCTTCAGAACAGACCAGAGCCAACAG

=====
(3890) JX976709
=====

PK1: -14.985000(kcal/mol): PK_start=1371 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1399
(fs_start=1391)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1376 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1413
(fs_start=1391)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1399 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1433
(fs_start=1391)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1406 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1443
(fs_start=1391)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1406 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1469
(fs_start=1391)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCCTTCAGAACAGACCAGAGCCAACAG

=====
(3891) JX976710
=====

PK1: -14.985000(kcal/mol): PK_start=1513 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1541
(fs_start=1533)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1518 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1555
(fs_start=1533)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1541 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1575
(fs_start=1533)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1548 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1585
(fs_start=1533)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1548 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1611
(fs_start=1533)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCCTTCAGAACAGACCAGAGCCAACAG

=====
(3892) JX976711
=====

PK1: -14.985000(kcal/mol): PK_start=1504 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1532
(fs_start=1524)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1509 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1546
(fs_start=1524)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAAT

PK3: -23.745000(kcal/mol): PK_start=1532 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1566
(fs_start=1524)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1539 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1576
(fs_start=1524)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1539 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1602
(fs_start=1524)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCTTCAGAACAGACCAGAGCCAACAG

=====
(3893) JX976712
=====

PK1: -14.985000(kcal/mol): PK_start=1505 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1533
(fs_start=1525)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC

TTTTTAGGG
GCTAAT
PK2: -20.330000(kcal/mol): PK_start=1510 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1547
(fs_start=1525)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1533 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1567
(fs_start=1525)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1540 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1577
(fs_start=1525)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1540 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1603
(fs_start=1525)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCTTCAGAACAGACCAGAGCCAACAG

=====
(3894) JX976713
=====

PK1: -14.985000(kcal/mol): PK_start=1502 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1530
(fs_start=1522)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1507 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1544
(fs_start=1522)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA

```

                                TTGGCCTTC
          GGAAAAAT
PK3:  -23.745000(kcal/mol): PK_start=1530 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1564
(fs_start=1522)
                                AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTTT
                                AGGCCAGGGA
          ACAAGGGG
PK4:  -25.010000(kcal/mol): PK_start=1537 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1574
(fs_start=1522)
                                CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
                                GGACCGGAGG   GGAA
                                CCTTCA
          GAATTT
PK4B:  -26.865000(kcal/mol): PK_start=1537 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1600
(fs_start=1522)
                                TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
                                GGACCGGA   GGGG
                                CCCCAC
          GAATTTCTTCAGAACAGACCAGAGCCAACAG

=====
(3895) JX976715
=====
PK1:  -14.985000(kcal/mol): PK_start=1504 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1532
(fs_start=1524)
                                A
GAAAGGAAGGACACCAAATGAAAGACTGT
                                GACG   GAGAGTC
                                TTTTTAGGG
          GCTAAT
PK2:  -20.330000(kcal/mol): PK_start=1509 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1546
(fs_start=1524)
                                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
                                GATTTTTT   AATCGGA
                                TTGGCCTTC
          GGAAAAAT
PK3:  -23.745000(kcal/mol): PK_start=1532 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1566
(fs_start=1524)
                                AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTTT

```

AGGCCAGGGA

ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1539 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1576
(fs_start=1524)

CCAC

AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC

GGACCGGAGG GGAA

CCTTCA

GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1539 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1602
(fs_start=1524)

TCCCACAA

AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG

CCCCAC

GAATTTCTTCAGAACAGACCAGAGCCAACAG

=====
(3896) JX976716
=====

PK1: -14.985000(kcal/mol): PK_start=1504 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1532
(fs_start=1524)

A

GAAAGGAAGGACACCAAATGAAAGACTGT

GACG GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1509 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1546
(fs_start=1524)

C

GAAGGACACCAAATGAAAGACTGTACTGAGAGG

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1532 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1566
(fs_start=1524)

AAA

TACTGAGAGGCAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT

AGGCCAGGGA

ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1539 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1576
(fs_start=1524)

CCAC

AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC

GGACCGGAGG GGAA

CCTTCA

GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1539 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1602
(fs_start=1524)

TCCCACAA

AGGCAGGCTAATTTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG

CCCCAC

GAATTTCCCTCAGAACAGACCAGAGCCAACAG

=====

(3897) JX976717

=====

PK1: -14.985000(kcal/mol): PK_start=1513 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1541
(fs_start=1533)

A

GAAAGGAAGGACACCAAATGAAAGACTGT

GACG GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1518 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1555
(fs_start=1533)

C

GAAGGACACCAAATGAAAGACTGTACTGAGAGG

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1541 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1575
(fs_start=1533)

AAA

TACTGAGAGGCAGGCTAATTTTTTTAGGGA

CCCT TCCGGTTT

AGGCCAGGGA

ACAAGGGG

PK4: -26.005000(kcal/mol): PK_start=1548 sp=7 s1=8 s2=6 l1=6 l2=4 L3=0 PK_end=1585
(fs_start=1533)

TCCCAC

AGGCAGGCTAATTTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGGAA

TCCCTTCA

GAAT

PK4B: -26.865000(kcal/mol): PK_start=1548 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1611
(fs_start=1533)

TCCCACAA

AGGCAGGCTAATTTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG

CCCCAC
GAATTCCTTCAGAACAGACCAGAGCCAACAG

=====
(3898) JX976718
=====

PK1: -14.985000(kcal/mol): PK_start=1513 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1541
(fs_start=1533)

A
GAAAGGAAGGACACCAAATGAAAGACTGT

GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1518 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1555
(fs_start=1533)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG

GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1541 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1575
(fs_start=1533)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1548 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1585
(fs_start=1533)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC

GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1548 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1611
(fs_start=1533)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG
CCCCAC
GAATTCCTTCAGAACAGACCAGAGCCAACAG

=====
(3899) JX976719
=====

PK1: -14.985000(kcal/mol): PK_start=1504 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1532
(fs_start=1524)

A
GAAAGGAAGGACACCAAATGAAAGACTGT

GACG GAGAGTC
TTTTTAGGG
GCTAAT
PK2: -20.330000(kcal/mol): PK_start=1509 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1546
(fs_start=1524)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1532 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1566
(fs_start=1524)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1539 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1576
(fs_start=1524)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1539 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1602
(fs_start=1524)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCTTCAGAACAGACCAGAGCCAACAG

=====
(3900) JX976720
=====

PK1: -14.985000(kcal/mol): PK_start=1504 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1532
(fs_start=1524)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1509 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1546
(fs_start=1524)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG


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          GATTTTTT   AATCGGA
                    TTGGCCTTC
      GGAAAAT
PK3:  -23.745000(kcal/mol): PK_start=1532 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1566
(fs_start=1524)
          AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
          CCCT   TCCGGTTT
                    AGGCCAGGGA
      ACAAGGGG
PK4:  -25.010000(kcal/mol): PK_start=1539 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1576
(fs_start=1524)
                    CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
          GGACCGGAGG   GGAA
                    CCTTCA
      GAATTT
PK4B: -26.865000(kcal/mol): PK_start=1539 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1602
(fs_start=1524)
                    TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
          GGACCGGA   GGGG
                    CCCCAC
      GAATTTCTTCAGAACAGACCAGAGCCAACAG
=====
(3901) JX976729
=====
PK1:  -14.985000(kcal/mol): PK_start=1504 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1532
(fs_start=1524)
          A
GAAAGGAAGGACACCAAATGAAAGACTGT
          GACG   GAGAGTC
                    TTTTTTAGGG
      GCTAAT
PK2:  -20.330000(kcal/mol): PK_start=1509 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1546
(fs_start=1524)
          C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
          GATTTTTT   AATCGGA
                    TTGGCCTTC
      GGAAAAT
PK3:  -23.745000(kcal/mol): PK_start=1532 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1566
(fs_start=1524)
          AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA

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          CCCT   TCCGGTTT
                AGGCCAGGGA
ACAAGGGG
PK4:  -25.01000(kcal/mol): PK_start=1539 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1576
(fs_start=1524)
                CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
                GGACCGGAGG   GGAA
                                CCTTCA
                GAATTT

PK4B:  -26.865000(kcal/mol): PK_start=1539 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1602
(fs_start=1524)
                TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA   GGGG
                                CCCCAC
                GAATTTTCCTTCAGAACAGACCAGAGCCAACAG

=====
(3902) JX976730
=====
PK1:  -14.985000(kcal/mol): PK_start=1472 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1500
(fs_start=1492)
                A
GAAAGGAAGGACACCAAATGAAAGACTGT
                GACG   GAGAGTC
                                TTTTTAGGG
                GCTAAT

PK2:  -20.330000(kcal/mol): PK_start=1477 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1514
(fs_start=1492)
                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
                GATTTTTT   AATCGGA
                                TTGGCCTTC
                GGAAAAT

PK3:  -23.745000(kcal/mol): PK_start=1500 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1534
(fs_start=1492)
                AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTTT
                                AGGCCAGGGA
                ACAAGGGG

PK4:  -25.010000(kcal/mol): PK_start=1507 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1544
(fs_start=1492)
                CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC

```

GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1507 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1570
(fs_start=1492)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG
CCCCAC
GAATTTCTTCAGAACAGACCAGAGCCAACAG

=====
(3903) K02007
=====

PK1: -10.640000(kcal/mol): PK_start=2060 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=2098
(fs_start=2091)

A

TTGGAGATGTGGAAGGAAGGACACCAA

GTT AGAAAGT
TTTTTTAGG
CACTGAGAGACAGGCTAA

PK2: -20.460000(kcal/mol): PK_start=2076 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2112
(fs_start=2091)

C

GAAGGACACCAAATGAAAGATTGCACTGAGAGA

GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=2099 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=2133
(fs_start=2091)

A

CACTGAGAGACAGGCTAATTTTTTAGGGAAG

TCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=2106 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2143
(fs_start=2091)

CTAC

AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC

GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(3904) K02013
=====

PK1: -13.555000(kcal/mol): PK_start=1610 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1638
(fs_start=1630)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1615 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1651
(fs_start=1630)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1638 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1672
(fs_start=1630)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1645 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1682
(fs_start=1630)

CTAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

PK4B: -23.215000(kcal/mol): PK_start=1645 sp=7 s1=8 s2=4 l1=8 l2=41 L3=0 PK_end=1717
(fs_start=1630)

TCCTACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGG
TTCTTC
GAATTTTCTTCAGAGCAGACCAGAGCCAACAGCCCCACCAT

=====
(3905) K02083
=====

PK1: -13.555000(kcal/mol): PK_start=2065 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2093
(fs_start=2085)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2070 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2106
(fs_start=2085)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=2093 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=2127
(fs_start=2085)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=2100 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2137
(fs_start=2085)

CTAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGAAG GGAA
TCTTCA
GAATTT

PK4B: -23.215000(kcal/mol): PK_start=2100 sp=7 s1=8 s2=4 l1=8 l2=41 L3=0 PK_end=2172
(fs_start=2085)

TCCTACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGG
TTCTTC
GAATTTTCTTCAGAGCAGACCAGAGCCAACAGCCCCACCAT

=====
(3906) K03454
=====

PK1: -10.630000(kcal/mol): PK_start=1602 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1640
(fs_start=1633)

C
TTGGAGATGTGAAAGGAAGGACACCAA
GTT AGAAAAT
TTTTTTAGG
CACTGAGAGACAGGCTAA

PK2: -21.940000(kcal/mol): PK_start=1618 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1655
(fs_start=1633)

C
GAAGGACACCAACTAAAAGATTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAGAAT

PK3: -17.120000(kcal/mol): PK_start=1641 sp=0 s1=5 s2=6 l1=2 l2=11 l3=0 PK_end=1675
(fs_start=1633)

AA
CACTGAGAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTTT
GCCGGGA
CACAAAGGAAG

PK4: -19.745000(kcal/mol): PK_start=1648 sp=7 s1=8 s2=4 l1=8 l2=6 l3=0 PK_end=1685
(fs_start=1633)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAGAATTTGGCCT
GGGCCGGA AGGG
TCTCCA
GAACTT

=====
(3907) K03455
=====

PK1: -13.555000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=2092
(fs_start=2084)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=2105
(fs_start=2084)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=2092 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=2126
(fs_start=2084)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGA
ACAAGGAAG

PK4: -26.715000(kcal/mol): PK_start=2099 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=2136
(fs_start=2084)

CTAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(3908) KC156114
=====

PK1: -14.985000(kcal/mol): PK_start=2055 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2083
(fs_start=2075)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=2060 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2097
(fs_start=2075)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAAT

PK3: -23.745000(kcal/mol): PK_start=2083 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2117
(fs_start=2075)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGA

PK4: -25.490000(kcal/mol): PK_start=2090 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2127
(fs_start=2075)

CCAC
AGGCAGGCTAATTTTTTAGGAAAATTTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(3909) KC156115
=====

PK1: -14.985000(kcal/mol): PK_start=2053 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2081
(fs_start=2073)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -18.720000(kcal/mol): PK_start=2058 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2094
(fs_start=2073)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT A ATCGGA

TGGCCTTC

GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=2081 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2115
(fs_start=2073)

AAA

TACTGAGAGGCAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT

AGGCCAGGGA

GTCAGGGG

PK4: -25.925000(kcal/mol): PK_start=2088 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2125
(fs_start=2073)

TCCCGTC

AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCT

GGACCGGA GGGGA

TCCTTCA

GAACT

PK4B: -27.515000(kcal/mol): PK_start=2088 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2151
(fs_start=2073)

TCCCGTCA

AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCT

GGACCGGA GGGG

CTCCAC

GAACTTCCTTCAGAACAGGCCAGAGCCAACAG

=====
(3910) KC156116
=====

PK1: -15.585000(kcal/mol): PK_start=2053 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2081
(fs_start=2073)

A

GAAAGGAAGGACACCAAATGAAAGACTGT

GACA GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2058 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2094
(fs_start=2073)

C

GAAGGACACCAAATGAAAGACTGTACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAAATC

PK3: -23.815000(kcal/mol): PK_start=2082 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2115
(fs_start=2073)

AAA

ACTGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTCT


```

                                AGGCCAGGGA
                                AACAAGGGG

PK4:  -28.540000(kcal/mol): PK_start=2088 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2125
(fs_start=2073)
                                CAAC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAGG    GGAA
                                CCTTCA
                                GAATTT

PK4B:  -30.395000(kcal/mol): PK_start=2088 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2151
(fs_start=2073)
                                TCCAACAA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT
                                GGACCGGA    GGGG
                                CCCCAC
                                GAATTTCTTCAGAACAGAGCAGAGCCAACAG

=====
(3911) KC156117
=====

PK1:  -15.025000(kcal/mol): PK_start=2055 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2083
(fs_start=2075)
                                A
GAAAGGAAGGACATCAAATGAAAGACTGT
                                GACG    GAAAGTC
                                TTTTTAGGG
                                GCTAAT

PK2:  -18.760000(kcal/mol): PK_start=2060 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2096
(fs_start=2075)
                                C
GAAGGACATCAAATGAAAGACTGTACTGAAAGG
                                GATTTTTT  A  ATCGGA
                                TGGCCTTC
                                GGAAAATC

PK3:  -26.605000(kcal/mol): PK_start=2083 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2117
(fs_start=2075)
                                AAA
TACTGAAAGGCAGGCTAATTTTTTTAGGGA
                                CCCT    TCCGGTCT
                                AGGCCGGGGA
                                ACAAGGGG

PK4:  -27.870000(kcal/mol): PK_start=2090 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2127
(fs_start=2075)
                                CCAC
AGGCAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
                                GGGCCGGAGG    GGAA

```

CCTTCA

GAATTT

PK4B: -29.725000(kcal/mol): PK_start=2090 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2153
(fs_start=2075)

TCCCACAA

AGGCAGGCTAATTTTTTTAGGGAAAATCTGGCCT

GGGCCGGA GGGG

CCCCAC

GAATTTCC TTCAGAGCAGACCAGAGCCAACAG

=====

(3912) KC156118

=====

PK1: -15.625000(kcal/mol): PK_start=2055 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2083
(fs_start=2075)

A

GAAAGGAAGGACATCAAATGAAAGACTGT

GACA GAAAGTC

TTTTTAGGG

GCTAAT

PK2: -20.500000(kcal/mol): PK_start=2060 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2096
(fs_start=2075)

C

GAAGGACATCAAATGAAAGACTGTACTGAAAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAAATC

PK3: -26.605000(kcal/mol): PK_start=2083 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2117
(fs_start=2075)

AAA

TACTGAAAGACAGGCTAATTTTTTTAGGGA

CCCT TCCGGTCT

AGGCCGGGAA

ACAAGGGG

PK4: -27.870000(kcal/mol): PK_start=2090 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2127
(fs_start=2075)

CCAC

AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC

GGGCCGAGG GGAA

CCTTCA

AAATTT

PK4B: -29.725000(kcal/mol): PK_start=2090 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2153
(fs_start=2075)

TCCCACAA

AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT

GGGCCGGA GGGG

CCCCAC
AAATTTTCCTTCAGAGCAGACCAGAGCCAACAG

=====
(3913) KC156119
=====

PK1: -15.025000(kcal/mol): PK_start=2055 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2083
(fs_start=2075)

A
GAAAGGAAGGACATCAAATGAAAGACTGT
GACG GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -18.760000(kcal/mol): PK_start=2060 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2096
(fs_start=2075)

C
GAAGGACATCAAATGAAAGACTGTACTGAAAGG
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -26.605000(kcal/mol): PK_start=2083 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2117
(fs_start=2075)

AAA
TACTGAAAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCGGGAA
ACAAGGGG

PK4: -27.870000(kcal/mol): PK_start=2090 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2127
(fs_start=2075)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGGCCGGAGG GGAA
CCTTCA
AAATTT

PK4B: -29.725000(kcal/mol): PK_start=2090 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2153
(fs_start=2075)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGGCCGGA GGGG
CCCCAC
AAATTTTCCTTCAGAGCAGACCAGAGCCAACAG

=====
(3914) KC156120
=====

PK1: -15.025000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2092
(fs_start=2084)

A
GACAGGAAGGACATCAAATGAAAGACTGT

GACG GAAAGTC
TTTTTAGGG
GCTAAT
PK2: -20.370000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2106
(fs_start=2084)

C
GAAGGACATCAAATGAAAGACTGTACTGAAAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -22.025000(kcal/mol): PK_start=2092 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2126
(fs_start=2084)

AAA
TACTGAAAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCGGGAA
AGAAGGGG

PK4: -27.240000(kcal/mol): PK_start=2099 sp=7 s1=11 s2=4 l1=2 l2=7 L3=0 PK_end=2137
(fs_start=2084)

CA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTCC
GGGCCGGAGGG GAAG
CTTCAG
AAATTTTC

PK4B: -25.145000(kcal/mol): PK_start=2099 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2162
(fs_start=2084)

TCCCAGAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA GGGG
CCCCAC
AAATTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(3915) KC156121
=====

PK1: -15.025000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2092
(fs_start=2084)

A
GGCAGGAAGGACATCAAATGAAAGACTGT
GACG GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.370000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2106
(fs_start=2084)

C
GAAGGACATCAAATGAAAGACTGTACTGAAAGG

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          GATTTTTT   AATCGGA
                    TTGGCCTTC
GGAAAAT
PK3:  -22.025000(kcal/mol): PK_start=2092 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2126
(fs_start=2084)
                    AAA
TACTGAAAGGCAGGCTAATTTTTTAGGGA
                    CCCT   TCCGGTTT
                    AGGCCGGGAA
                    AGAAGGGG
PK4:  -27.240000(kcal/mol): PK_start=2099 sp=7 s1=11 s2=4 l1=2 l2=7 L3=0 PK_end=2137
(fs_start=2084)
                    CA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTCC
                    GGGCCGGAGGG   GAAG
                    CTTCAG
                    AAATTTTC
PK4B: -25.145000(kcal/mol): PK_start=2099 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2162
(fs_start=2084)
                    TCCCAGAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
                    GGGCCGGA   GGGG
                    CCCCAC
                    AAATTTCTTCAGAGCAGACCAGAGCCAACAG
=====
(3916) KC156122
=====
PK1:  -11.895000(kcal/mol): PK_start=2051 sp=0 s1=4 s2=6 l1=2 l2=5 L3=0 PK_end=2077
(fs_start=2071)
                    AC
GAAAGGAAGGACACCAAATGAAAGACTGT
                    GACG   GAAAGA
                    TTTTTTAG
                    GCTAA
PK2:  -18.110000(kcal/mol): PK_start=2057 sp=0 s1=6 s2=7 l1=2 l2=9 L3=0 PK_end=2093
(fs_start=2071)
                    GC
AAGGACACCAAATGAAAGACTGTACAGAAAG
                    TTTTTT   AATCGGA
                    TTGGCCTTC
                    AGGGAAAAT
PK3:  -23.745000(kcal/mol): PK_start=2079 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2113
(fs_start=2071)
                    AAA
TACAGAAAGGCAGGCTAATTTTTTAGGGA

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          CCCT   TCCGGTTT
                AGGCCAGGGA
ACAAGGGG

PK4:  -25.01000(kcal/mol): PK_start=2086 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2123
(fs_start=2071)
                CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
                GGACCGGAGG   GGAA
                                CCTTCA
                GAATTT

PK4B:  -26.865000(kcal/mol): PK_start=2086 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2149
(fs_start=2071)
                TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA   GGGG
                                CCCCAC
                GAATTTCCCTTCAGAACAGACCAGAGCCAACAG

=====
(3917) KC156123
=====

PK1:  -15.025000(kcal/mol): PK_start=2054 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2082
(fs_start=2074)
                A
GAAAGGAAGGACACCAGATGAAAGACTGT
                GACG   GAAAGTC
                                TTTTTAGGG
                GCTAAT

PK2:  -20.370000(kcal/mol): PK_start=2059 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2096
(fs_start=2074)
                C
GAAGGACACCAGATGAAAGACTGTACTGAAAGG
                GATTTTTT   AATCGGA
                                TTGGCCTTC
                GGAAAAT

PK3:  -23.745000(kcal/mol): PK_start=2082 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2116
(fs_start=2074)
                AAA
TACTGAAAGGCAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTTT
                                AGGCCAGGGA
                ACAAGGGG

PK4:  -25.010000(kcal/mol): PK_start=2089 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2126
(fs_start=2074)
                CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC

```

GGACCGGAGG GGAA
 CCTTCA
 GAATTT

PK4B: -26.865000(kcal/mol): PK_start=2089 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2152
 (fs_start=2074)

TCCCACAA
 AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG
 CCCCAC
 GAATTTCC TTCAGAACAGACCAGAGCCAACAG

=====
 (3918) KC156124
 =====

PK1: -15.025000(kcal/mol): PK_start=2054 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2082
 (fs_start=2074)

A
 GAAAGGAAGGACACCAGATGAAAGACTGT

GACG GAAAGTC
 TTTTTAGGG
 GCTAAT

PK2: -20.370000(kcal/mol): PK_start=2059 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2096
 (fs_start=2074)

C
 GAAGGACACCAGATGAAAGACTGTACTGAAAGG

GATTTTTT AATCGGA
 TTGGCCTTC
 GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=2082 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2116
 (fs_start=2074)

AAA
 TACTGAAAGGCAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT
 AGGCCAGGGA
 ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=2089 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2126
 (fs_start=2074)

CCAC
 AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC

GGACCGGAGG GGAA
 CCTTCA
 GAATTT

PK4B: -26.865000(kcal/mol): PK_start=2089 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2152
 (fs_start=2074)

TCCCACAA
 AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG
CCCCAC
GAATTCCTTCAGAACAGACCAGAGCCAACAG

=====
(3919) KC156125
=====

PK1: -12.405000(kcal/mol): PK_start=2045 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=2072
(fs_start=2065)

AA
GAAAGGAAGGACACCAAATGAAAGACTGT

GACG GAGAGT
TTTTTAGG
GCTAAT

PK2: -18.050000(kcal/mol): PK_start=2051 sp=0 s1=7 s2=7 l1=1 l2=8 L3=0 PK_end=2087
(fs_start=2065)

C
AAGGACACCAAATGAAAGACTGTAATGAGAGG

ATTTTTT AATCGGA
TTGGCCTTC
GGGAAAAT

PK3: -23.745000(kcal/mol): PK_start=2073 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2107
(fs_start=2065)

AAA
TAATGAGAGGCAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=2080 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2117
(fs_start=2065)

CCAC
AGGCAGGCTAATTTTTTAGGAAAATTTGGCCTTC

GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=2080 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2143
(fs_start=2065)

TCCCACAA
AGGCAGGCTAATTTTTTAGGAAAATTTGGCCT

GGACCGGA GGGG
CCCCAC
GAATTCCTTCAGAGCAGACCAGAGCCAACAG

=====
(3920) KC156126
=====

PK1: -14.985000(kcal/mol): PK_start=2053 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2081
(fs_start=2073)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -18.720000(kcal/mol): PK_start=2058 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2094
(fs_start=2073)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT A ATCGGA
TGCCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=2081 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2115
(fs_start=2073)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
GTCAGGGG

PK4: -25.925000(kcal/mol): PK_start=2088 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2125
(fs_start=2073)

TCCCGTC
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGGA
TCCTTCA
GAACT

PK4B: -27.515000(kcal/mol): PK_start=2088 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2151
(fs_start=2073)

TCCCGTCA
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CTCCAC
GAACTTCCTTCAGAACAGGCCAGAGCCAACAG

=====
(3921) KC156127
=====

PK1: -14.985000(kcal/mol): PK_start=2059 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2087
(fs_start=2079)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=2064 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2101 (fs_start=2079)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=2087 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2121 (fs_start=2079)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGAA
ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=2094 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2131 (fs_start=2079)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
AAATTT

PK4B: -26.865000(kcal/mol): PK_start=2094 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2157 (fs_start=2079)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTTCCTTCAGAGCAGACCAGAGCCAACAG

=====
(3922) KC156128
=====

PK1: -14.985000(kcal/mol): PK_start=2059 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2087 (fs_start=2079)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=2064 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2101 (fs_start=2079)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=2087 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2121
(fs_start=2079)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGAA
ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=2094 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2131
(fs_start=2079)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTC
GGACCGGAGG GGAA
CCTTCA
AAATTT

PK4B: -26.865000(kcal/mol): PK_start=2094 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2157
(fs_start=2079)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTTCCTTCAGAGCAGACCAGAGCCAACAG

=====
(3923) KC156129
=====

PK1: -15.585000(kcal/mol): PK_start=2053 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2081
(fs_start=2073)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2058 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2094
(fs_start=2073)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -23.815000(kcal/mol): PK_start=2082 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2115
(fs_start=2073)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTCT
AGGCCAGGGA
AACAAGGGG

PK4: -28.540000(kcal/mol): PK_start=2088 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2125
(fs_start=2073)

CAAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=2088 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2151
(fs_start=2073)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCCTCAGAACAGAGCAGAGCCAACAG

=====
(3924) KC156130
=====

PK1: -12.455000(kcal/mol): PK_start=2055 sp=0 s1=4 s2=6 l1=2 l2=5 L3=0 PK_end=2081
(fs_start=2075)

AC
GAAAAGAGGGACACCAAATGAAAGACTGT
GACA GAGAGA
TTTTTTAG
GCTAA

PK2: -18.660000(kcal/mol): PK_start=2062 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=2097
(fs_start=2075)

C
GGGACACCAAATGAAAGACTGTACAGAGAGA
TTTTTT AATCGGA
TTGGCCTTC
AGGGAAAAT

PK3: -23.745000(kcal/mol): PK_start=2083 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2117
(fs_start=2075)

AAA
TACAGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGAA
AGAAGGGG

PK4: -28.960000(kcal/mol): PK_start=2090 sp=7 s1=11 s2=4 l1=2 l2=7 L3=0 PK_end=2128
(fs_start=2075)

CA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTCC
GGACCGGAGGG GAAG
CTTCAG
AAACTTC

PK4B: -26.865000(kcal/mol): PK_start=2090 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2153
(fs_start=2075)

```

                                TCCCAGAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                                GGACCGGA    GGGG
                                CCCCAC
                                AACTTCCTTCAGAACAGACTAGAGCCAACAG
```

=====
(3925) KC156210
=====

PK1: -15.025000(kcal/mol): PK_start=2050 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2078
(fs_start=2070)

```

                                A
GAAAGGAAGGACACCAAATGAAAGACTGT
                                GACG    GAAAGTC
                                TTTTtaggg
                                GCTAAT
```

PK2: -20.370000(kcal/mol): PK_start=2055 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2092
(fs_start=2070)

```

                                C
GAAGGACACCAAATGAAAGACTGTACTGAAAGG
                                GATTTTTT    AATCGGA
                                TTGGCCTTC
                                GGAAAAT
```

PK3: -23.745000(kcal/mol): PK_start=2078 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2112
(fs_start=2070)

```

                                AAA
TACTGAAAGGCAGGCTAATTTTTTAGGGA
                                CCCT    TCCGGTTT
                                AGGCCAGGGA
                                ACAAGGGG
```

PK4: -23.985000(kcal/mol): PK_start=2085 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=2123
(fs_start=2070)

```

                                TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
                                GGACCGGA    GGGG
                                CTCCAG
                                GAATTTTC
```

PK4B: -26.865000(kcal/mol): PK_start=2085 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2148
(fs_start=2070)

```

                                TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
                                GGACCGGA    GGGG
                                CCCCAC
                                GAATTTCTCCAGAGCAGACCAGAGCCAACAG
```

=====
(3926) KC156211
=====

PK1: -15.025000(kcal/mol): PK_start=2053 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2081
(fs_start=2073)

A
GGCAAGAAGGACACCAAATGAAGGACTGT
GACG GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.370000(kcal/mol): PK_start=2058 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2095
(fs_start=2073)

C
GAAGGACACCAAATGAAGGACTGTACTGAAAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAACT

PK3: -26.955000(kcal/mol): PK_start=2081 sp=0 s1=4 s2=9 l1=2 l2=11 L3=0 PK_end=2119
(fs_start=2073)

AA
TACTGAAAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTTC
AGGCCAGGGAA
ACAAGGGGGGG

PK4: -29.380000(kcal/mol): PK_start=2087 sp=6 s1=12 s2=4 l1=5 l2=6 L3=0 PK_end=2129
(fs_start=2073)

CACAA
AAGGCAGGCTAATTTTTTAGGGAACTTTGGCCTTCC
GGGACCGGAGGG GGGG
CTTCAG
AATTTC

PK4B: -35.990000(kcal/mol): PK_start=2087 sp=6 s1=12 s2=4 l1=5 l2=31 L3=0
PK_end=2154 (fs_start=2073)

CACAA
AAGGCAGGCTAATTTTTTAGGGAACTTTGGCCTTCC
GGGACCGGAGGG GGGG
CCCCAC
AATTTCCTTCAGAGCAGACCAGAGCCAACAG

=====
(3927) KC156212
=====

PK1: -15.025000(kcal/mol): PK_start=2058 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2086
(fs_start=2078)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAAAGTC

```

                TTTT TAGGG
      GCTAAT
PK2:  -20.370000(kcal/mol): PK_start=2063 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2100
(fs_start=2078)
                C
GAAGGACACCAAATGAAAGACTGTACTGAAAGG
                GATTTTTT   AATCGGA
                TTGGCCTTC
      GGAAAAAT
PK3:  -22.025000(kcal/mol): PK_start=2086 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2120
(fs_start=2078)
                AAA
TACTGAAAGGCAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTTT
                AGGCCGGGAA
      ACAAGGGG
PK4:  -23.290000(kcal/mol): PK_start=2093 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2130
(fs_start=2078)
                CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
                GGGCCGGAGG   GGAA
                CCTTCA
      AAATTT
PK4B:  -25.145000(kcal/mol): PK_start=2093 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2156
(fs_start=2078)
                TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGGCCGGA   GGGG
                CCCCAC
      AAATTTCTTCAGAGCAGACCAGAGCCAACAG
=====
(3928) KC156213
=====
PK1:  -12.575000(kcal/mol): PK_start=2076 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=2103
(fs_start=2096)
                AA
GAAAAGAAGGACACCAAATGAAGGATTGC
                GACG   GAGAGT
                TTTT TAGG
      GCTAAT
PK2:  -18.050000(kcal/mol): PK_start=2082 sp=0 s1=7 s2=7 l1=1 l2=8 L3=0 PK_end=2118
(fs_start=2096)
                C
AAGGACACCAAATGAAGGATTGCAATGAGAGG
                ATTTTT   AATCGGA

```

```

                                TTGGCCTTC
          GGGAGAAT
PK3:  -18.840000(kcal/mol): PK_start=2104 sp=0 s1=5 s2=6 l1=2 l2=14 L3=0 PK_end=2141
(fs_start=2096)
                                AA
          CAATGAGAGGCAGGCTAATTTTTTAGGGAG
                                CCTTC   CGGTTT
                                GCCAGGGA
          CAGAAAGGGGGGAG
PK4:  -30.120000(kcal/mol): PK_start=2111 sp=7 s1=10 s2=4 l1=7 l2=32 L3=0 PK_end=2177
(fs_start=2096)
                                CCAGAAA
          AGGCAGGCTAATTTTTTAGGGAGAATTTGGCCTTC
                                GGACCGGAGG   GGGG
                                CCCCAC
          GAATTTCTCCAGAGCAGACCAGAGCCAACAG
=====
(3929) KC156214
=====
PK1:  -11.895000(kcal/mol): PK_start=2051 sp=0 s1=4 s2=6 l1=2 l2=5 L3=0 PK_end=2077
(fs_start=2071)
                                AC
          GAAAGGAAGGACACCAAATGAAAGACTGT
                                GACG   GAAAGA
                                TTTTTTAG
          GCTAA
PK2:  -18.110000(kcal/mol): PK_start=2057 sp=0 s1=6 s2=7 l1=2 l2=9 L3=0 PK_end=2093
(fs_start=2071)
                                GC
          AAGGACACCAAATGAAAGACTGTACAGAAAG
                                TTTTTT   AATCGGA
                                TTGGCCTTC
          AGGGAAAAT
PK3:  -23.745000(kcal/mol): PK_start=2079 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2113
(fs_start=2071)
                                AAA
          TACAGAAAGGCAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTTT
                                AGGCCAGGGA
          ACAAGGGG
PK4:  -25.010000(kcal/mol): PK_start=2086 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2123
(fs_start=2071)
                                CCAC
          AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
                                GGACCGGAGG   GGAA

```


CCTTCA

GAATTT

PK4B: -26.865000(kcal/mol): PK_start=2086 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2149
(fs_start=2071)

TCCCACAA

AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG

CCCCAC

GAATTTCCCTCAGAACAGGCCAGAGCCAACAG

=====
(3930) KC156215
=====

PK1: -15.625000(kcal/mol): PK_start=2055 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2083
(fs_start=2075)

A

GAAGGGAAGGACACCAAATGAAAGACTGT

GACA GAAAGTC

TTTTTAGGG

GCTAAT

PK2: -21.980000(kcal/mol): PK_start=2060 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2097
(fs_start=2075)

C

GAAGGACACCAAATGAAAGACTGTACTGAAAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -22.025000(kcal/mol): PK_start=2083 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2117
(fs_start=2075)

AAA

TACTGAAAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT

AGGCCGGGGA

ACAAGGGG

PK4: -23.290000(kcal/mol): PK_start=2090 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2127
(fs_start=2075)

CCAC

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC

GGCCCGGAGG GGAA

CCTTCA

GAATTT

PK4B: -25.145000(kcal/mol): PK_start=2090 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2153
(fs_start=2075)

TCCCACAA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGCCCGGA GGGG

CCCCAC
GAATTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(3931) KC156216
=====

PK1: -14.985000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2092
(fs_start=2084)

A
GAAGGGAAGGACACCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2106
(fs_start=2084)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -26.210000(kcal/mol): PK_start=2092 sp=0 s1=3 s2=10 l1=5 l2=3 L3=0 PK_end=2125
(fs_start=2084)

AAAAAT
TACTGAGAGGCAGGCTAATTTTTTAGGG
CTC CCTTCCGGTT
GGGAGGCCAGGG
AAG

PK4: -25.010000(kcal/mol): PK_start=2099 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2136
(fs_start=2084)

CCTC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=2099 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2162
(fs_start=2084)

TCCCTCAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCTTCAGAGCAGGCCAGAGCCAACAG

=====
(3932) KC156217
=====

PK1: -14.985000(kcal/mol): PK_start=2051 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2079
(fs_start=2071)

A
GAAGGGAAGGACACCAAATGAAAGACTGT

```

          GACG      GAGAGTC
                TTTT TAGGG
    GCTAAT
PK2:  -20.330000(kcal/mol): PK_start=2056 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2093
(fs_start=2071)
                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGG
                GATTTTTT      AATCGGA
                                TTGGCCTTC
                GGAAAAT

PK3:  -26.210000(kcal/mol): PK_start=2079 sp=0 s1=3 s2=10 l1=5 l2=3 L3=0 PK_end=2112
(fs_start=2071)
                AAAAT
TACTGAGAGGCAGGCTAATTTTTTAGGG
                CTC      CCTTCCGGTT
                                GGGAGGCCAGGG
                AAG

PK4:  -25.010000(kcal/mol): PK_start=2086 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2123
(fs_start=2071)
                CCTC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
                GGACCGGAGG      GGAA
                                CCTTCA
                GAATTT

PK4B:  -26.865000(kcal/mol): PK_start=2086 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2149
(fs_start=2071)
                TCCCTCAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGACCGGA      GGGG
                                CCCAC
                GAATTTCTTCAGAGCAGGCCAGAACCAACAG

=====
(3933) KC156218
=====
PK1:  -13.595000(kcal/mol): PK_start=2071 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2099
(fs_start=2091)
                A
GACAGGAAGGACACCAAATGAAAGATTGT
                GACA      GAAAGTC
                                TTTT TAGGG
                GCTAAT

PK2:  -21.980000(kcal/mol): PK_start=2076 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2113
(fs_start=2091)
                C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA

```

```

          GATTTTTT   AATCGGA
                    TTGGCCTTC
      GGAAAAT

PK3:  -23.745000(kcal/mol): PK_start=2099 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2133
(fs_start=2091)
                    AAA
TACTGAAAGACAGGCTAATTTTTTTAGGGA

          CCCT   TCCGGTTT
                    AGGCCAGGGA
      ACAAGGGG

PK4:  -25.010000(kcal/mol): PK_start=2106 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2143
(fs_start=2091)
                    CCAC
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTTC

          GGACCGGAGG   GGAA
                    CCTTCA
      GAATTT

=====
(3934) KC156219
=====
PK1:  -15.025000(kcal/mol): PK_start=2053 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2081
(fs_start=2073)
                    A
GAAGGGAAGGACACCAAATGAAAGACTGT

          GACG   GAAAGTC
                    TTTTTAGGG
      GCCAAT

PK2:  -22.630000(kcal/mol): PK_start=2058 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2095
(fs_start=2073)
                    C
GAAGGACACCAAATGAAAGACTGTACTGAAAGG

          GATTTTTT   AACCGGA
                    TTGGCCTTC
      GGAAAAT

PK3:  -23.745000(kcal/mol): PK_start=2081 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2115
(fs_start=2073)
                    AAA
TACTGAAAGGCAGGCCAATTTTTTTAGGGA

          CCCT   TCCGGTTT
                    AGGCCAGGAA
      ACAAGGGG

PK4:  -25.075000(kcal/mol): PK_start=2088 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2125
(fs_start=2073)
                    TCCCACA
AGGCAGGCCAATTTTTTTAGGGAAAATTTGGCCT

```

GGACCGGA GGGGA
TCCCTCA
AAATT

PK4B: -26.865000(kcal/mol): PK_start=2088 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2151
(fs_start=2073)

TCCCACAA
AGGCAGGCCAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG
CCCCAC
AAATTTCCCTCAGCGCAGACTAGAACCAACAG

=====
(3935) KC156220
=====

PK1: -13.595000(kcal/mol): PK_start=2050 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2078
(fs_start=2070)

A
GGAAAGAAGGACATCAGATGAAAGATTGT

GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -21.980000(kcal/mol): PK_start=2055 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2092
(fs_start=2070)

C
GAAGGACATCAGATGAAAGATTGTACTGAAAGA

GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -22.025000(kcal/mol): PK_start=2078 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2112
(fs_start=2070)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT
AGGCCGGGAA
ACAAGGGG

PK4: -23.290000(kcal/mol): PK_start=2085 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2122
(fs_start=2070)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC

GGGCCGGAGG GGAA
CCTTCA
AAATTT

PK4B: -25.145000(kcal/mol): PK_start=2085 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2148
(fs_start=2070)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGGCCGGA GGGG
CCCCAC
AAATTTCC TTCAGAACAGAACAGAGCCAACAG

=====
(3936) KC156221
=====

PK1: -15.585000(kcal/mol): PK_start=2045 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2073
(fs_start=2065)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -21.940000(kcal/mol): PK_start=2050 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2087
(fs_start=2065)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=2073 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2107
(fs_start=2065)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=2080 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2117
(fs_start=2065)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=2080 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2143
(fs_start=2065)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCC TTCAGAGCAGGCCAGAACCAACAG

=====
(3937) KC183774
=====

PK1: -15.10000(kcal/mol): PK_start=1413 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1441 (fs_start=1433)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTTAGGG
GCTAA

PK2: -21.94000(kcal/mol): PK_start=1418 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1455 (fs_start=1433)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -18.56500(kcal/mol): PK_start=1442 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1475 (fs_start=1433)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCGGGA
AACAAGGGA

PK4: -21.19500(kcal/mol): PK_start=1448 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1485 (fs_start=1433)

TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA AGGGA
TTCCTCA
GAATT

=====
(3938) KC183777
=====

PK1: -15.14000(kcal/mol): PK_start=1411 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1439 (fs_start=1431)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTTAGGG
GCTAA

PK2: -21.98000(kcal/mol): PK_start=1416 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1453 (fs_start=1431)

C
GAAGGACATCAAATGAAAGACTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAGGCT

PK3: -17.120000(kcal/mol): PK_start=1439 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1473
(fs_start=1431)

GC
CACTGAAAGACAGGCTAATTTTTTAGGGAG
CCTTC CGGTTT
GCCGGGAA
AGCAAGGGAAG

PK4: -21.195000(kcal/mol): PK_start=1446 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1483
(fs_start=1431)

TCCAGCA
AGACAGGCTAATTTTTTAGGGAGGCTTTGGCCT
GGGCCGGA AGGGA
TTCCTCA
AAATT

=====
(3939) KC183778
=====

PK1: -15.025000(kcal/mol): PK_start=1414 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1442
(fs_start=1434)

A
GAAAAGAAGGACACCAGATGAAAGACTGT
GACG GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.370000(kcal/mol): PK_start=1419 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1456
(fs_start=1434)

C
GAAGGACACCAGATGAAAGACTGTACTGAAAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -22.025000(kcal/mol): PK_start=1442 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1476
(fs_start=1434)

AAA
TACTGAAAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCGGGGA
ACAAGGGG

PK4: -22.265000(kcal/mol): PK_start=1449 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1487
(fs_start=1434)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA GGGG
CTCCAG
GAATTTT

PK4B: -25.145000(kcal/mol): PK_start=1449 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1512
(fs_start=1434)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA GGGG
CCCCAC
GAATTTCCCTCCAGAGCAGACCAGGCCAACAG

=====
(3940) KC183779
=====

PK1: -15.140000(kcal/mol): PK_start=1413 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1441
(fs_start=1433)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTTAGGG
GCTAA

PK2: -21.980000(kcal/mol): PK_start=1418 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1455
(fs_start=1433)

C
GAAGGACATCAAATGAAAGACTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -17.520000(kcal/mol): PK_start=1442 sp=0 s1=4 s2=4 l1=5 l2=10 L3=0 PK_end=1472
(fs_start=1433)

AATTT
ACTGAAAGACAGGCTAATTTTTTAGGGAA
CCTT CCGG
GGCCRG
AACAAGGGAA

PK4: -18.545000(kcal/mol): PK_start=1451 sp=10 s1=5 s2=4 l1=8 l2=8 L3=0 PK_end=1484
(fs_start=1433)

TCCAACAA
CAGGCTAATTTTTTAGGGAAAATTTGGCCT
CCGGA AGGG
TTCCMC
RGGGAATT

=====
(3941) KC183780
=====

PK1: -15.100000(kcal/mol): PK_start=1406 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1434
(fs_start=1426)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC

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                TTTTTTAGGG
          GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1411 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1448
(fs_start=1426)
                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT   AATCGGA
                TTGGCCTTC
          GGAAAAT

PK3:  -17.520000(kcal/mol): PK_start=1435 sp=0 s1=4 s2=4 l1=5 l2=10 L3=0 PK_end=1465
(fs_start=1426)
                AATTT
ACTGAGAGACAGGCTAATTTTTTAGGGAA
                CCTT   CCGG
                GGCCRG
          AACAAGGGAA

PK4:  -20.725000(kcal/mol): PK_start=1444 sp=10 s1=5 s2=5 l1=7 l2=8 L3=0 PK_end=1478
(fs_start=1426)
                TCCAACA
CAGGCTAATTTTTTAGGGAAAATTTGGCCT
                CCGGA   AGGGA
                TTCCTCA
          RGGRAATT

=====
(3942) KC183781
=====
PK1:  -15.100000(kcal/mol): PK_start=1400 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1428
(fs_start=1420)
                CA
GGAAGGAAGGACATCAAATGAAAGACTG
                GAC   AGAGAGTC
                TTTTTTAGGG
          GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1405 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1442
(fs_start=1420)
                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT   AATCGGA
                TTGGCCTTC
          GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1429 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1462
(fs_start=1420)
                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                CCT   TCCGGTTT

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                AGGCCAGGAA
            AACAAGGGG

PK4:  -22.215000(kcal/mol): PK_start=1435 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1472
(fs_start=1420)
                CCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
                GGACCGGAG    GGGA
                TCCTCA
            AAACTT

PK4B:  -26.865000(kcal/mol): PK_start=1435 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1498
(fs_start=1420)
                TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
                GGACCGGA    GGGG
                CCCCCG
            AAACCTTCCTCAGAGCAGACCAGAGCCATCAG

=====
(3943) KC183782
=====
PK1:  -15.100000(kcal/mol): PK_start=1404 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1432
(fs_start=1424)
                CA
GGAAGGAAGGACATCAAATGAAAGACTG
                GAC    AGAGAGTC
                TTTTTTAGGG
            GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1409 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1446
(fs_start=1424)
                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT    AATCGGA
                TTGGCCTTC
            GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1433 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1466
(fs_start=1424)
                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                CCT    TCCGGTTT
                AGGCCAGGGA
            AACAARGGA

PK4:  -20.910000(kcal/mol): PK_start=1439 sp=7 s1=7 s2=4 l1=10 l2=5 L3=0 PK_end=1475
(fs_start=1424)
                TTCCAACAAR
AGACAGGCTAATTTTTTAGGGAAAATTTGGCC
                GGACCGG    AAGG

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                                TTCCTC
                                GAATT
=====
(3944) KC183783
=====
PK1:  -15.100000(kcal/mol): PK_start=1408 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1436
(fs_start=1428)
                                CA
GGAAGGAAGGACATCAAATGAAAGACTG
                                GAC   AGAGAGTC
                                TTTTTTAGGG
                                GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1413 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1450
(fs_start=1428)
                                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                                GATTTTTT   AATCGGA
                                TTGGCCTTC
                                GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1437 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1470
(fs_start=1428)
                                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCT   TCCGGTTT
                                AGGCCAGGGA
                                AACAAGGGA

PK4:  -22.915000(kcal/mol): PK_start=1443 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1480
(fs_start=1428)
                                TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                                GGACCGGA   AGGGA
                                GAATT   TTCCTCA

=====
(3945) KC462190
=====
PK1:  -10.440000(kcal/mol): PK_start=1246 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1284
(fs_start=1277)
                                A
TTGGAAATGTGGRAAGGAAGGACATCAA
                                GTT   AGAAAGT
                                TTTTTTAGG
                                CACTGAGAGACAGGCTAA

PK2:  -21.940000(kcal/mol): PK_start=1262 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1299
(fs_start=1277)
                                C
GAAGGACATCAAATGAAAGATTGCACTGAGAGA

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          GATTTTTT   AATCGGA
                    TTGGCCTTC
      GGAAAAT
PK3:  -20.285000(kcal/mol): PK_start=1286 sp=0 s1=3 s2=8 l1=3 l2=6 L3=0 PK_end=1316
(fs_start=1277)
          AAA
ACTGAGAGACAGGCTAATTTTTTTAGGGA
          CCT   TCCGGTTT
                    AGGCCAGGAA
          AAAGGA
PK4:  -20.510000(kcal/mol): PK_start=1292 sp=7 s1=7 s2=4 l1=7 l2=5 L3=0 PK_end=1325
(fs_start=1277)
                    TTCCAAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCC
          GGACCGG   AAGG
                    TTCCCC
          AAATT

=====
(3946) KC462191
=====
PK1:  -10.440000(kcal/mol): PK_start=1246 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1284
(fs_start=1277)
          A
TTGGAAATGTGGGAAGGAAGGACATCAA
          GTT   AGAAAGT
                    TTTTTTAGG
          CACTGAGAGACAGGCTAA
PK2:  -21.940000(kcal/mol): PK_start=1262 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1299
(fs_start=1277)
          C
GAAGGACATCAAATGAAAGATTGCACTGAGAGA
          GATTTTTT   AATCGGA
                    TTGGCCTTC
          GGAAAAT
PK3:  -20.285000(kcal/mol): PK_start=1286 sp=0 s1=3 s2=8 l1=3 l2=6 L3=0 PK_end=1316
(fs_start=1277)
          AAA
ACTGAGAGACAGGCTAATTTTTTTAGGGA
          CCT   TCCGGTTT
                    AGGCCAGGAA
          AAAGGA
PK4:  -20.510000(kcal/mol): PK_start=1292 sp=7 s1=7 s2=4 l1=7 l2=5 L3=0 PK_end=1325
(fs_start=1277)
                    TTCCAAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCC

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                GGACCGG    AAGG
                    TTCCCC
AAATT
=====
(3947) KC473824
=====
PK1:  -13.595000(kcal/mol): PK_start=1424 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1452
(fs_start=1444)
                    A
GAAAGGAAGGACACCAAATGAAAGATTGT
                GACA    GAAAGTC
                    TTTTTAGGG
GCTAAT

PK2:  -20.500000(kcal/mol): PK_start=1429 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1465
(fs_start=1444)
                    C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
                GATTTTTT  A  ATCGGA
                    TGGCCTTC
GGAAAATC

PK3:  -27.275000(kcal/mol): PK_start=1452 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1486
(fs_start=1444)
                    AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
                CCCT    TCCGGTCT
                    AGGCCAGGGA
ACAAGGGG

PK4:  -28.540000(kcal/mol): PK_start=1459 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1496
(fs_start=1444)
                    CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                GGACCGGAGG    GGAA
                    CCTTCA
GAATTT

PK4B:  -30.395000(kcal/mol): PK_start=1459 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1522
(fs_start=1444)
                    TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                GGACCGGA    GGGG
                    CCCCAC
GAATTTCCCTTCAGAGCAGACCAGACCAACAG
=====
(3948) KC473825
=====

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PK1: -13.595000(kcal/mol): PK_start=1429 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1457
(fs_start=1449)

A
GTCAGGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1434 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1470
(fs_start=1449)

C
GAAGGACACCAAATGAAAGATTGTACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1457 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1491
(fs_start=1449)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -29.020000(kcal/mol): PK_start=1464 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1501
(fs_start=1449)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAACTT

=====
(3949) KC473826
=====

PK1: -13.555000(kcal/mol): PK_start=1418 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1446
(fs_start=1438)

A
GAAGGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -17.820000(kcal/mol): PK_start=1423 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1459
(fs_start=1438)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGTCTTC
GGAAAATC

PK3: -24.635000(kcal/mol): PK_start=1446 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1480
(fs_start=1438)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCTGGTCT
AGGCCAGGAA
ACAAGGGG

PK4: -23.595000(kcal/mol): PK_start=1453 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1490
(fs_start=1438)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGTCTTC
GGACCGGAGG GGAA
TCTTCA
AAATTT

PK4B: -27.755000(kcal/mol): PK_start=1453 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1516
(fs_start=1438)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGTCT
GGACCGGA GGGG
CCCCAC
AAATTTTCTTCAGAACAGACCAGGCCATCAG

=====
(3950) KC473828
=====

PK1: -13.300000(kcal/mol): PK_start=1434 sp=0 s1=3 s2=9 l1=1 l2=5 L3=0 PK_end=1463
(fs_start=1454)

C
GAAAGGAAGGACACCAAATGAAAGATTG
GAC AGAGAGTCT
TTTTTTAGGGA
GCTAA

PK2: -23.800000(kcal/mol): PK_start=1437 sp=0 s1=10 s2=6 l1=1 l2=6 L3=1 PK_end=1475
(fs_start=1454)

C
AGGAAGGACACCAAATGAAAGATTGCTCTGAGAGA
GGGATTTTTT A ATCGGA
TGGCCTTC
AAAGTC

PK3: -27.275000(kcal/mol): PK_start=1462 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1496
(fs_start=1454)

AAG
CTCTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=1469 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1506
(fs_start=1454)

```

                                CCAC
AGACAGGCTAATTTTTTAGGGAAAGTCTGGCCTC
                                GGACCGGAGG   GGAA
                                TCTTCA
                                GAATTT
```

PK4B: -30.395000(kcal/mol): PK_start=1469 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=1532
(fs_start=1454)

```

                                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAGTCTGGCCT
                                GGACCGGA   GGGG
                                CCCCAC
                                GAATTTTCTTCAGAGCAGACCAGAACCAACAG
```

=====
(3951) KC473829
=====

PK1: -13.555000(kcal/mol): PK_start=1412 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1440
(fs_start=1432)

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                                A
GACAAGAAGGACACCAAATGAAAGATTGT
                                GACA   GAGAGTC
                                TTTTtaggg
                                GCTAAT
```

PK2: -21.940000(kcal/mol): PK_start=1417 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1454
(fs_start=1432)

```

                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                                GATTTTTT   AATCGGA
                                TTGGCCTTC
                                GGAAAGT
```

PK3: -22.025000(kcal/mol): PK_start=1440 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=1474
(fs_start=1432)

```

                                AAG
TACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTTT
                                AGGCCGGGGA
                                ACAAGGGA
```

PK4: -23.770000(kcal/mol): PK_start=1447 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1484
(fs_start=1432)

```

                                CCAC
AGACAGGCTAATTTTTTAGGGAAAGTTTGGCCTC
                                GGGCCGGAAG   GGAA
                                CCTTCA
                                GAATTT
```

=====
(3952) KC473830
=====

PK1: -13.555000(kcal/mol): PK_start=1531 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1559
(fs_start=1551)

A
GAAGGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1536 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1572
(fs_start=1551)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -26.605000(kcal/mol): PK_start=1559 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1593
(fs_start=1551)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCGGGGA
ACAAGGGA

PK4: -28.350000(kcal/mol): PK_start=1566 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1603
(fs_start=1551)

CCAC
AGACAGGCTAATTTTTTAGGAAAATCTGGCCTTC
GGCCGGAAG GGAA
CCTTCA
GAATTT

=====
(3953) KC473831
=====

PK1: -10.640000(kcal/mol): PK_start=1420 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1458
(fs_start=1451)

A
TTGGAAATGTGGAAAGGAAGGACACCAA
GTT AGAAAGT
TTTTTTAGG
CACTGAGAGACAGGCTAA

PK2: -20.460000(kcal/mol): PK_start=1436 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1472
(fs_start=1451)

C
GAAGGACACCAAATGAAAGATTGCACTGAGAGA
GATTTTTT A ATCGGA

TGGCCTTC

GGAAAATC

PK3: -23.815000(kcal/mol): PK_start=1460 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1493
(fs_start=1451)

AAA

ACTGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTCT

AGGCCAGGAA

AACAAAGGGG

PK4: -26.235000(kcal/mol): PK_start=1466 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1503
(fs_start=1451)

CAAC

AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAGG GGAA

TCTTCA

AAACTT

PK4B: -30.395000(kcal/mol): PK_start=1466 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1529
(fs_start=1451)

TCCAACAA

AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT

GGACCGGA GGGG

CCCCAC

AAACTTTCTTCAGTGCAGACCAGAGCCAACAG

=====
(3954) KC473832
=====

PK1: -10.975000(kcal/mol): PK_start=1418 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=1445
(fs_start=1438)

GA

GAAAGGAAGGACATCAAATGAAAGATTGT

GACA GAGAGT

TTTTTAGG

GCTAAT

PK2: -18.180000(kcal/mol): PK_start=1424 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1459
(fs_start=1438)

C

AAGGACATCAAATGAAAGATTGTGATGAGAGA

ATTTTTT A ATCGGA

TGGCCTTC

GGGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1446 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1480
(fs_start=1438)

A

TGATGAGAGACAGGCTAATTTTTTAGGGAAG

CCCTTC CGGTCT

GCCAGGGA

ACAAGGGAAG

PK4: -29.020000(kcal/mol): PK_start=1453 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1490
(fs_start=1438)

CCAC

AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCTTC

GGACCGGAAG GGAA

CCTTCA

GAACTT

=====
(3955) KC473833
=====

PK1: -13.595000(kcal/mol): PK_start=1418 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1446
(fs_start=1438)

A

GAAAGGAAGGACATCAAATGAAAGATTGT

GACA GAAAGTC

TTTTTAGGG

GCTAAT

PK2: -20.500000(kcal/mol): PK_start=1423 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1459
(fs_start=1438)

C

GAAGGACATCAAATGAAAGATTGTACTGAAAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1446 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1480
(fs_start=1438)

A

TACTGAAAGACAGGCTAATTTTTTTAGGGAAG

CCCTTC CGGTCT

GCCAGGGA

ACAAGGGGAG

PK4: -27.515000(kcal/mol): PK_start=1453 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1491
(fs_start=1438)

TCCCACAA

AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCT

GGACCGGA GGGG

CTCCAG

GAATTC

PK4B: -30.395000(kcal/mol): PK_start=1453 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1516
(fs_start=1438)

TCCCACAA

AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCT

GGACCGGA GGGG

CCCCAC
GAATTTCTCCAGAGCAGACCAGAGCCGACAG

=====
(3956) KC473834
=====

PK1: -13.555000(kcal/mol): PK_start=1430 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1458
(fs_start=1450)

A
GACAGGAAGGACACCAAATGAAGGATTGT

GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1435 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1471
(fs_start=1450)

C
GAAGGACACCAAATGAAGGATTGTACTGAGAGA

GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -23.815000(kcal/mol): PK_start=1459 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1492
(fs_start=1450)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTCT
AGGCCAGGGA
AGCAAGGGA

PK4: -24.995000(kcal/mol): PK_start=1465 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1502
(fs_start=1450)

TCCAGCAA
AGACAGGCTAATTTTTTAGGAAAATCTGGCCT

GGACCGGA AGGG
TCTCCA
GAATTT

=====
(3957) KC473835
=====

PK1: -13.555000(kcal/mol): PK_start=1427 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1455
(fs_start=1447)

A
GAAGGGAAGGACACCAAATGAAAGATTGT

GACA GAGAGTC
TTTTTAGGG
GCCAAT

PK2: -22.720000(kcal/mol): PK_start=1432 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1468
(fs_start=1447)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA

```

          GATTTTTT A ACCGGA
                                TGGCCTTC
      GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1455 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1489
(fs_start=1447)
          AAA
TACTGAGAGACAGGCCAATTTTTTAGGGA
          CCCT   TCCGGTCT
                                AGGCCAGGAA
          ACAAGGGG
PK4:  -30.530000(kcal/mol): PK_start=1462 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=1500
(fs_start=1447)
                                TTTCCACAA
AGACAGGCCAATTTTTTAGGGAAAATCTGGCC
          GGACCGG   AGGGG
                                TCCCCAA
          AAACCT
PK4B:  -25.710000(kcal/mol): PK_start=1463 sp=8 s1=6 s2=4 l1=9 l2=33 L3=1 PK_end=1524
(fs_start=1447)
                                TTCCACAA
GACAGGCCAATTTTTTAGGGAAAATCTGGCC
          GACCGG A GGGG
                                CCCCAC
          GAAACTTTCCCAAGGCAGACTAGAGCCAACAG
=====
(3958) KC473836
=====
PK1:  -13.555000(kcal/mol): PK_start=1427 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1455
(fs_start=1447)
          A
GAAGGGAAGGACACCAAATGAAAGATTGT
          GACA   GAGAGTC
                                TTTTTAGGG
          GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1432 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1468
(fs_start=1447)
          C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
          GATTTTTT A ATCGGA
                                TGGCCTTC
          GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1455 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1489
(fs_start=1447)
          AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA

```

```

          CCCT   TCCGGTCT
                AGGCCAGGGA
          ACAAGGGA

PK4:  -27.045000(kcal/mol): PK_start=1462 sp=7 s1=8 s2=5 l1=7 l2=4 L3=0 PK_end=1498
(fs_start=1447)
                TCCCACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                GGACCGGA   AGGGA
                TTCCTGC
          GAAT

=====
(3959) KC473837
=====
PK1:  -11.050000(kcal/mol): PK_start=1435 sp=0 s1=3 s2=5 l1=2 l2=8 L3=0 PK_end=1460
(fs_start=1454)
                AC
AAGGGAGGGACATCAAATGAAAGACTGC
                ACG   AAAGA
                TTTTTAG
          AGGCTAAT

PK2:  -19.040000(kcal/mol): PK_start=1440 sp=0 s1=6 s2=8 l1=1 l2=9 L3=0 PK_end=1477
(fs_start=1454)
                C
AGGGACATCAAATGAAAGACTGCACAGAAAG
                TTTTTT   AATCGGAA
                TTGGCCTTCC
          AGGGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1463 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1496
(fs_start=1454)
                AAA
ACAGAAAGCAAGGCTAATTTTTTAGGGA
                CCT   TCCGGTTT
                AGGCCAGGGA
          AACAAGGGG

PK4:  -18.485000(kcal/mol): PK_start=1469 sp=7 s1=9 s2=4 l1=6 l2=5 L3=0 PK_end=1505
(fs_start=1454)
                CCAACA
AGCAAGGCTAATTTTTTAGGGAAAATTTGGCCTT
                GGACCGGAG   GGGA
                TTCTCC
          GAATT

PK4B:  -26.865000(kcal/mol): PK_start=1469 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1532
(fs_start=1454)
                TCCAACAA
AGCAAGGCTAATTTTTTAGGGAAAATTTGGCCT

```

GGACCGGA GGGG
CCCCAC
GAATTTTCTCCAGAACAGGCCAGAGCCAACAG

=====
(3960) KC473838
=====

PK1: -11.420000(kcal/mol): PK_start=1444 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=1470
(fs_start=1464)

CTCA
GAAAGGAGGGACATCAAATGAAAGACTG

GAC AGAGAG
TTTTTTAG
GCTAA

PK2: -18.660000(kcal/mol): PK_start=1451 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1486
(fs_start=1464)

C
GGGACATCAAATGAAAGACTGCTCAGAGAGA

TTTTTT AATCGGA
TTGGCCTTC
AGGGAAACT

PK3: -25.235000(kcal/mol): PK_start=1472 sp=0 s1=4 s2=9 l1=2 l2=8 L3=0 PK_end=1507
(fs_start=1464)

AA
CTCAGAGAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTTTC
AGGCCGGGGAA
ACAAGGGA

PK4: -23.805000(kcal/mol): PK_start=1478 sp=6 s1=9 s2=5 l1=7 l2=4 L3=0 PK_end=1516
(fs_start=1464)

TCCCACA
GAGACAGGCTAATTTTTTAGGGAACTTTGGCCT
GGGCGCGGA AGGGA
TTCCTCA
AACT

=====
(3961) KC473839
=====

PK1: -15.140000(kcal/mol): PK_start=1416 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1444
(fs_start=1436)

CA
GAAAAGAAGGACACCAAATGAAAGACTG

GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -19.50000(kcal/mol): PK_start=1421 sp=0 s1=8 s2=5 l1=1 l2=9 L3=2 PK_end=1456 (fs_start=1436)

C
GAAGGACACCAAATGAAAGACTGCACTGAAAGA
GATTTTTT AA TCGGA
GGCCTTC
GGAAAATTG

PK3: -19.22000(kcal/mol): PK_start=1445 sp=0 s1=4 s2=4 l1=5 l2=10 L3=0 PK_end=1475 (fs_start=1436)

AATTG
ACTGAAAGACAGGCTAATTTTTTAGGGAA
CCTT CCGG
GGCCAG
AGCAAGGGGA

PK4: -18.62500(kcal/mol): PK_start=1454 sp=10 s1=5 s2=4 l1=8 l2=9 L3=0 PK_end=1488 (fs_start=1436)

TCCAGCAA
CAGGCTAATTTTTTAGGGAAAATTGGGCCT
CCGGA GGGG
TCTCCA
AGGGAATTT

PK4B: -24.67500(kcal/mol): PK_start=1454 sp=10 s1=5 s2=4 l1=8 l2=35 L3=0 PK_end=1514 (fs_start=1436)

TCCAGCAA
CAGGCTAATTTTTTAGGGAAAATTGGGCCT
CCGGA GGGG
CCCCGC
AGGGAATTTCTCCAGAACAGGCCAGCCAACAG

=====
(3962) KC473840
=====

PK1: -15.14000(kcal/mol): PK_start=1437 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1465 (fs_start=1457)

CA
GAAAAGAAGGACACCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -21.98000(kcal/mol): PK_start=1442 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1479 (fs_start=1457)

C
GAAGGACACCAAATGAAAGACTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1466 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1499
(fs_start=1457)

AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AACAAGGGG

PK4: -18.485000(kcal/mol): PK_start=1472 sp=7 s1=9 s2=4 l1=6 l2=5 L3=0 PK_end=1508
(fs_start=1457)

CCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGAG GGGA
TTCTCC
GAACT

PK4B: -26.865000(kcal/mol): PK_start=1472 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1535
(fs_start=1457)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCGC
GAACTTTCTCCAGAACAGGCCAGAGCCAACAG

=====
(3963) KC473841
=====

PK1: -15.585000(kcal/mol): PK_start=1434 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1462
(fs_start=1454)

A
GAAGGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1439 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1475
(fs_start=1454)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1462 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1496
(fs_start=1454)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -24.345000(kcal/mol): PK_start=1469 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1506
(fs_start=1454)

```

                                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                                GGACCGGA   GGGG
                                TCTCCA
                                GAATTT
```

PK4B: -30.395000(kcal/mol): PK_start=1469 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1532
(fs_start=1454)

```

                                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                                GGACCGGA   GGGG
                                CCCCAC
                                GAATTTTCTCCAGAGCAGACCAGAGCCAACAG
```

=====
(3964) KC473842
=====

PK1: -12.495000(kcal/mol): PK_start=1426 sp=0 s1=4 s2=6 l1=2 l2=5 L3=0 PK_end=1452
(fs_start=1446)

```

                                AC
GAAGGGAAGGACACCAAATGAAAGACTGT
                                GACA   GAAAGA
                                TTTTTTAG
                                GCTAA
```

PK2: -17.220000(kcal/mol): PK_start=1433 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=1467
(fs_start=1446)

```

                                C
AGGACACCAAATGAAAGACTGTACAGAAAAGA
                                TTTTTT   A   ATCGGA
                                TGGCCTTC
                                AGGGAAAATC
```

PK3: -27.275000(kcal/mol): PK_start=1454 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1488
(fs_start=1446)

```

                                AAA
TACAGAAAGACAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTCT
                                AGGCCAGGAA
                                ACAAGGGG
```

PK4: -26.235000(kcal/mol): PK_start=1461 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1498
(fs_start=1446)

```

                                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAGG   GGAA
                                TCTTCA
                                AAATTT
```

PK4B: -30.395000(kcal/mol): PK_start=1461 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1524
(fs_start=1446)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTTCTTCAGAGCAGACCAGGCCAACAG

=====
(3965) KC473843
=====

PK1: -13.555000(kcal/mol): PK_start=1429 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1457
(fs_start=1449)

A
GAAGGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1434 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1470
(fs_start=1449)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.440000(kcal/mol): PK_start=1457 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1491
(fs_start=1449)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCGGGA
ACAAGGGAAG

PK4: -28.350000(kcal/mol): PK_start=1464 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1501
(fs_start=1449)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGGCCGGAAG GGAA
CCTTCA
GAATTT

=====
(3966) KC473845
=====

PK1: -11.420000(kcal/mol): PK_start=1434 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=1460
(fs_start=1454)

CACA
GAAGGGAGGGACATCAAATGAAAGACTG
GAC AGAGAG

TTTTTTAG
 GCTAA
 PK2: -17.180000(kcal/mol): PK_start=1441 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=1475
 (fs_start=1454)
 C
 GGGACATCAAATGAAAGACTGCACAGAGAGA
 TTTTTT A ATCGGA
 TGGCCTTC
 AGGGAAAATC
 PK3: -27.275000(kcal/mol): PK_start=1462 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1496
 (fs_start=1454)
 AAA
 CACAGAGAGACAGGCTAATTTTTTAGGGA
 CCCT TCCGGTCT
 AGGCCAGGGA
 ACAAGGGG
 PK4: -30.530000(kcal/mol): PK_start=1469 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=1507
 (fs_start=1454)
 TTTCCACAA
 AGACAGGCTAATTTTTTAGGGAAAATCTGGCC
 GGACCGG AGGGG
 TCCCCAG
 GAACTT
 PK4B: -25.710000(kcal/mol): PK_start=1470 sp=8 s1=6 s2=4 l1=9 l2=33 L3=1 PK_end=1531
 (fs_start=1454)
 TTTCCACAA
 GACAGGCTAATTTTTTAGGGAAAATCTGGCC
 GACCGG A GGGG
 CCCCAC
 GGAACCTTTCCCAGAACAGATTGGAGCCAACAG
 =====
 (3967) KC473846
 =====
 PK1: -13.555000(kcal/mol): PK_start=1415 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1443
 (fs_start=1435)
 A
 GAAGAGAAGGACACCAAATGAAAGATTGT
 GACA GAGAGTC
 TTTTTAGGG
 GCTAAT
 PK2: -20.460000(kcal/mol): PK_start=1420 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1456
 (fs_start=1435)
 C
 GAAGGACACCAAATGAAAGATTGTACTGAGAGA
 GATTTTTT A ATCGGA

```

                                TGGCCTTC
          GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1443 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1477
(fs_start=1435)
                                AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCCT   TCCGGTCT
                                AGGCCAGGGA
          ACAAGGGA
PK4:  -29.020000(kcal/mol): PK_start=1450 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1487
(fs_start=1435)
                                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAAG   GGAA
                                CCTTCA
          GAATTT
=====
(3968) KC596065
=====
PK1:  -15.100000(kcal/mol): PK_start=1423 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1451
(fs_start=1443)
                                CA
GGAAGGAAGGACATCAAATGAAAGACTG
                                GAC   AGAGAGTC
                                TTTTTTAGGG
          GCTAA
PK2:  -21.940000(kcal/mol): PK_start=1428 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1465
(fs_start=1443)
                                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                                GATTTTTT   AATCGGA
                                TTGGCCTTC
          GGAAAAT
PK3:  -20.285000(kcal/mol): PK_start=1452 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1485
(fs_start=1443)
                                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCT   TCCGGTTT
                                AGGCCAGGGA
          AACAAGGGA
PK4:  -22.915000(kcal/mol): PK_start=1458 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1495
(fs_start=1443)
                                TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                                GGACCGGA   AGGGA

```

```

                                TTCCTCA
                                GAATT
=====
(3969) KC596066
=====
PK1:  -10.975000(kcal/mol): PK_start=1421 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=1448
(fs_start=1441)
                                AA
GAAAGGAAGGACACCAAATGAAAGATTGT
                                GACA    GAGAGT
                                TTTTTAGG
                                GCTAAT

PK2:  -18.180000(kcal/mol): PK_start=1427 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1462
(fs_start=1441)
                                C
AAGGACACCAAATGAAAGATTGTAATGAGAGA
                                ATTTTTT  A  ATCGGA
                                TGGCCTTC
                                GGAAGATC

PK3:  -26.110000(kcal/mol): PK_start=1449 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1483
(fs_start=1441)
                                A
TAATGAGAGACAGGCTAATTTTTTAGGGAAG
                                CCCTTC    CGGTCT
                                GCCAGGAA
                                ACAGGGGGAG

PK4:  -25.885000(kcal/mol): PK_start=1456 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1493
(fs_start=1441)
                                CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
                                GGACCGGAG    GGG
                                TCTTCA
                                AAACCT

PK4B:  -31.255000(kcal/mol): PK_start=1456 sp=7 s1=9 s2=4 l1=6 l2=32 L3=0 PK_end=1519
(fs_start=1441)
                                CCCACA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTT
                                GGACCGGAG    GGGG
                                CCCCAC
                                AAACCTTCTTCAGAACAGACCAGAGCCGACAG

=====
(3970) KC596067
=====
PK1:  -13.555000(kcal/mol): PK_start=1418 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1446
(fs_start=1438)
                                A
GACAGGAAGGACACCAAATGAAAGATTGT

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          GACA    GAGAGTC
                TTTTATAGGG
    GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1423 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1459
(fs_start=1438)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT  A  ATCGGA
                                TGGCCTTC
                GGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=1446 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1480
(fs_start=1438)
                AAA
TACTGAGAGACAGGCTAATTTTTATAGGGA
                CCCT    TCCGGTCT
                                AGGCCAGGAA
                ACAGGGGG
PK4:  -25.885000(kcal/mol): PK_start=1453 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1490
(fs_start=1438)
                CCAC
AGACAGGCTAATTTTTATAGGAAAATCTGGCCTTC
                GGACCGGAGG    GGGA
                                TCTTCA
                AAATTT
PK4B:  -31.255000(kcal/mol): PK_start=1453 sp=7 s1=9 s2=4 l1=6 l2=32 L3=0 PK_end=1516
(fs_start=1438)
                CCCACA
AGACAGGCTAATTTTTATAGGAAAATCTGGCCTTC
                GGACCGGAG    GGGG
                                CCCCAC
                AAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(3971) KC596068
=====
PK1:  -15.585000(kcal/mol): PK_start=1419 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1447
(fs_start=1439)
                A
GAAAGGAAGGACACCAAATGAAAGACTGT
                GACA    GAGAGTC
                                TTTTATAGGG
                GCTAAT
PK2:  -21.940000(kcal/mol): PK_start=1424 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1461
(fs_start=1439)
                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA

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                GATTTTTT   AATCGGA
                    TTGGCCTTC
GGAAAAT
PK3:  -23.745000(kcal/mol): PK_start=1447 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1481
(fs_start=1439)
                AAA
TACTGAGAGACAGGCTAATTTTTTTAGGGA
                CCCT   TCCGGTTT
                    AGGCCAGGAA
                ACAAGGGG
PK4:  -18.485000(kcal/mol): PK_start=1454 sp=7 s1=9 s2=4 l1=6 l2=5 L3=0 PK_end=1490
(fs_start=1439)
                    CCCACA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTT
                GGACCGGAG   GGGA
                    TTCTCC
                AAATT
PK4B: -26.865000(kcal/mol): PK_start=1454 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1517
(fs_start=1439)
                    TCCCACAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTT
                GGACCGGA   GGGG
                    CCCCAC
                AAATTTTCTCCAGAGCAGACCAGAGCCGACAG
=====
(3972) KC596069
=====
PK1:  -10.975000(kcal/mol): PK_start=1373 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=1400
(fs_start=1393)
                AA
GAAAAGAAGGACACCAAATGAAAGATTGT
                GACA   GAGAGT
                    TTTTTTAGG
                GCTAAT
PK2:  -18.180000(kcal/mol): PK_start=1379 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1414
(fs_start=1393)
                C
AAGGACACCAAATGAAAGATTGTAATGAGAGA
                ATTTTTT   A   ATCGGA
                    TGGCCTTC
                GGAAGATC
PK3:  -25.060000(kcal/mol): PK_start=1401 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1435
(fs_start=1393)
                A
TAATGAGAGACAGGCTAATTTTTTTAGGGAAG

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TCCTTC    CCGTCT
          GCCAGGGA
CCAAGGGAAG

PK4:  -26.715000(kcal/mol): PK_start=1408 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1445
(fs_start=1393)
          CTCC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
          GGACCGGAAG    GGAA
          TCTTCA
          GAATTT

=====
(3973) KC596070
=====
PK1:  -15.140000(kcal/mol): PK_start=1420 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1448
(fs_start=1440)
          CA
GGAAAGAGGGACATCAAATGAAAGACTG
          GAC    AGAAAGTC
          TTTTTTAGGG
          GCTAA

PK2:  -21.980000(kcal/mol): PK_start=1425 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1462
(fs_start=1440)
          C
GAGGGACATCAAATGAAAGACTGCACTGAAAGA
          GATTTTTT    AATCGGA
          TTGGCCTTC
          GGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1449 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1482
(fs_start=1440)
          AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
          CCT    TCCGGTTT
          AGGCCAGGAA
          AGCAAGGGG

PK4:  -27.000000(kcal/mol): PK_start=1455 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=1493
(fs_start=1440)
          TTCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCC
          GGACCGG    AGGGG
          TCCCCAG
          AAATTT

PK4B:  -24.080000(kcal/mol): PK_start=1456 sp=8 s1=6 s2=4 l1=9 l2=33 L3=1 PK_end=1517
(fs_start=1440)
          TTCCAGCAA
GACAGGCTAATTTTTTAGGGAAAATTTGGCC

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GACCGG A GGGG
CCCCAC
GAAATTTTCCCCAGAGCAGACCGGAGCCATCAG

=====
(3974) KC596071
=====

PK1: -10.640000(kcal/mol): PK_start=1402 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1440
(fs_start=1433)

A
TTGGAAATGTGGAAAGGAAGGACACCAA

GTT AGAAAGT

TTTTTTAGG
CACTGAAAGACAGGCTAA

PK2: -17.860000(kcal/mol): PK_start=1418 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1454
(fs_start=1433)

C
GAAGGACACCAAATGAAAGATTGCACTGAAAGA

GATTTTTT A ATCGGA

TGGTCTTC
GGAAAATC

PK3: -24.635000(kcal/mol): PK_start=1441 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1475
(fs_start=1433)

AAA
CACTGAAAGACAGGCTAATTTTTTAGGGA

CCCT TCTGGTCT

AGGCCAGGGA
ACAAGGGA

PK4: -26.380000(kcal/mol): PK_start=1448 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1485
(fs_start=1433)

CCAC
AGACAGGCTAATTTTTTAGGAAAATCTGGTCTTC

GGACCGGAAG GGAA

CCTTCA
GAACTT

=====
(3975) KC596072
=====

PK1: -10.440000(kcal/mol): PK_start=1412 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1450
(fs_start=1443)

A
TTGGAAATGTGGAAGGAAGGACATCAA

GTT AGAAAGT

TTTTTTAGG
CACTGAAAGACAGGCTAA

PK2: -21.98000(kcal/mol): PK_start=1428 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1465
(fs_start=1443)

C
GAAGGACATCAAATGAAAGATTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.74500(kcal/mol): PK_start=1451 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=1485
(fs_start=1443)

AAA
CACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGAA
AGAAGGGG

PK4: -28.96000(kcal/mol): PK_start=1458 sp=7 s1=11 s2=4 l1=2 l2=7 l3=0 PK_end=1496
(fs_start=1443)

CA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTCC
GGACCGGAGGG GAAG
CTTCAG
AAATTTTC

PK4B: -26.86500(kcal/mol): PK_start=1458 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=1521
(fs_start=1443)

TCCCAGAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
AAATTTCCCTCAGAACAGGACAGAGCCAACAG

=====
(3976) L02317
=====

PK1: -10.42500(kcal/mol): PK_start=1611 sp=0 s1=4 s2=6 l1=2 l2=5 l3=0 PK_end=1637
(fs_start=1631)

AC
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGA
TTTTTTAG
GCTAA

PK2: -17.18000(kcal/mol): PK_start=1618 sp=0 s1=6 s2=6 l1=1 l2=10 l3=1 PK_end=1652
(fs_start=1631)

C
AGGACACCAAATGAAAGATTGTACAGAGAGA
TTTTTT A ATCGGA
TGGCCTTC
AGGGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1639 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1673
(fs_start=1631)

A
TACAGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.445000(kcal/mol): PK_start=1646 sp=7 s1=8 s2=5 l1=7 l2=5 l3=0 PK_end=1683
(fs_start=1631)

TCCCACA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGGA
TTCCTCA
GAATT

=====
(3977) L31963
=====

PK1: -13.555000(kcal/mol): PK_start=2102 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=2130
(fs_start=2122)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2107 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=2143
(fs_start=2122)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=2130 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=2164
(fs_start=2122)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=2137 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=2174
(fs_start=2122)

CTAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(3978) L39106
=====

PK1: -15.585000(kcal/mol): PK_start=1589 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1617
(fs_start=1609)

A
GGAAAGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -21.940000(kcal/mol): PK_start=1594 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1631
(fs_start=1609)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAAT

PK3: -20.285000(kcal/mol): PK_start=1618 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1651
(fs_start=1609)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AGCAAGGGG

PK4: -24.120000(kcal/mol): PK_start=1624 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=1662
(fs_start=1609)

TTCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCC
GGACCGG AGGGG
TCCTCAG
AAATTT

PK4B: -21.200000(kcal/mol): PK_start=1625 sp=8 s1=6 s2=4 l1=9 l2=33 L3=1 PK_end=1686
(fs_start=1609)

TTCCAGCAA
GACAGGCTAATTTTTTAGGGAAAATTTGGCC
GACCGG A GGGG
CTCCAC
GAAATTTTCCTCAGAGCAGACCGGAACCAACAG

=====
(3979) M15654
=====

PK1: -13.555000(kcal/mol): PK_start=1386 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1414
(fs_start=1406)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC

TTTTTAGGG
GCTAAT
PK2: -20.460000(kcal/mol): PK_start=1391 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1427
(fs_start=1406)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1414 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1448
(fs_start=1406)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1421 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1458
(fs_start=1406)

CTAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

PK4B: -23.215000(kcal/mol): PK_start=1421 sp=7 s1=8 s2=4 l1=8 l2=41 L3=0 PK_end=1493
(fs_start=1406)

TCCTACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGG
TTCTTC
GAATTTTCTTCAGAGCAGACCAGAGCCAACAGCCCCACCAT

=====
(3980) M17451
=====

PK1: -10.640000(kcal/mol): PK_start=1567 sp=0 s1=3 s2=7 l1=1 l2=24 L3=0 PK_end=1611
(fs_start=1604)

A
TTGGAAATGTGGAAAGGAAGGACACCAA
GTT AGAAAGT
TTTTTTAGG
CACTAATGAGGGACGACAGGCTAA

PK2: -15.420000(kcal/mol): PK_start=1587 sp=0 s1=7 s2=6 l1=4 l2=9 L3=1 PK_end=1625
(fs_start=1604)

CGAC
GACACCAAATGAAAGATTGCACTAATGAGGGA
ATTTTTT A ATCGGA

TGGCCTTC

GGGAAAATC

PK3: -27.275000(kcal/mol): PK_start=1612 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1646
(fs_start=1604)

AAA

TGAGGGACGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT

AGGCCAGGGA

ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1619 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1656
(fs_start=1604)

CCAC

CGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAAG GGAA

TCTTCA

GAACTT

=====
(3981) M22639
=====

PK1: -13.110000(kcal/mol): PK_start=2070 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2098
(fs_start=2090)

CA

GAAAGGAAGGACACCAACTGAAGGATTG

GAC AGAAAGTC

TTTTTTAGGG

GCTAA

PK2: -21.980000(kcal/mol): PK_start=2075 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2112
(fs_start=2090)

C

GAAGGACACCAACTGAAGGATTGCACTGAAAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAGAT

PK3: -20.860000(kcal/mol): PK_start=2098 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=2132
(fs_start=2090)

A

CACTGAAAGACAGGCTAATTTTTTAGGGAAG

CCCTTC CGGTTT

GCCGGGGA

ACAAGGGAAG

PK4: -21.465000(kcal/mol): PK_start=2105 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2142
(fs_start=2090)

CCAC

AGACAGGCTAATTTTTTAGGGAAGATTGGCCTTC

GGGCCGGAAG GGAA


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                                TCTTCA
                                GAACTT

=====
(3982) M26727
=====
PK1:  -13.555000(kcal/mol): PK_start=1607 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1635
(fs_start=1627)
                                A
GAAGGGAAGGACACCAAATGAAAGATTGT
                                GACA    GAGAGTC
                                TTTTtaggg
                                GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1612 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1648
(fs_start=1627)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                                GATTTTTT A  ATCGGA
                                TGGCCTTC
                                GGAAGATC

PK3:  -26.110000(kcal/mol): PK_start=1635 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1669
(fs_start=1627)
                                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                                CCCTTC    CGGTCT
                                GCCAGGGA
                                ACAAGGGAAG

PK4:  -26.715000(kcal/mol): PK_start=1642 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1679
(fs_start=1627)
                                CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
                                GGACCGGAAG    GGAA
                                TCTTCA
                                GAATTT

=====
(3983) M27323
=====
PK1:  -10.640000(kcal/mol): PK_start=1591 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1629
(fs_start=1622)
                                A
TTGGAATGCGGAAGGAAGGACACCAA
                                GTT    AGAAAGT
                                TTTTTTtagg
                                CACTGAAAGACAGGCTAA

PK2:  -21.980000(kcal/mol): PK_start=1607 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1644
(fs_start=1622)
                                C
GAAGGACACCAAATGAAAGATTGCACTGAAAGA

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          GATTTTTT   AATCGGA
                    TTGGCCTTC
    GGAAGAT
PK3:  -20.860000(kcal/mol): PK_start=1630 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1664
(fs_start=1622)
                    A
    CACTGAAAGACAGGCTAATTTTTTTAGGGAAG
                    CCCTTC   CGGTTC
                    GCCGGGGA
    ACAAGGGAAG
PK4:  -21.465000(kcal/mol): PK_start=1637 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1674
(fs_start=1622)
                    CCAC
    AGACAGGCTAATTTTTTTAGGGAAGATTTGGCCTTC
                    GGGCCGGAAG   GGAA
                    TCTTCA
    GAATTT

=====
(3984) M38429
=====
PK1:  -13.205000(kcal/mol): PK_start=2065 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=2092
(fs_start=2084)
                    A
    AAAGGAAGGACACCAAATGAAAGAGTGT
                    ACA   GAGAGTC
                    TTTTTAGGG
    GGCTAAT
PK2:  -20.460000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2105
(fs_start=2084)
                    C
    GAAGGACACCAAATGAAAGAGTGTACTGAGAGA
                    GATTTTTT   A   ATCGGA
                    TTGGCCTTC
    GGAAGATC
PK3:  -25.060000(kcal/mol): PK_start=2092 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=2126
(fs_start=2084)
                    A
    TACTGAGAGACAGGCTAATTTTTTTAGGGAAG
                    TCCTTC   CGGTCT
                    GCCAGGGA
    ACAAGGGAAG
PK4:  -29.020000(kcal/mol): PK_start=2099 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2136
(fs_start=2084)
                    CTAC
    AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCTTC

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                GGACCGGAAG    GGAA
                                CCTTCA
          GAATTT

=====
(3985) M38431
=====
PK1:  -13.555000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2092
(fs_start=2084)
                                A
          GAAAGGAAGGACACCAAATGAAAGATTGT
                GACA    GAGAGTC
                                TTTTATAGGG
          GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2105
(fs_start=2084)
                                C
          GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT    A    ATCGGA
                                TGGCCTTC
          GGAAGATC

PK3:  -26.110000(kcal/mol): PK_start=2092 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=2126
(fs_start=2084)
                                A
          TACTGAGAGACAGGCTAATTTTTATAGGGAAG
                CCCTTC    CGGTCT
                                GCCAGGGA
          ACAAGGGAAG

PK4:  -26.715000(kcal/mol): PK_start=2099 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2136
(fs_start=2084)
                                CCAC
          AGACAGGCTAATTTTTATAGGGAAGATCTGGCCTTC
                GGACCGGAAG    GGAA
                                TCTTCA
          GAATTT

=====
(3986) M62320
=====
PK1:  -15.100000(kcal/mol): PK_start=1513 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1541
(fs_start=1533)
                                CA
          GGAAAGAAGGACACCAAATGAAAGACTG
                GAC    AGAGAGTC
                                TTTTTATAGGG
          GCTAA

```

PK2: -21.940000(kcal/mol): PK_start=1518 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1555
(fs_start=1533)

C
GAAGGACACCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1542 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1575
(fs_start=1533)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AACAAGGGG

PK4: -22.215000(kcal/mol): PK_start=1548 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1585
(fs_start=1533)

CCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGAG GGGA
TCCTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1548 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1611
(fs_start=1533)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCCTCAGAGCAGACCAGAGCCAACAG

=====
(3987) M93258
=====

PK1: -13.555000(kcal/mol): PK_start=2062 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2090
(fs_start=2082)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2067 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2103
(fs_start=2082)

C
GAAGGACACCAAATGAAAGATTGTTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=2090 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=2124
(fs_start=2082)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGAA
ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=2097 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=2134
(fs_start=2082)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
AAATTT

=====
(3988) M93259
=====

PK1: -13.555000(kcal/mol): PK_start=2065 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=2093
(fs_start=2085)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2070 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=2106
(fs_start=2085)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=2093 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=2127
(fs_start=2085)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGAA
ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=2100 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=2137
(fs_start=2085)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
AAATTT

=====
(3989) NC_001802
=====

PK1: -13.555000(kcal/mol): PK_start=1610 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1638
(fs_start=1630)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1615 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1651
(fs_start=1630)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1638 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1672
(fs_start=1630)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1645 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1682
(fs_start=1630)

CTAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(3990) U12055
=====

PK1: -13.555000(kcal/mol): PK_start=2066 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2094
(fs_start=2086)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2071 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2107
(fs_start=2086)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA

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                                TGGCCTTC
          GGAAGATC
PK3:  -25.060000(kcal/mol): PK_start=2094 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=2128
(fs_start=2086)
                                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                                TCCTTC    CGGTCT
                                GCCAGGGA
          ACAAGGGAAG
PK4:  -26.715000(kcal/mol): PK_start=2101 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2138
(fs_start=2086)
                                CTAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
                                GGACCGGAAG    GGAA
                                TCTTCA
          GAATTT
=====
(3991) U21135
=====
PK1:  -13.555000(kcal/mol): PK_start=2063 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2091
(fs_start=2083)
                                A
GACAGGAAGGACACCAAATGAAAGATTGT
                                GACA    GAGAGTC
                                TTTTTAGGG
          GCTAAT
PK2:  -17.820000(kcal/mol): PK_start=2068 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2104
(fs_start=2083)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                                GATTTTTT    A    ATCGGA
                                TGGTCTTC
          GGAAGATC
PK3:  -24.335000(kcal/mol): PK_start=2091 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=2125
(fs_start=2083)
                                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                                CCCTTC    TGGTCT
                                GCCAGGGA
          AAAAGGGAAG
PK4:  -23.805000(kcal/mol): PK_start=2098 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2135
(fs_start=2083)
                                TCCCAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGTCT
                                GGACCGGA    AGGGA

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                                TTCCTCA
                                GAATT
=====
(3992) U23487
=====
PK1:  -13.555000(kcal/mol): PK_start=2010 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2038
(fs_start=2030)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                                GACA    GAGAGTC
                                TTTTGTAGGG
                                GCTAAT

PK2:  -19.080000(kcal/mol): PK_start=2015 sp=0 s1=8 s2=5 l1=2 l2=8 L3=1 PK_end=2050
(fs_start=2030)
                                CA
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                                GATTTTTT  A  ATCGG
                                TGGCCCT
                                GGAAGATC

PK3:  -24.730000(kcal/mol): PK_start=2038 sp=0 s1=4 s2=7 l1=3 l2=9 L3=1 PK_end=2071
(fs_start=2030)
                                AGA
TACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCCT  C  CCGGTCT
                                GGCCAGGGA
                                ACAAGGGAA

PK4:  -23.190000(kcal/mol): PK_start=2045 sp=7 s1=7 s2=6 l1=8 l2=4 L3=0 PK_end=2082
(fs_start=2030)
                                CTCCCACA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCC
                                GGACCGG    AAGGGA
                                TTTCTTCA
                                GAAT

=====
(3993) U26546
=====
PK1:  -13.070000(kcal/mol): PK_start=1443 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1471
(fs_start=1463)
                                YN
GAAAGGAAGGACACCAAATGAWGGATTG
                                GAC    AGAGAGTC
                                TTTTTTAGGG
                                GCCAM

PK2:  -20.110000(kcal/mol): PK_start=1448 sp=0 s1=8 s2=5 l1=1 l2=9 L3=2 PK_end=1483
(fs_start=1463)
                                C
GAAGGACACCAAATGAWGGATTGYNCTGAGAGA

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          GATTTTTT MA CCGGA
                                GGCCTTC
      GGAAWATCC
PK3:  -22.680000(kcal/mol): PK_start=1471 sp=0 s1=5 s2=4 l1=5 l2=9 L3=0 PK_end=1502
(fs_start=1463)
                                WATCC
YNCTGAGAGACAGGCCAMTTTTTTAGGGAA
          CCCTT   CCGG
                                GGCCAG
      ACATKGGAA
PK4:  -19.020000(kcal/mol): PK_start=1481 sp=10 s1=4 s2=4 l1=10 l2=7 L3=0 PK_end=1513
(fs_start=1463)
                                TTCCACATK
CAGGCCAMTTTTTTAGGGAAWATCCGGCC
          CCGG   AAGG
                                TTCCTT
      AGGGRAT
=====
(3994) U26942
=====
PK1:  -13.555000(kcal/mol): PK_start=1442 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1470
(fs_start=1462)
                                A
GAAAGGAAGGACACCAAATGAAAGATTGT
          GACA   GAGAGTC
                                TTTTTAGGG
      GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1447 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1483
(fs_start=1462)
                                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
          GATTTTTT A ATCGGA
                                TGGCCTTC
      GGAAGATC
PK3:  -26.110000(kcal/mol): PK_start=1470 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1504
(fs_start=1462)
                                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
          CCCTTC   CGGTCT
                                GCCAGGGA
      ACAAGGGAAG
PK4:  -26.715000(kcal/mol): PK_start=1477 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1514
(fs_start=1462)
                                CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC

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                GGACCGGAAG    GGAA
                                TCTTCA
          GAATTT
=====
(3995) U34603
=====
PK1:  -13.555000(kcal/mol): PK_start=2064 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2092
(fs_start=2084)
                                A
          GAAAGGAAGGACATCAAATGAAAGATTGT
                GACA    GAGAGTC
                                TTTTtaggg
          GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=2069 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2105
(fs_start=2084)
                                C
          GAAGGACATCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT  A  ATCGGA
                                TGGCCTTC
          GGAAGATC

PK3:  -26.110000(kcal/mol): PK_start=2092 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=2126
(fs_start=2084)
                                A
          TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                CCCTTC    CGGTCT
                                GCCAGGGA
          ACAAGGGAAG

PK4:  -26.715000(kcal/mol): PK_start=2099 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2136
(fs_start=2084)
                                CCAC
          AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
                GGACCGGAAG    GGAA
                                TCTTCA
          GAATTT

=====
(3996) U34604
=====
PK1:  -13.555000(kcal/mol): PK_start=2066 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2094
(fs_start=2086)
                                A
          GAAAGGAAGGACATCAAATGAAAGATTGT
                GACA    GAGAGTC
                                TTTTtaggg
          GCTAAT

```

PK2: -20.460000(kcal/mol): PK_start=2071 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2107
(fs_start=2086)

C
GAAGGACATCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=2094 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=2128
(fs_start=2086)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=2101 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2138
(fs_start=2086)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(3997) U39362
=====

PK1: -13.555000(kcal/mol): PK_start=2063 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2091
(fs_start=2083)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2068 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2104
(fs_start=2083)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -27.275000(kcal/mol): PK_start=2091 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2125
(fs_start=2083)

AAA
TACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=2098 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=2135
(fs_start=2083)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(3998) U43096
=====

PK1: -13.555000(kcal/mol): PK_start=1610 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1638
(fs_start=1630)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1615 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=1651
(fs_start=1630)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1638 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1672
(fs_start=1630)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1645 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1682
(fs_start=1630)

CTAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(3999) U43141
=====

PK1: -9.430000(kcal/mol): PK_start=1533 sp=0 s1=3 s2=6 l1=4 l2=5 l3=0 PK_end=1559
(fs_start=1553)

CACA
GAAAGGAAGGACATCAAATGAAGGATTG
GAC AGAAAG

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                TTTTTTAG
            GCTAA
PK2:  -17.220000(kcal/mol): PK_start=1540 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=1574
(fs_start=1553)
                C
AGGACATCAAATGAAGGATTGCACAGAAAGA
                TTTTTT A ATCGGA
                TGGCCTTC
            AGGGAAGATC
PK3:  -26.110000(kcal/mol): PK_start=1561 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1595
(fs_start=1553)
                A
CACAGAAAGACAGGCTAATTTTTTAGGGAAG
                CCCTTC  CGGTCT
                GCCAGGAA
            ACAAGGGGAG
PK4:  -26.235000(kcal/mol): PK_start=1568 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1605
(fs_start=1553)
                CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
                GGACCGGAGG  GGAA
                TCTTCA
            AAATTT
PK4B:  -30.395000(kcal/mol): PK_start=1568 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1631
(fs_start=1553)
                TCCCACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
                GGACCGGA  GGGG
                CCCCAC
            AAATTTTCTTCAGAGCAGACCAGAGCCAACAG
=====
(4000) U46016
=====
PK1:  -11.905000(kcal/mol): PK_start=1435 sp=0 s1=4 s2=5 l1=3 l2=6 L3=0 PK_end=1461
(fs_start=1455)
                ACC
GAAAGGAAGGACACCAAATGAAAGACTGT
                GACA  GAGAG
                TTTTTAG
            GCTAAT
PK2:  -18.660000(kcal/mol): PK_start=1442 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1477
(fs_start=1455)
                C
AGGACACCAAATGAAAGACTGTACCGAGAGA
                TTTTTT  AATCGGA

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                                TTGGCCTTC
          AGGGAGACT
PK3:  -23.495000(kcal/mol): PK_start=1464 sp=0 s1=3 s2=9 l1=2 l2=9 L3=0 PK_end=1498
(fs_start=1455)
                                GA
ACCGAGAGACAGGCTAATTTTTTAGGGA
                                CCT   TCCGGTTTC
                                AGGCCAGGAA
          AACAAGGGA

PK4:  -28.100000(kcal/mol): PK_start=1469 sp=6 s1=11 s2=4 l1=4 l2=5 L3=0 PK_end=1507
(fs_start=1455)
                                CAAC
GAGACAGGCTAATTTTTTAGGGAGACTTTGGCCTTC
                                GGGACCGGAAG   GGAA
                                CCTTCA
          AATTT

=====
(4001) U51188
=====
PK1:  -15.140000(kcal/mol): PK_start=2100 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2128
(fs_start=2120)
                                CA
GGAGGGAAGGACACCAAATGAAAGACTG
                                GAC   AGAAAGTC
                                TTTTTTAGGG
          GCTAA

PK2:  -20.500000(kcal/mol): PK_start=2105 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2141
(fs_start=2120)
                                C
GAAGGACACCAAATGAAAGACTGCACTGAAAGA
                                GATTTTTT   A   ATCGGA
                                TGGCCTTC
          GGAAAATC

PK3:  -23.815000(kcal/mol): PK_start=2129 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2162
(fs_start=2120)
                                AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
                                CCT   TCCGGTCT
                                AGGCCAGGAA
          AGCAAGGGG

PK4:  -28.605000(kcal/mol): PK_start=2135 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2172
(fs_start=2120)
                                TCCAGCA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                                GGACCGGA   GGGGA

```

TCCCTCA

AAATT

PK4B: -30.395000(kcal/mol): PK_start=2135 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2198
(fs_start=2120)

TCCAGCAA

AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT

GGACCGGA GGGG

CCCCAC

AAATTTCCCTCAGAGCAGACCAGAGCCAACAG

=====
(4002) U51189
=====

PK1: -15.100000(kcal/mol): PK_start=2075 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=2103
(fs_start=2095)

CA

GAAAGGAAGGACATCAAATGAAAGACTG

GAC AGAGAGTC

TTTTTTAGGG

GCTAA

PK2: -21.940000(kcal/mol): PK_start=2080 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2117
(fs_start=2095)

C

GAAGGACATCAAATGAAAGACTGCACTGAGAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=2104 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2137
(fs_start=2095)

AAA

ACTGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT

AGGCCAGGGA

AACAAAGGGA

PK4: -22.915000(kcal/mol): PK_start=2110 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2147
(fs_start=2095)

TCCAACA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA AGGGA

TTCCTCA

GAATT

=====
(4003) U51190
=====

PK1: -15.100000(kcal/mol): PK_start=1428 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1456
(fs_start=1448)

CA

GAAAGGAAGGGCACCAAATGAAGGACTG

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          GAC   AGAGAGTC
          TTTTTTAGGG
    GCTAA
PK2:  -20.460000(kcal/mol): PK_start=1433 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1469
(fs_start=1448)
          C
    GAAGGGCACCAAATGAAGGACTGCACTGAGAGA
          GATTTTTT  A  ATCGGA
          TGGCCTTC
    GGAAAATC
PK3:  -23.815000(kcal/mol): PK_start=1457 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1490
(fs_start=1448)
          AAA
    ACTGAGAGACAGGCTAATTTTTTAGGGA
          CCT   TCCGGTCT
          AGGCCAGGAA
    AGCAAAGGG
PK4:  -25.345000(kcal/mol): PK_start=1463 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1500
(fs_start=1448)
          TCCAGCAA
    AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
          GGACCGGA   GGG
          TCCTCA
    AAATTT
=====
(4004) U52953
=====
PK1:  -14.985000(kcal/mol): PK_start=1405 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1433
(fs_start=1425)
          A
    GAAAAGAAGGACACCAAGTGAAAGACTGT
          GACG   GAGAGTC
          TTTTTTAGGG
    GCTAAT
PK2:  -20.330000(kcal/mol): PK_start=1410 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1447
(fs_start=1425)
          C
    GAAGGACACCAAGTGAAAGACTGTACTGAGAGG
          GATTTTTT  AATCGGA
          TTGGCCTTC
    GGAAAAT
PK3:  -23.745000(kcal/mol): PK_start=1433 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1467
(fs_start=1425)
          AAA
    TACTGAGAGGCAGGCTAATTTTTTAGGGA

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          CCCT   TCCGGTTT
                AGGCCAGGAA
ACAGGGGG
PK4:  -22.355000(kcal/mol): PK_start=1440 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1477
(fs_start=1425)
                CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
                GGACCGGAGG   GGGA
                                TCTTCA
          AAATCT

PK4B:  -27.725000(kcal/mol): PK_start=1440 sp=7 s1=9 s2=4 l1=6 l2=32 L3=0 PK_end=1503
(fs_start=1425)
                CCCACA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
                GGACCGGAG   GGGG
                                CCCCAC
          AAATCTTCTTCAGAACAGAACAGAGCCAACAG

=====
(4005) U54771
=====
PK1:  -15.100000(kcal/mol): PK_start=1623 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1651
(fs_start=1643)
                CA
GGAAGGAAGGACATCAAATGAAAGACTG
                GAC   AGAGAGTC
                                TTTTTTAGGG
          GCTAA

PK2:  -21.940000(kcal/mol): PK_start=1628 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1665
(fs_start=1643)
                C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT   AATCGGA
                                TTGGCCTTC
          GGAAAAT

PK3:  -18.565000(kcal/mol): PK_start=1652 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1685
(fs_start=1643)
                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                CCT   TCCGGTTT
                                AGGCCGGGGA
          AACAAGGGA

PK4:  -21.195000(kcal/mol): PK_start=1658 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1695
(fs_start=1643)
                TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC

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GGGCCGGA    AGGGA
              TTCCTCA
GAATT

=====
(4006) U63632
=====
PK1:  -13.555000(kcal/mol): PK_start=1381 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1409
(fs_start=1401)
              A
GAAAGGAAGGACACCAAATGAAAGATTGT
              GACA    GAGAGTC
              TTTTATAGGG
GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1386 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1422
(fs_start=1401)
              C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
              GATTTTTT  A  ATCGGA
              TGGCCTTC
GGAAGATC

PK3:  -25.060000(kcal/mol): PK_start=1409 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1443
(fs_start=1401)
              A
TACTGAGAGACAGGCTAATTTTTATAGGGAAG
              TCCTTC    CGGTCT
              GCCAGGGA
ACAAGGGAAG

PK4:  -26.715000(kcal/mol): PK_start=1416 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1453
(fs_start=1401)
              CTAC
AGACAGGCTAATTTTTATAGGGAAGATCTGGCCTTC
              GGACCGAAG    GGAA
              TCTTCA
GAATTT

=====
(4007) U69584
=====
PK1:  -15.585000(kcal/mol): PK_start=1610 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1638
(fs_start=1630)
              A
GAAAGGAAGGACACCAAATGAAAGACTGT
              GACA    GAGAGTC
              TTTTATAGGG
GCTAAT

```

PK2: -20.460000(kcal/mol): PK_start=1615 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1651
(fs_start=1630)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1638 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1672
(fs_start=1630)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1645 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1682
(fs_start=1630)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(4008) U69585
=====

PK1: -15.585000(kcal/mol): PK_start=1610 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1638
(fs_start=1630)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1615 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1651
(fs_start=1630)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1638 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1672
(fs_start=1630)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1645 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1682
(fs_start=1630)

CTAC
AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(4009) U69586
=====

PK1: -15.585000(kcal/mol): PK_start=1610 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1638
(fs_start=1630)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1615 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1651
(fs_start=1630)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1638 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1672
(fs_start=1630)

A
TACTGAGAGACAGGCTAATTTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1645 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1682
(fs_start=1630)

CTAC
AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(4010) U69587
=====

PK1: -13.555000(kcal/mol): PK_start=1610 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1638
(fs_start=1630)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC

```

                TTTT TAGGG
      GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1615 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1651
(fs_start=1630)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT A  ATCGGA
                TGGCCTTC
      GGAAGATC
PK3:  -25.060000(kcal/mol): PK_start=1638 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1672
(fs_start=1630)
                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                TCCTTC  CGGTCT
                GCCAGGGA
      ACAAGGGAAG
PK4:  -26.715000(kcal/mol): PK_start=1645 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1682
(fs_start=1630)
                CTAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
                GGACCGGAAG  GGAA
                TCTTCA
      GAATTT

=====
(4011) U69588
=====
PK1:  -15.585000(kcal/mol): PK_start=1610 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1638
(fs_start=1630)
                A
GAAAGGAAGGACACCAAATGAAAGACTGT
                GACA  GAGAGTC
                TTTT TAGGG
      GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1615 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1651
(fs_start=1630)
                C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
                GATTTTTT A  ATCGGA
                TGGCCTTC
      GGAAGATC
PK3:  -25.060000(kcal/mol): PK_start=1638 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1672
(fs_start=1630)
                A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
                TCCTTC  CGGTCT

```

GCCAGGGA

ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1645 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1682
(fs_start=1630)

CTAC

AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCTTC

GGACCGGAAG GGAA

TCTTCA

GAATTT

=====
(4012) U69589
=====

PK1: -13.555000(kcal/mol): PK_start=1610 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1638
(fs_start=1630)

A

GAAAGGAAGGACACCAAATGAAAGATTGT

GACA GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1615 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1651
(fs_start=1630)

C

GAAGGACACCAAATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1638 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1672
(fs_start=1630)

A

TACTGAGAGACAGGCTAATTTTTTTAGGGAAG

CCCTTC CGGTCT

GCCAGGGA

ACAAGGGAAG

PK4: -24.995000(kcal/mol): PK_start=1645 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1682
(fs_start=1630)

TCCCACAA

AGACAGGCTAATTTTTTTAGGGAAGATCTGGCCT

GGACCGGA AGGG

TCTCCA

GAATTT

=====
(4013) U69590
=====

PK1: -13.555000(kcal/mol): PK_start=1610 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1638
(fs_start=1630)

A

GAAAGGAAGGACACCAAATGAAAGATTGT

```

          GACA    GAGAGTC
                TTTTtaggg
    GCTAAT
PK2:  -20.460000(kcal/mol): PK_start=1615 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1651
(fs_start=1630)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT A  ATCGGA
                                TGGCCTTC
                GGAAGATC

PK3:  -26.110000(kcal/mol): PK_start=1638 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1672
(fs_start=1630)
                A
TACTGAGAGACAGGCTAATTTTTAGGGAAG
                CCCTTC    CGGTCT
                                GCCAGGGA
                ACAAGGGAAG

PK4:  -26.715000(kcal/mol): PK_start=1645 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1682
(fs_start=1630)
                CCAC
AGACAGGCTAATTTTTAGGGAAGATCTGGCCTTC
                GGACCGGAAG    GGAA
                                TCTTCA
                GAATTT

=====
(4014) U69591
=====
PK1:  -13.555000(kcal/mol): PK_start=1610 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1638
(fs_start=1630)
                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                GACA    GAGAGTC
                                TTTTtaggg
    GCTAAT

PK2:  -20.460000(kcal/mol): PK_start=1615 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1651
(fs_start=1630)
                C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
                GATTTTTT A  ATCGGA
                                TGGCCTTC
                GGAAGATC

PK3:  -25.060000(kcal/mol): PK_start=1638 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1672
(fs_start=1630)
                A
TACTGAGAGACAGGCTAATTTTTAGGGAAG

```

TCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG
PK4: -26.715000(kcal/mol): PK_start=1645 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1682
(fs_start=1630)

CTAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====

(4015) U69592

=====

PK1: -13.555000(kcal/mol): PK_start=1610 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1638
(fs_start=1630)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1615 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1651
(fs_start=1630)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1638 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1672
(fs_start=1630)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1645 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1682
(fs_start=1630)

CTAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====

(4016) U69593

=====

PK1: -13.555000(kcal/mol): PK_start=1610 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1638
(fs_start=1630)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1615 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1651
(fs_start=1630)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1638 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1672
(fs_start=1630)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1645 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1682
(fs_start=1630)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(4017) U71182
=====

PK1: -13.555000(kcal/mol): PK_start=1451 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1479
(fs_start=1471)

A
GAAAGGAAGGACACCTAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1456 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1492
(fs_start=1471)

C
GAAGGACACCTAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -26.110000(kcal/mol): PK_start=1479 sp=0 s1=6 s2=6 l1=1 l2=10 l3=0 PK_end=1513
(fs_start=1471)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=1486 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1523
(fs_start=1471)

CCAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAACTT

=====
(4018) U86780
=====

PK1: -14.985000(kcal/mol): PK_start=1437 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1465
(fs_start=1457)

A
GAAAGGAAGGACATCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.330000(kcal/mol): PK_start=1442 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1479
(fs_start=1457)

C
GAAGGACATCAAATGAAAGACTGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1465 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=1499
(fs_start=1457)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1472 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1509
(fs_start=1457)

CCAC
AGGCAGGCTAATTTTTTAGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1472 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1535
(fs_start=1457)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCCTTCAGAACAGGCCAGACCAACAG

=====
(4019) U88822
=====

PK1: -10.640000(kcal/mol): PK_start=1573 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1611
(fs_start=1604)

A
TTGGAAATGTGGAAAGGAAGGACACCAA
GTT AGAAAGT
TTTTTTAGG
CACTGAAAGACAGGCTAA

PK2: -21.980000(kcal/mol): PK_start=1589 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1626
(fs_start=1604)

C
GAAGGACACCAAATGAAAGATTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -22.025000(kcal/mol): PK_start=1612 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1646
(fs_start=1604)

AAA
CACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCGGGGA
ACAAGGGA

PK4: -21.465000(kcal/mol): PK_start=1619 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1656
(fs_start=1604)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGGCCGGAAG GGAA
TCTTCA
GAACTT

=====
(4020) U88823
=====

PK1: -15.100000(kcal/mol): PK_start=1405 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1433
(fs_start=1425)

CA
GAAAGGAGGGACACCAAATGAAAGACTG
GAC AGAGAGTC

```

                TTTTTTAGGG
          GCTAA
PK2:  -21.940000(kcal/mol): PK_start=1410 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1447
(fs_start=1425)
                C
GAGGGACACCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT   AATCGGA
                TTGGCCTTC
          GGAAAAAT
PK3:  -20.285000(kcal/mol): PK_start=1434 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1467
(fs_start=1425)
                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                CCT   TCCGGTTT
                AGGCCAGGAA
          AACAAGGGG
PK4:  -27.000000(kcal/mol): PK_start=1440 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=1478
(fs_start=1425)
                TTCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCC
                GGACCGG   AGGGG
                TCCCCAG
          AAATTT
PK4B:  -24.080000(kcal/mol): PK_start=1441 sp=8 s1=6 s2=4 l1=9 l2=33 L3=1 PK_end=1502
(fs_start=1425)
                TTCCAACAA
GACAGGCTAATTTTTTAGGGAAAATTTGGCC
                GACCGG  A  GGGG
                CCCCAC
          GAAATTTTCCCAGAGCAGACTGGAGCCAACAG
=====
(4021) U88824
=====
PK1:  -10.640000(kcal/mol): PK_start=1405 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1443
(fs_start=1436)
                A
TTGGAAATGTGGAAGGGAAGGACACCAA
                GTT   AGAAAGT
                TTTTTTAGG
          CACTGAAAGACAGGCTAA
PK2:  -21.980000(kcal/mol): PK_start=1421 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1458
(fs_start=1436)
                C
GAAGGACACCAAATGAAAGATTGCACTGAAAGA
                GATTTTTT   AATCGGA

```

TTGGCCTTC

GGAAAAAT

PK3: -23.745000(kcal/mol): PK_start=1444 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1478
(fs_start=1436)

AAA

CACTGAAAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTTT

AGGCCAGGGA

ACAATGGA

PK4: -20.910000(kcal/mol): PK_start=1451 sp=7 s1=7 s2=4 l1=10 l2=4 L3=0 PK_end=1486
(fs_start=1436)

TTCCCACAAT

AGACAGGCTAATTTTTTAGGGAAAATTTGGCC

GGACCGG AAGG

TTCCTT

GAAT

=====
(4022) U88825
=====

PK1: -11.420000(kcal/mol): PK_start=1434 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=1460
(fs_start=1454)

CACA

GAAAGGAGGGACATCAAATGAAAGACTG

GAC AGAGAG

TTTTTTTAG

GCTAA

PK2: -18.660000(kcal/mol): PK_start=1441 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1476
(fs_start=1454)

C

GGGACATCAAATGAAAGACTGCACAGAGAGA

TTTTTT AATCGGA

TTGGCCTTC

AGGGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1463 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1496
(fs_start=1454)

AAA

ACAGAGAGACAGGCTAATTTTTTAGGGA

CCT TCCGGTTT

AGGCCAGGGA

AACAAGGGG

PK4: -22.705000(kcal/mol): PK_start=1469 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1506
(fs_start=1454)

CAAC

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC

GGACCGGAGG GGAA

TCTTCA

GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1469 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1532
(fs_start=1454)

TCCAACAA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG

CCCCAC

GAATTTTCTTCAGAACAGGCCAGAGCCAACAG

=====

(4023) U88826

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PK1: -10.795000(kcal/mol): PK_start=1437 sp=0 s1=3 s2=6 l1=2 l2=6 L3=0 PK_end=1462
(fs_start=1456)

AC

AAAGGAGGGACATCAAATGAAAGAATGC

ACG GAAAGG

TTTTTTAG

GGCTAA

PK2: -17.190000(kcal/mol): PK_start=1443 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1478
(fs_start=1456)

C

GGGACATCAAATGAAAGAATGCACGGAAAGG

TTTTTT AATCGGA

TTGGCCTTC

AGGGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1465 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1498
(fs_start=1456)

AAA

ACGGAAAGGCAGGCTAATTTTTTAGGGA

CCT TCCGGTTT

AGGCCAGGAA

AACAAGGGG

PK4: -18.485000(kcal/mol): PK_start=1471 sp=7 s1=9 s2=4 l1=6 l2=5 L3=0 PK_end=1507
(fs_start=1456)

CCAACA

AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTT

GGACCGGAG GGGA

TTCTCC

AAACT

PK4B: -26.865000(kcal/mol): PK_start=1471 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1534
(fs_start=1456)

TCCAACAA

AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG

CCCCAC
AAACTTTCTCCAGAACAGGACAGAGCCAACAG

=====
(4024) X01762
=====

PK1: -13.555000(kcal/mol): PK_start=2060 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=2088
(fs_start=2080)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2065 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2101
(fs_start=2080)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=2088 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=2122
(fs_start=2080)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
ACAAGGGAAG

PK4: -26.715000(kcal/mol): PK_start=2095 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2132
(fs_start=2080)

CTAC
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

PK4B: -23.215000(kcal/mol): PK_start=2095 sp=7 s1=8 s2=4 l1=8 l2=41 L3=0 PK_end=2167
(fs_start=2080)

TCCTACAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGG
TTCTTC
GAATTTTCTTCAGAGCAGACCAGAGCCAACAGCCCCACCAT

=====
(4025) X04415
=====

PK1: -15.100000(kcal/mol): PK_start=1642 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1670
(fs_start=1662)

CA
GGAAGGAAGGACACCAAATGAAAGACTG

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          GAC   AGAGAGTC
                TTTTTTAGGG
    GCTAA
PK2:  -21.940000(kcal/mol): PK_start=1647 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1684
(fs_start=1662)
                C
GAAGGACACCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT   AATCGGA
                TTGGCCTTC
    GGAAAAT
PK3:  -23.745000(kcal/mol): PK_start=1670 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1704
(fs_start=1662)
                AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA
                CCCT   TCCGGTTT
                AGGCCAGGGA
    ACAAGGGA
PK4:  -25.490000(kcal/mol): PK_start=1677 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1714
(fs_start=1662)
                CCAC
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
                GGACCGAAG   GGAA
                CCTTCA
    GAATTT
=====
(4026) Z11530
=====
PK1:  -13.065000(kcal/mol): PK_start=2089 sp=0 s1=3 s2=8 l1=5 l2=16 L3=0 PK_end=2131
(fs_start=2124)
                CCAA
GCTGTTGGAAATGTGGAAAGGAAGGACA
                TGT   TAGAAAGT
                ATTTTTTAGG
    ACCGAGAGACAGGCTA
PK2:  -17.180000(kcal/mol): PK_start=2111 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=2145
(fs_start=2124)
                C
AGGACACCAAATGAAAGATTGTACCGAGAGA
                TTTTTT   A   ATCGGA
                TGGCCTTC
    AGGGAAAATC
PK3:  -27.275000(kcal/mol): PK_start=2132 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2166
(fs_start=2124)
                AAA
TACCGAGAGACAGGCTAATTTTTTAGGGA

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          CCCT   TCCGGTCT
                AGGCCAGGGA
ACAAGGGA
PK4:  -26.715000(kcal/mol): PK_start=2139 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2176
(fs_start=2124)
                CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                GGACCGGAAG   GGAA
                TCTTCA
          GAATTT

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2. 87 strains (2.04%) have three pseudoknots PK1, PK3, and PK4

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=====
(1) AB097871
=====
PK1:  -11.500000(kcal/mol): PK_start=1412 sp=0 s1=3 s2=7 l1=5 l2=17 L3=1 PK_end=1453
(fs_start=1447)
                CCAAA
GCTGTTGGAAATGTGGACAGGAAGGACA
                TGT  C  AGAAAGT
                TTTTTTAGG
          ACAGACAGGCAGGCTAA
PK3:  -23.695000(kcal/mol): PK_start=1455 sp=0 s1=3 s2=9 l1=3 l2=9 L3=0 PK_end=1490
(fs_start=1447)
                AAA
TACAGACAGGCAGGCTAATTTTTTAGGA
                CCT   TCCGGTTTC
                AGGCCAGGGAA
          CACAAGGGG
PK4:  -26.595000(kcal/mol): PK_start=1461 sp=6 s1=9 s2=4 l1=8 l2=6 L3=0 PK_end=1500
(fs_start=1447)
                TCCCACAA
CAGGCAGGCTAATTTTTTAGGAAAATTTGGCCT
                GGGACCGGA   GGGG
                CTCCAG
          AATTTC
PK4B:  -29.475000(kcal/mol): PK_start=1461 sp=6 s1=9 s2=4 l1=8 l2=31 L3=0 PK_end=1525
(fs_start=1447)
                TCCCACAA
CAGGCAGGCTAATTTTTTAGGAAAATTTGGCCT
                GGGACCGGA   GGGG
                CCCCAC
          AATTTCTCCAGAGCAGACCAGAGCCAACAG
=====
(2) AB286955

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=====

PK1: -10.245000(kcal/mol): PK_start=2075 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=2102
(fs_start=2095)

GA
GAAAGGAAGGACACCAGATGAAGGACTGT

GACA GAGGGT
TTTTTAGG
GCTAAT

PK3: -27.275000(kcal/mol): PK_start=2103 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2137
(fs_start=2095)

AAA
TGATGGGAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.445000(kcal/mol): PK_start=2110 sp=7 s1=8 s2=5 l1=7 l2=4 L3=0 PK_end=2146
(fs_start=2095)

TCCCACA
AGACAGGCTAATTTTTTAGGAAAATCTGGCCT

GGACCGGA AGGGA
TTCCTCC
GAAT

=====

(3) AB286956

=====

PK1: -10.245000(kcal/mol): PK_start=2075 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=2102
(fs_start=2095)

GA
GAAAGGAAGGACACCAAATGAAGGACTGT

GACA GAGGGT
TTTTTAGG
GCTAAT

PK3: -27.275000(kcal/mol): PK_start=2103 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2137
(fs_start=2095)

AAA
TGATGGGAGACAGGCTAATTTTTTAGGGA

CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.445000(kcal/mol): PK_start=2110 sp=7 s1=8 s2=5 l1=7 l2=4 L3=0 PK_end=2146
(fs_start=2095)

TCCCACA
AGACAGGCTAATTTTTTAGGAAAATCTGGCCT

GGACCGGA AGGGA
TTCCTCC
GAAT

=====

(4) AB287366

=====

PK1: -13.065000(kcal/mol): PK_start=2074 sp=0 s1=3 s2=8 l1=5 l2=16 L3=0 PK_end=2116
(fs_start=2109)

TCAAA
GCTGTTGGAAATGTGGAAGGGAAGGACA
TGT TAGAAAGT
ATTTTTTAGG
ACTGACAAACAGGCTA

PK3: -27.275000(kcal/mol): PK_start=2117 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2151
(fs_start=2109)

AAA
TACTGACAAACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=2124 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2161
(fs_start=2109)

CCAC
AAACAGGCTAATTTTTTAGGGAAAATCTGGCCTC
GGACCGGAGG GGAA
TCTTCA
GAACTT

PK4B: -30.395000(kcal/mol): PK_start=2124 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2187
(fs_start=2109)

TCCCACAA
AAACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAACTTCTTCAGAGCAGGCCAGCCAACAG

=====

(5) AB287367

=====

PK1: -13.065000(kcal/mol): PK_start=2074 sp=0 s1=3 s2=8 l1=5 l2=16 L3=0 PK_end=2116
(fs_start=2109)

TCAAA
GCTGTTGGAAATGTGGAAGGGAAGGACA
TGT TAGAAAGT
ATTTTTTAGG
ACTGACAAACAGGCTA

PK3: -27.275000(kcal/mol): PK_start=2117 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=2151
(fs_start=2109)

AAA
TACTGACAAACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT

```

                                AGGCCAGGGA
ACAAGGGG
PK4:  -26.235000(kcal/mol): PK_start=2124 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2161
(fs_start=2109)
                                CCAC
AACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAGG    GGAA
                                TCTTCA
GAACTT
PK4B:  -30.395000(kcal/mol): PK_start=2124 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2187
(fs_start=2109)
                                TCCCACAA
AACAGGCTAATTTTTTTAGGGAAAATCTGGCCT
                                GGACCGGA    GGGG
                                CCCCAC
GAACTTTCTTCAGAGCAGGCCAGCCAACAG
=====
(6) AB428560
=====
PK1:  -10.795000(kcal/mol): PK_start=1283 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1311
(fs_start=1303)
                                A
GAAAGGAAGGACACCAAATAAAAAGATTGT
                                GACA    GGGAGTC
                                TTTTTAGGG
GCTAAT
PK3:  -18.980000(kcal/mol): PK_start=1311 sp=0 s1=5 s2=5 l1=2 l2=11 L3=2 PK_end=1343
(fs_start=1303)
                                AA
TACTGAGGGACAGGCTAATTTTTTTAGGGAA
                                CCCTT  CY  GGTCT
                                CCAGGGA
ACAAGGGGAGG
PK4:  -19.880000(kcal/mol): PK_start=1318 sp=7 s1=5 s2=7 l1=10 l2=3 L3=1 PK_end=1354
(fs_start=1303)
                                YCTTCCCACA
GGACAGGCTAATTTTTTTAGGGAAAATCTGG
                                GGACC  G  GAGGGGA
                                CTTCTTCA
GAA
=====
(7) AB480300
=====
PK1:  -11.500000(kcal/mol): PK_start=2034 sp=0 s1=3 s2=7 l1=5 l2=17 L3=1 PK_end=2075
(fs_start=2069)
                                CCAAAA

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GCTGTTGGAAATGTGGAAGGGAAGGACA

TGT C AGAAAGT

TTTTTTAGG

ACTGAACATCAGGCTAA

PK3: -18.840000(kcal/mol): PK_start=2077 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=2111
(fs_start=2069)

AA

TACTGAACATCAGGCTAATTTTTTAGGGAG

CCTTC CGGTTT

GCCAGGGA

CACAAGGGGAG

PK4: -25.010000(kcal/mol): PK_start=2084 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2121
(fs_start=2069)

CCAC

CATCAGGCTAATTTTTTAGGGAGAATTTGGCCTTC

GGACCGGAGG GGAA

CCTTCA

GAATTT

PK4B: -26.865000(kcal/mol): PK_start=2084 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2147
(fs_start=2069)

TCCCACAA

CATCAGGCTAATTTTTTAGGGAGAATTTGGCCT

GGACCGGA GGGG

CCCCAC

GAATTTCTTCAGAACAGGCTAGAGCCAACAG

=====
(8) AB480301

PK1: -11.500000(kcal/mol): PK_start=2034 sp=0 s1=3 s2=7 l1=5 l2=17 L3=1 PK_end=2075
(fs_start=2069)

CCAAA

GCTGTTGGAAATGTGGAAGGGAAGGACA

TGT C AGAAAGT

TTTTTTAGG

ACTGAACATCAGGCTAA

PK3: -18.840000(kcal/mol): PK_start=2077 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=2111
(fs_start=2069)

AA

TACTGAACATCAGGCTAATTTTTTAGGGAG

CCTTC CGGTTT

GCCAGGGA

CACAAGGGGAG

PK4: -25.010000(kcal/mol): PK_start=2084 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=2121
(fs_start=2069)

CCAC

CATCAGGCTAATTTTTTAGGGAGAATTTGGCCTTC

GGACCGGAGG GGAA

CCTTCA

GAATTT

PK4B: -26.865000(kcal/mol): PK_start=2084 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2147
(fs_start=2069)

TCCCACAA

CATCAGGCTAATTTTTTAGGGAGAATTTGGCCT

GGACCGGA GGGG

CCCCAC

GAATTTCTTCAGAACAGGCTAGAGCCAACAG

=====
(9) AB485666
=====

PK1: -10.640000(kcal/mol): PK_start=2115 sp=0 s1=3 s2=7 l1=1 l2=21 L3=0 PK_end=2156
(fs_start=2149)

A

CTGGAAATGTGGACAGGAAGGTCACCAA

GTT AGAAAGT

TTTTTTAGG

CAAAAATGGAAGACAGGCAAA

PK3: -22.080000(kcal/mol): PK_start=2158 sp=0 s1=3 s2=6 l1=4 l2=11 L3=0 PK_end=2190
(fs_start=2149)

AGTA

AATGGAAGACAGGCAAATTTTTTAGGGA

CCT CCGGTC

GGCCAGGC

AGGGGGCACGA

PK4: -40.110000(kcal/mol): PK_start=2165 sp=8 s1=8 s2=8 l1=2 l2=20 L3=0 PK_end=2218
(fs_start=2149)

CA

GACAGGCAAATTTTTTAGGGAAGTACTGGCCTC

GACCGGAG CACGGGGG

GTGTCCCAT

GCAATTATGTGCAGAAACAA

PK4B: -31.080000(kcal/mol): PK_start=2165 sp=8 s1=8 s2=5 l1=3 l2=32 L3=2 PK_end=2225
(fs_start=2149)

CAG

GACAGGCAAATTTTTTAGGGAAGTACTGGCCTC

GACCGGAG CA CGGGG

GCTCCAC

GCAATTATGTGCAGAAACAAGTGTCCCATCA

=====
(10) AB485667
=====

PK1: -10.640000(kcal/mol): PK_start=2115 sp=0 s1=3 s2=7 l1=1 l2=21 l3=0 PK_end=2156
(fs_start=2149)

A
CTGGAAATGTGGACAGGAAGGTCACCAA
GTT AGAAAGT
TTTTTTAGG
CAAAAATGGAAGACAGGCAA

PK3: -22.080000(kcal/mol): PK_start=2158 sp=0 s1=3 s2=6 l1=4 l2=11 l3=0 PK_end=2190
(fs_start=2149)

AGTA
AATGGAAGACAGGCAAATTTTTTAGGGA
CCT CCGGTC
GGCCAGGC
AGGGGGCACGA

PK4: -40.110000(kcal/mol): PK_start=2165 sp=8 s1=8 s2=8 l1=2 l2=20 l3=0 PK_end=2218
(fs_start=2149)

CA
GACAGGCAAATTTTTTAGGGAAGTACTGGCCTC
GACCGGAG CACGGGGG
GTGTCCCAT
GCAATTATGTGCAGAAACAA

PK4B: -31.080000(kcal/mol): PK_start=2165 sp=8 s1=8 s2=5 l1=3 l2=32 l3=2 PK_end=2225
(fs_start=2149)

CAG
GACAGGCAAATTTTTTAGGGAAGTACTGGCCTC
GACCGGAG CA CGGGG
GCTCCAC
GCAATTATGTGCAGAAACAAGTGTCCCATCA

=====
(11) AJ302646
=====

PK1: -10.640000(kcal/mol): PK_start=2116 sp=0 s1=3 s2=7 l1=1 l2=21 l3=0 PK_end=2157
(fs_start=2150)

A
CTGGAAATGTGGACAGGAAGGTCACCAA
GTT AGAAAGT
TTTTTTAGG
CAAAAATGGAAGACAGGCAA

PK3: -22.080000(kcal/mol): PK_start=2159 sp=0 s1=3 s2=6 l1=4 l2=11 l3=0 PK_end=2191
(fs_start=2150)

AATA
AATGGAAGACAGGCAAATTTTTTAGGGA
CCT CCGGTC
GGCCAGGC
GGGGGGCACGA

PK4: -40.110000(kcal/mol): PK_start=2166 sp=8 s1=8 s2=8 l1=2 l2=20 l3=0 PK_end=2219
(fs_start=2150)

CG
GACAGGCAAATTTTTTAGGGAAATACTGGCCTC
GACCGGAG CACGGGGG
GTGTCCCAT
GCAATTATGCGCAGAGACAA

PK4B: -33.960000(kcal/mol): PK_start=2166 sp=8 s1=8 s2=5 l1=3 l2=32 l3=2 PK_end=2226
(fs_start=2150)

CGG
GACAGGCAAATTTTTTAGGGAAATACTGGCCTC
GACCGGAG CA CGGGG
GCCCCAC
GCAATTATGCGCAGAGACAAGTGTCCCATCA

=====
(12) AJ302647
=====

PK1: -10.640000(kcal/mol): PK_start=2116 sp=0 s1=3 s2=7 l1=1 l2=21 l3=0 PK_end=2157
(fs_start=2150)

A
CTGGAAATGTGGACAGGAAGGTCACCAA
GTT AGAAAGT
TTTTTTAGG
CAGAAATGGAAAACAGGCAAA

PK3: -22.080000(kcal/mol): PK_start=2159 sp=0 s1=3 s2=6 l1=4 l2=11 l3=0 PK_end=2191
(fs_start=2150)

AATA
AATGGAAAACAGGCAAATTTTTTAGGGA
CCT CCGGTC
GGCCAGGC
GGGGGGCACGA

PK4: -40.110000(kcal/mol): PK_start=2166 sp=8 s1=8 s2=8 l1=2 l2=20 l3=0 PK_end=2219
(fs_start=2150)

CG
AACAGGCAAATTTTTTAGGGAAATACTGGCCTC
GACCGGAG CACGGGGG
GTGTCCCAT
GCAATTATGCACAGAGACAA

PK4B: -33.960000(kcal/mol): PK_start=2166 sp=8 s1=8 s2=5 l1=3 l2=32 l3=2 PK_end=2226
(fs_start=2150)

CGG
AACAGGCAAATTTTTTAGGGAAATACTGGCCTC
GACCGGAG CA CGGGG
GCCCCAC
GCAATTATGCACAGAGACAAGTGTCCCATCA

=====

(13) AY169804

=====

PK1: -10.640000(kcal/mol): PK_start=1552 sp=0 s1=3 s2=7 l1=1 l2=21 l3=0 PK_end=1593
(fs_start=1586)

A

CTGGAAATGTGGACAGGAAGGTCACCAA

GTT AGAAAGT

TTTTTTAGG

CAACAATGGAAGACAGGCGAA

PK3: -19.500000(kcal/mol): PK_start=1595 sp=0 s1=3 s2=5 l1=5 l2=11 l3=0 PK_end=1626
(fs_start=1586)

AGTAY

AATGGAAGACAGGCGAATTTTTTAGGGA

CCT CCGGT

GGCCAGG

GGGGGGCACGA

PK4: -37.530000(kcal/mol): PK_start=1603 sp=9 s1=7 s2=8 l1=2 l2=21 l3=0 PK_end=1655
(fs_start=1586)

CG

ACAGGCGAATTTTTTAGGGAAGTAYTGGCCTC

ACCGGAG CACGGGGG

GTGTCCCCAA

GGCAATTAYTTGCAGAAACAA

PK4B: -31.380000(kcal/mol): PK_start=1603 sp=9 s1=7 s2=5 l1=3 l2=33 l3=2 PK_end=1662
(fs_start=1586)

CGG

ACAGGCGAATTTTTTAGGGAAGTAYTGGCCTC

ACCGGAG CA CGGGG

GCCCCAC

GGCAATTAYTTGCAGAAACAAGTGTCCCCAACA

=====

(14) AY169806

=====

PK1: -10.640000(kcal/mol): PK_start=1541 sp=0 s1=3 s2=7 l1=1 l2=15 l3=0 PK_end=1576
(fs_start=1569)

A

CTGGAAATGTGGACAGGAAGGTCACCAA

GTT AGAAAGT

TTTTTTAGG

TAAACATCAGGCAAA

PK3: -22.080000(kcal/mol): PK_start=1578 sp=0 s1=3 s2=6 l1=4 l2=11 l3=0 PK_end=1610
(fs_start=1569)

GATA

TGTAAACATCAGGCAATTTTTTAGGGA

CCT CCGGTC

GGCCAGGC
AGGGGGCACGA

PK4: -40.110000(kcal/mol): PK_start=1585 sp=8 s1=8 s2=8 l1=2 l2=20 L3=0 PK_end=1638
(fs_start=1569)

CA

ATCAGGCAAATTTTTTTAGGGAGATACTGGCCTC

GACCGGAG CACGGGGG
GTGTCCCAT
GCAATTATTTACAGAAACAA

=====
(15) AY169808
=====

PK1: -9.680000(kcal/mol): PK_start=1560 sp=0 s1=4 s2=4 l1=1 l2=12 L3=1 PK_end=1588
(fs_start=1583)

A

GACAAGAAGGCCACCAAATGAAAGATTGT

AACG T AAAG
TTTTAG
AACAGGCAAATT

PK3: -22.080000(kcal/mol): PK_start=1592 sp=0 s1=3 s2=6 l1=4 l2=11 L3=0 PK_end=1624
(fs_start=1583)

AATA

AATGCAAAACAGGCAAATTTTTTAGGGA

CCT CCGGTC
GGCCAGGC
GGGGGGCACGA

PK4: -30.330000(kcal/mol): PK_start=1599 sp=8 s1=8 s2=5 l1=5 l2=20 L3=0 PK_end=1649
(fs_start=1583)

CGGGG

AACAGGCAAATTTTTTTAGGGAAATACTGGCCTC

GACCGGAG CACGG
GTGTCAC
GCAATTATGCACAGAGACAA

PK4B: -33.960000(kcal/mol): PK_start=1599 sp=8 s1=8 s2=5 l1=3 l2=32 L3=2 PK_end=1659
(fs_start=1583)

CGG

AACAGGCAAATTTTTTTAGGGAAATACTGGCCTC

GACCGGAG CA CGGGG
GCCCCAC
GCAATTATGCACAGAGACAAGTGTCACCAACA

=====
(16) AY169810
=====

PK1: -10.640000(kcal/mol): PK_start=1540 sp=0 s1=3 s2=7 l1=1 l2=21 L3=0 PK_end=1581
(fs_start=1574)

A

CTGGAAATGTGGACAGGAAGGTCACCAA

```

          GTT   AGAAAGT
                TTTTTTAGG
          CAGAAATGGAAAACAGGCAAA

PK3:  -16.100000(kcal/mol): PK_start=1585 sp=0 s1=3 s2=4 l1=2 l2=15 L3=0 PK_end=1615
(fs_start=1574)
                TA
TGAAAAACAGGCAAATTTTTTAGGCAGG
                TCC   GGTC
                        CCAGGC
          CCGGGAGGCACGAGG

PK4:  -32.070000(kcal/mol): PK_start=1590 sp=8 s1=8 s2=5 l1=5 l2=20 L3=0 PK_end=1640
(fs_start=1574)
                CGGGA
AACAGGCAAATTTTTTAGGCAGGTACTGGCCTC
                GACCGGAG   CACGG
                        GTGCCCC
          GCAACTATGTACAGAAGCAA

=====
(17) AY169812
=====
PK1:  -10.350000(kcal/mol): PK_start=1549 sp=0 s1=3 s2=7 l1=1 l2=21 L3=0 PK_end=1590
(fs_start=1583)
                A
CTGGAAATGTGGACAGGAAGGTCACCAG
                GTT   AGAGAGT
                        TTTTTTAGG
          CAGAAATGGAAAACAGGCAAA

PK3:  -22.080000(kcal/mol): PK_start=1592 sp=0 s1=3 s2=6 l1=4 l2=11 L3=0 PK_end=1624
(fs_start=1583)
                AATA
AATGGAAAACAGGCAAATTTTTTAGGGA
                CCT   CCGGTC
                        GGCCAGGC
          AGGGGGCACGA

PK4:  -33.960000(kcal/mol): PK_start=1599 sp=8 s1=8 s2=5 l1=3 l2=23 L3=2 PK_end=1650
(fs_start=1583)
                CAG
AACAGGCAAATTTTTTAGGGAAATACTGGCCTC
                GACCGGAG   CA   CGGGG
                        GCCCCAT
          GCAATTATGCACAGAGACAAGTR

PK4B: -31.080000(kcal/mol): PK_start=1599 sp=8 s1=8 s2=5 l1=3 l2=32 L3=2 PK_end=1659
(fs_start=1583)
                CAG
AACAGGCAAATTTTTTAGGGAAATACTGGCCTC

```

GACCGGAG CA CGGGG
GCTCCAC
GCAATTATGCACAGAGACAAGTRGCCCCATCA

=====
(18) AY169813
=====

PK1: -10.640000(kcal/mol): PK_start=1548 sp=0 s1=3 s2=7 l1=1 l2=21 L3=0 PK_end=1589
(fs_start=1582)

A
CTGGAAATGTGGACAGGAAGGTCACCAA

GTT AGAAAGT

TTTTTTAGG
CAGAAATGGAAAACAGGCAAA

PK3: -16.100000(kcal/mol): PK_start=1593 sp=0 s1=3 s2=4 l1=2 l2=15 L3=0 PK_end=1623
(fs_start=1582)

TA
TGGAAAACAGGCAAATTTTTTTAGGCAGG

TCC GGTC

CCAGGC
CCGGGGGCACGAGG

PK4: -42.750000(kcal/mol): PK_start=1598 sp=8 s1=8 s2=8 l1=2 l2=20 L3=0 PK_end=1651
(fs_start=1582)

CG
AACAGGCAAATTTTTTTAGGCAGGTACTGGCCTC

GACCGGAG CACGGGGG

GTGCCCCAT
GCAATTATGTACAGAGACAA

PK4B: -36.700000(kcal/mol): PK_start=1598 sp=8 s1=8 s2=7 l1=1 l2=32 L3=2 PK_end=1660
(fs_start=1582)

C
AACAGGCAAATTTTTTTAGGCAGGTACTGGCCTC

GACCGGAG CA CGGGGGG

GCCCCTCCA
GCAATTATGTACAGAGACAAGTGCCCCCATCA

=====
(19) AY169815
=====

PK1: -10.640000(kcal/mol): PK_start=1547 sp=0 s1=3 s2=7 l1=1 l2=21 L3=0 PK_end=1588
(fs_start=1581)

A
CTGGAAATGTGGACAGGAAGGTCACCAA

GTT AGAAAGT

TTTTTTAGG
CAGAAATGGAAAACAGGCAAA

PK3: -22.08000(kcal/mol): PK_start=1590 sp=0 s1=3 s2=6 l1=4 l2=11 l3=0 PK_end=1622 (fs_start=1581)

AATA
AATGAAAACAGGCAAATTTTTTAGGGA
CCT CCGGTC
GGCCAGGC
GGGGGGCACGA

PK4: -40.11000(kcal/mol): PK_start=1597 sp=8 s1=8 s2=8 l1=2 l2=20 l3=0 PK_end=1650 (fs_start=1581)

CG
AACAGGCAAATTTTTTAGGGAAATACTGGCCTC
GACCGGAG CACGGGGG
GTGTCCCAT
GCAATTATGCACAGAGACAA

PK4B: -33.82000(kcal/mol): PK_start=1597 sp=8 s1=8 s2=7 l1=1 l2=32 l3=2 PK_end=1659 (fs_start=1581)

C
AACAGGCAAATTTTTTAGGGAAATACTGGCCTC
GACCGGAG CA CGGGGG
GCTCCTCCG
GCAATTATGCACAGAGACAAGTGTCCCATCA

=====
(20) AY271690
=====

PK1: -15.14000(kcal/mol): PK_start=2075 sp=0 s1=3 s2=8 l1=2 l2=5 l3=0 PK_end=2103 (fs_start=2095)

CA
GGAAGGAGGGACACCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTAGGG
GCGAA

PK3: -22.37000(kcal/mol): PK_start=2103 sp=0 s1=5 s2=6 l1=2 l2=11 l3=0 PK_end=2137 (fs_start=2095)

AA
CACTGAAAGACAGGCGAATTTTTTAGGGAG
CCTTC CCGTCT
GCCAGGCA
AGCAAGGGGAG

PK4: -25.74500(kcal/mol): PK_start=2110 sp=7 s1=9 s2=4 l1=6 l2=6 l3=0 PK_end=2147 (fs_start=2095)

CCAGCA
AGACAGGCGAATTTTTTAGGGAGAATCTGGCCTT
GGACCGGAG GGGG
TCCTCA
CAATTT

PK4B: -30.395000(kcal/mol): PK_start=2110 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2173
(fs_start=2095)

TCCAGCAA
AGACAGGCGAATTTTTTAGGGAGAATCTGGCCT
GGACCGGA GGGG
CCCCAC
CAATTTTCCTCAGAGCAGACCAGAGCCAACAG

=====
(21) AY358039
=====

PK1: -13.310000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=13 L3=1 PK_end=1299
(fs_start=1292)

CA
GGAAAGAAGGACATCAAATGAAAGACTG
GGC C AGAGAGTC
TTTTTTAGGG
CTACTCAGGCTAA

PK3: -23.275000(kcal/mol): PK_start=1300 sp=0 s1=4 s2=9 l1=2 l2=8 L3=0 PK_end=1335
(fs_start=1292)

AA
ACCGGCTACTCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTTT
AGGCCAGGGAA
ACAAGGGA

PK4: -22.445000(kcal/mol): PK_start=1306 sp=6 s1=9 s2=5 l1=7 l2=4 L3=0 PK_end=1344
(fs_start=1292)

TCCCACA
TACTCAGGCTAATTTTTTAGGGAAATTTTGGCCT
GGGACCGGA AGGGA
TTCCTCA
AATT

=====
(22) AY358046
=====

PK1: -13.310000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=13 L3=1 PK_end=1299
(fs_start=1292)

CA
GGAAAGAAGGACATCAAATGAAAGACTG
GGC C AGAGAGTC
TTTTTTAGGG
CTACTCAGGCTAA

PK3: -23.275000(kcal/mol): PK_start=1300 sp=0 s1=4 s2=9 l1=2 l2=8 L3=0 PK_end=1335
(fs_start=1292)

AA
ACCGGCTACTCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTTT

AGGCCAGGGAA

ACAAGGGA

PK4: -22.445000(kcal/mol): PK_start=1306 sp=6 s1=9 s2=5 l1=7 l2=4 L3=0 PK_end=1344
(fs_start=1292)

TCCCACA

TACTCAGGCTAATTTTTTTAGGGAAATTTTGGCCT

GGGACCGGA AGGGA

TTCCTCA

AATT

=====
(23) AY358047
=====

PK1: -13.310000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=13 L3=1 PK_end=1299
(fs_start=1292)

CA

GGAAAGAAGGACATCAAATGAAAGACTG

GGC C AGAGAGTC

TTTTTTAGGG

CTACTCAGGCTAA

PK3: -23.275000(kcal/mol): PK_start=1300 sp=0 s1=4 s2=9 l1=2 l2=8 L3=0 PK_end=1335
(fs_start=1292)

AA

ACCGGCTACTCAGGCTAATTTTTTTAGGGA

CCCT TCCGGTTTT

AGGCCAGGGAA

ACAAGGGA

PK4: -22.445000(kcal/mol): PK_start=1306 sp=6 s1=9 s2=5 l1=7 l2=4 L3=0 PK_end=1344
(fs_start=1292)

TCCCACA

TACTCAGGCTAATTTTTTTAGGGAAATTTTGGCCT

GGGACCGGA AGGGA

TTCCTCA

AATT

=====
(24) AY358048
=====

PK1: -13.310000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=13 L3=1 PK_end=1299
(fs_start=1292)

CA

GGAAAGAAGGACATCAAATGAAAGACTG

GGC C AGAGAGTC

TTTTTTAGGG

CTACTCAGGCTAA

PK3: -23.275000(kcal/mol): PK_start=1300 sp=0 s1=4 s2=9 l1=2 l2=8 L3=0 PK_end=1335
(fs_start=1292)

AA

ACCGGCTACTCAGGCTAATTTTTTTAGGGA

```

          CCCT   TCCGGTTTT
                AGGCCAGGGAA
ACAAGGGA
PK4:  -22.445000(kcal/mol): PK_start=1306 sp=6 s1=9 s2=5 l1=7 l2=4 L3=0 PK_end=1344
(fs_start=1292)
                TCCCACA
TACTCAGGCTAATTTTTTAGGGAAATTTTGGCCT
                GGGACCGGA   AGGGA
                TTCCTCA
          AATT

```

=====

(25) AY358066

=====

```

PK1:  -13.310000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=13 L3=1 PK_end=1299
(fs_start=1292)

```

```

          CA
GGAAAGAAGGACATCAAATGAAAGACTG
                GGC   C   AGAGAGTC
                TTTTTTAGGG
CTACTCAGGCTAA

```

```

PK3:  -23.275000(kcal/mol): PK_start=1300 sp=0 s1=4 s2=9 l1=2 l2=8 L3=0 PK_end=1335
(fs_start=1292)

```

```

          AA
ACCGGCTACTCAGGCTAATTTTTTAGGGA
          CCCT   TCCGGTTTT
                AGGCCAGGGAA
ACAAGGGA

```

```

PK4:  -22.445000(kcal/mol): PK_start=1306 sp=6 s1=9 s2=5 l1=7 l2=4 L3=0 PK_end=1344
(fs_start=1292)

```

```

                TCCCACA
TACTCAGGCTAATTTTTTAGGGAAATTTTGGCCT
                GGGACCGGA   AGGGA
                TTCCTCA
          AATT

```

=====

(26) AY618998

=====

```

PK1:  -10.640000(kcal/mol): PK_start=2120 sp=0 s1=3 s2=7 l1=1 l2=21 L3=0 PK_end=2161
(fs_start=2154)

```

```

          A
CTGGAAATGTGGACAGGAAGGTCACCAA
                GTT   AGAAAGT
                TTTTTTAGG
CAGAAATGGAACAGGCAAA

```


PK3: -22.080000(kcal/mol): PK_start=2163 sp=0 s1=3 s2=6 l1=4 l2=11 l3=0 PK_end=2195
(fs_start=2154)

AATA
AATGAAAACAGGCAAATTTTTTAGGGA
CCT CCGGTC
GGCCAGGC
GGGGGCACGA

PK4: -42.750000(kcal/mol): PK_start=2170 sp=8 s1=8 s2=8 l1=2 l2=20 l3=0 PK_end=2223
(fs_start=2154)

CG
AACAGGCAAATTTTTTAGGGAAATACTGGCCTC
GACCGGAG CACGGGGG
GTGCCCCCAT
GCAATTATGCACAGAGACAA

PK4B: -36.700000(kcal/mol): PK_start=2170 sp=8 s1=8 s2=7 l1=1 l2=32 l3=2 PK_end=2232
(fs_start=2154)

C
AACAGGCAAATTTTTTAGGGAAATACTGGCCTC
GACCGGAG CA CGGGGGG
GCCCTCCA
GCAATTATGCACAGAGACAAGTGCCCCCATCA

=====
(27) AY703911
=====

PK1: -14.985000(kcal/mol): PK_start=1487 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=1515
(fs_start=1507)

A
GAAAGGAAGGACATCAAATGAAAGACTGT
GACG GAGAGTC
TTTTTAGGG
GCGAAT

PK3: -27.275000(kcal/mol): PK_start=1515 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=1549
(fs_start=1507)

AAA
TACTGAGAGGCAGGCGAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -28.540000(kcal/mol): PK_start=1522 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1559
(fs_start=1507)

CCAC
AGGCAGGCGAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAACTT

PK4B: -30.395000(kcal/mol): PK_start=1522 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1585
(fs_start=1507)

TCCCACAA
AGGCAGGCGAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAACTTCCTTCAGAGCAGACCAGAGCCAACAG

=====
(28) AY779555
=====

PK1: -13.555000(kcal/mol): PK_start=1344 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1372
(fs_start=1364)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCGAAT

PK3: -22.370000(kcal/mol): PK_start=1372 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1406
(fs_start=1364)

AG
TACTGAGAGACAGGCGAATTTTTTAGGGAG
CCTTC CGGTCT
GCCAGGGA
CACAAAGGAAG

PK4: -26.715000(kcal/mol): PK_start=1379 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1416
(fs_start=1364)

CCAC
AGACAGGCGAATTTTTTAGGGAGAGTCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(29) DQ168579
=====

PK1: -9.760000(kcal/mol): PK_start=1272 sp=0 s1=3 s2=4 l1=3 l2=8 L3=0 PK_end=1296
(fs_start=1289)

CGA
GAAAGGAGGGACATCAAATGAAAGACTG
GAC AGAT
TTTAGG
GCTAATTT

PK3: -20.285000(kcal/mol): PK_start=1298 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1331
(fs_start=1289)

AAA
TGCGATAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT

```

                                AGGCCAGGGA
                                AACAAGGGG

PK4:  -22.705000(kcal/mol): PK_start=1304 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1341
(fs_start=1289)
                                CAAC
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTTC
                                GGACCGGAGG    GGAA
                                TCTTCA
                                GAATTT

PK4B:  -26.865000(kcal/mol): PK_start=1304 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1367
(fs_start=1289)
                                TCCAACAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
                                GGACCGGA    GGGG
                                CCCCAC
                                GAATTTTCTTCAGAACAGGCTAGAGCCAACAG

=====
(30) DQ275664
=====

PK1:  -16.910000(kcal/mol): PK_start=1469 sp=0 s1=5 s2=7 l1=5 l2=15 L3=1 PK_end=1512
(fs_start=1506)
                                CCAAA
AGGCTGTTGGGAATGTGGACAAGAAGGACA
                                CCTGT  A  AGAAAGT
                                TTTTTTAGG
                                CGGAAGGCAGGCTAA

PK3:  -23.815000(kcal/mol): PK_start=1515 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1548
(fs_start=1506)
                                AAA
CCCAGGAAGGCAGGCTAATTTTTTTAGGGA
                                CCT    TCCGGTCT
                                AGGCCAGGGA
                                AACAAGGGG

PK4:  -28.540000(kcal/mol): PK_start=1521 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1558
(fs_start=1506)
                                CAAC
AGGCAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAGG    GGAA
                                CCTTCA
                                GAATTT

PK4B:  -30.395000(kcal/mol): PK_start=1521 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1584
(fs_start=1506)
                                TCCAACAA
AGGCAGGCTAATTTTTTTAGGGAAAATCTGGCCT
                                GGACCGGA    GGGG

```

CCCCAC
GAATTCCTTCAGAGCAGACCAGAGCCAACAG

=====
(31) DQ366663
=====

PK1: -13.765000(kcal/mol): PK_start=1368 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1396
(fs_start=1388)

A
GAAAGGAAGGACATCAAATGAAAGATTGT
GACA AAGAGTC
TTTTTAGGG
GTYAAT

PK3: -26.110000(kcal/mol): PK_start=1396 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1430
(fs_start=1388)

C
TACTGAGAAACAGGTYAATTTTTTAGGGAAG
CCCTTC CGGTCT
GCCAGGGA
ACAAGGGGAG

PK4: -26.095000(kcal/mol): PK_start=1402 sp=6 s1=9 s2=4 l1=8 l2=6 L3=0 PK_end=1441
(fs_start=1388)

TCCCACAA
GAAACAGGTYAATTTTTTAGGGAAGCTCTGGCCT
GGGACCGGA GGGG
CTTCAA
AACTTC

PK4B: -32.705000(kcal/mol): PK_start=1402 sp=6 s1=9 s2=4 l1=8 l2=31 L3=0 PK_end=1466
(fs_start=1388)

TCCCACAA
GAAACAGGTYAATTTTTTAGGGAAGCTCTGGCCT
GGGACCGGA GGGG
CCCCAC
AACTTCCTTCAAAGCAGGCCAGAGCCAACAG

=====
(32) DQ676878
=====

PK1: -13.065000(kcal/mol): PK_start=1269 sp=0 s1=3 s2=8 l1=5 l2=16 L3=0 PK_end=1311
(fs_start=1304)

CCAAA
GCTGTTGGAAATGTGGAAAGGAAGGACA
TGT TAGAAAGT
ATTTTTTAGG
ACTGARAGACAGGCTA

PK3: -24.635000(kcal/mol): PK_start=1312 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1346
(fs_start=1304)

AAA
TACTGARAGACAGGCTAATTTTTTAGGGA

CCCT TCTGGTCT
AGGCCAGGGA
ACAAGGGA
PK4: -24.075000(kcal/mol): PK_start=1319 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1356
(fs_start=1304)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGTCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(33) DQ853437
=====

PK1: -11.475000(kcal/mol): PK_start=1530 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1558
(fs_start=1550)

A
GAAGGGGAGGACACCAAATGAAAGATTGT
AACA GGGAGTC
TTTTTAGGG
GCTAAT

PK3: -27.275000(kcal/mol): PK_start=1558 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1592
(fs_start=1550)

AAA
TACTGAGGGACAAGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1565 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1602
(fs_start=1550)

CCAC
GGACAAGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(34) DQ886034
=====

PK1: -13.555000(kcal/mol): PK_start=1308 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1336
(fs_start=1328)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCAAAT

PK3: -27.275000(kcal/mol): PK_start=1336 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1370
(fs_start=1328)

AAA
TACTGAGAGACAGGCAAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1343 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1380
(fs_start=1328)

CCAC
AGACAGGCAAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAACTT

=====
(35) EF514697
=====

PK1: -13.595000(kcal/mol): PK_start=1444 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1472
(fs_start=1464)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCAAAT

PK3: -27.275000(kcal/mol): PK_start=1472 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1506
(fs_start=1464)

AAA
TACTGAAAGACAGGCAAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1479 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1516
(fs_start=1464)

CCAC
AGACAGGCAAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(36) EF514709
=====

PK1: -13.555000(kcal/mol): PK_start=1432 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1460
(fs_start=1452)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC

TTTTTAGGG
GCGAAT
PK3: -27.275000(kcal/mol): PK_start=1460 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1494
(fs_start=1452)

AAA
TACTGAGAGACAGGCGAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1467 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1504
(fs_start=1452)

CCAC
AGACAGGCGAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====

(37) EF514713

=====

PK1: -11.500000(kcal/mol): PK_start=1406 sp=0 s1=3 s2=7 l1=5 l2=17 L3=1 PK_end=1447
(fs_start=1441)

CCAAA
GCTGTTGGAAATGTGGACAGGAAGGACA
TGT C AGAAAGT
TTTTTTAGG
ACTGTGAGGCAGGCTAA

PK3: -20.285000(kcal/mol): PK_start=1450 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1483
(fs_start=1441)

AAA
ACTGTGAGGCAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1456 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1493
(fs_start=1441)

CAAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
AAATTT

PK4B: -23.985000(kcal/mol): PK_start=1456 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1519
(fs_start=1441)

TCCAACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG

CTCAA
AAATTCCTTCAGAGCAGACCAGAGCCAACAG

=====
(38) EF694034
=====

PK1: -12.995000(kcal/mol): PK_start=1428 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1456
(fs_start=1448)

A
GAAAGGAAGGACACCAAATGAAAGATTGT

GACG GAAAGTC

TTTTTAGGG

GCGAAT

PK3: -27.275000(kcal/mol): PK_start=1456 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1490
(fs_start=1448)

AAA
TACTGAAAGGCAGGCGAATTTTTTAGGGA

CCCT TCCGGTCT

AGGCCAGGCA

ACAAGGGG

PK4: -28.540000(kcal/mol): PK_start=1463 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1500
(fs_start=1448)

CCAC
AGGCAGGCGAATTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAGG GGAA

CCTTCA

CAATTT

PK4B: -30.875000(kcal/mol): PK_start=1463 sp=7 s1=8 s2=5 l1=7 l2=32 L3=0 PK_end=1527
(fs_start=1448)

TCCCACA
AGGCAGGCGAATTTTTTAGGGAAAATCTGGCCT

GGACCGGA GGGGA

CCCCTCC

CAATTCCTTCAGAACAGACTAGAGCCAACAG

=====
(39) EF694035
=====

PK1: -9.260000(kcal/mol): PK_start=1430 sp=0 s1=3 s2=4 l1=1 l2=7 L3=0 PK_end=1451
(fs_start=1445)

A
GAAGGACACCAAATGAAAGATAGTACTG

GAC AGAA

TTTTAG

GCGAATT

PK3: -27.275000(kcal/mol): PK_start=1453 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1487
(fs_start=1445)

AAA
TACTGAAAGACAGGCGAATTTTTTAGGGA


```

          CCCT   TCCGGTCT
                AGGCCAGGCA
ACAAGGGG
PK4:  -28.540000(kcal/mol): PK_start=1460 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1497
(fs_start=1445)
                CCAC
AGACAGGCGAATTTTTTAGGGAAAATCTGGCCTTC
                GGACCGGAGG   GGAA
                                CCTTCA
                CAATTT

PK4B:  -30.875000(kcal/mol): PK_start=1460 sp=7 s1=8 s2=5 l1=7 l2=32 L3=0 PK_end=1524
(fs_start=1445)
                TCCCACA
AGACAGGCGAATTTTTTAGGGAAAATCTGGCCT
                GGACCGGA   GGGGA
                                CCCCTCC
                CAATTTCTTCAGAACAGACTAGAGCCAACAG

=====
(40) EF694036
=====
PK1:  -12.995000(kcal/mol): PK_start=1429 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1457
(fs_start=1449)
                A
GAAAGGAAGGACACCAAATGAAAGATTGT
                GACG   GAAAGTC
                                TTTTTAGGG
                GCGAAT

PK3:  -26.110000(kcal/mol): PK_start=1457 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1491
(fs_start=1449)
                A
TACTGAAAGGCAGGCGAATTTTTTAGGGAAG
                CCCTTC   CGGTCT
                                GCCAGGCA
                ACAAGGGGAG

PK4:  -28.540000(kcal/mol): PK_start=1464 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1501
(fs_start=1449)
                CCAC
AGGCAGGCGAATTTTTTAGGGAAGATCTGGCCTTC
                GGACCGGAGG   GGAA
                                CCTTCA
                CAATTT

PK4B:  -30.875000(kcal/mol): PK_start=1464 sp=7 s1=8 s2=5 l1=7 l2=32 L3=0 PK_end=1528
(fs_start=1449)
                TCCCACA
AGGCAGGCGAATTTTTTAGGGAAGATCTGGCCT

```

GGACCGGA GGGGA
CCCCTCC
CAATTTCTTCAGAACAGACTAGAGCCAACAG

=====
(41) EU884501
=====

PK1: -15.100000(kcal/mol): PK_start=1502 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1530
(fs_start=1522)

CA
GAAAGGAGGGACACCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCAAA

PK3: -21.005000(kcal/mol): PK_start=1531 sp=0 s1=3 s2=6 l1=5 l2=9 L3=0 PK_end=1562
(fs_start=1522)

GAATS
ACTGAGAGACAGGCAAATTTTTAGGGA
CCT TCCGGT
AGGCCAGG
AGCAAGGGG

PK4: -22.135000(kcal/mol): PK_start=1539 sp=9 s1=7 s2=4 l1=6 l2=8 L3=0 PK_end=1574
(fs_start=1522)

CCAGCA
ACAGGCAAATTTTTAGGGAGAATSTGGCCTT
ACCGGAG GGGG
TCCTCA
GGCAATTT

PK4B: -26.785000(kcal/mol): PK_start=1539 sp=9 s1=6 s2=4 l1=8 l2=34 L3=0 PK_end=1600
(fs_start=1522)

TCCAGCAA
ACAGGCAAATTTTTAGGGAGAATSTGGCCT
ACCGGA GGGG
CCCCGC
GGCAATTTCTTCAGAGCAGACCGGAACCAACAG

=====
(42) FJ195086
=====

PK1: -13.555000(kcal/mol): PK_start=1502 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1530
(fs_start=1522)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTTAGGG
GCGAAT

PK3: -27.275000(kcal/mol): PK_start=1530 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1564 (fs_start=1522)

AAA
TACTGAGAGACAGGCGAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=1537 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1574 (fs_start=1522)

CCAC
AGACAGGCGAATTTTTTAGGGAAAATCTGGCCTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1537 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1600 (fs_start=1522)

TCCCACAA
AGACAGGCGAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCTTCAGAACAGACCAGAGCCAACAG

=====
(43) FJ388913
=====

PK1: -13.065000(kcal/mol): PK_start=1242 sp=0 s1=3 s2=8 l1=5 l2=16 L3=0 PK_end=1284 (fs_start=1277)

CCAAA
GCTGTTGAAATGTGGAAGAGAGGGACA
TGT TAGAAAGT
ATTTTTTAGG
ACCGAGGGGCAGGCTA

PK3: -23.745000(kcal/mol): PK_start=1285 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1319 (fs_start=1277)

AAA
TACCGAGGGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1292 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1329 (fs_start=1277)

CCAC
GGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1292 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1355
(fs_start=1277)

TCCCACAA
GGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCCTTCAGAACAGGCCAGGCCATCAG

=====
(44) FJ469715
=====

PK1: -13.595000(kcal/mol): PK_start=1303 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1331
(fs_start=1323)

A
GAAGGGAGGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCAAAT

PK3: -29.180000(kcal/mol): PK_start=1329 sp=0 s1=6 s2=7 l1=3 l2=8 L3=0 PK_end=1365
(fs_start=1323)

AAA
TGTACTGAAAGACAGGCAAATTTTTTAGGGGA
ATCCCT CCGGTCT
GGCCAGGGA
CAAGGGGA

PK4: -29.045000(kcal/mol): PK_start=1338 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1375
(fs_start=1323)

CTAC
AGACAGGCAAATTTTTTAGGGAAAATCTGGCCTCC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1338 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1401
(fs_start=1323)

CCCTACAA
AGACAGGCAAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAT
GAATTTTCTTCAGAGCAGACCAGGCCAACAG

=====
(45) FJ469733
=====

PK1: -13.595000(kcal/mol): PK_start=1301 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1329
(fs_start=1321)

A
GAAGAGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC

```

          TTTT TAGGG
    GCAAAT
PK3:  -29.180000(kcal/mol): PK_start=1327 sp=0 s1=6 s2=7 l1=3 l2=8 L3=0 PK_end=1363
(fs_start=1321)
          AAA
TG TACTGAAAGACAGGCAAATTTTTTAGGGA
          ATCCCT   CCGGTCT
          GCCAGGGA
    CAAGGGGA
PK4:  -29.045000(kcal/mol): PK_start=1336 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1373
(fs_start=1321)
          CTAC
AGACAGGCAAATTTTTTAGGGAAAATCTGGCCTCC
          GGACCGGAGG   GGAA
          TCTTCA
    GAATTT
PK4B:  -30.395000(kcal/mol): PK_start=1336 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1399
(fs_start=1321)
          CCCTACAA
AGACAGGCAAATTTTTTAGGGAAAATCTGGCCT
          GGACCGGA   GGGG
          CCCCCG
    GAATTTTCTTCAGAGCAGACCAGGCCATCAG

=====
(46) FJ711703
=====
PK1:  -12.160000(kcal/mol): PK_start=1577 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1615
(fs_start=1608)
          A
TTGGAAATGTGGGAGGGAAGGACATCAG
          GTC   AGAAAGT
          TTTTTTAGG
    CACAGAGAGACAGGCGAA
PK3:  -23.815000(kcal/mol): PK_start=1617 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1650
(fs_start=1608)
          AAA
ACAGAGAGACAGGCGAATTTTTTAGGGA
          CCT   TCCGGTCT
          AGCCAGGGA
    AGCAAAGGG
PK4:  -23.490000(kcal/mol): PK_start=1623 sp=7 s1=7 s2=4 l1=10 l2=6 L3=0 PK_end=1660
(fs_start=1608)
          TTCCAGCAA
AGACAGGCGAATTTTTTAGGGAAAATCTGGCC
          GGACCGG   AGGG

```

TCTCCA

GAACTT

=====
(47) GQ351296
=====

PK1: -10.640000(kcal/mol): PK_start=1523 sp=0 s1=3 s2=7 l1=1 l2=21 L3=0 PK_end=1564
(fs_start=1557)

A

CTGGAAATGTGGACAGGAAGGTCACCAA

GTT AGAAAGT

TTTTTTAGG

CAGAAATGGAAAACAGGCAAA

PK3: -23.780000(kcal/mol): PK_start=1565 sp=0 s1=3 s2=6 l1=5 l2=11 L3=0 PK_end=1598
(fs_start=1557)

AAATA

AAATGGAAAACAGGCAAATTTTTTAGGG

CCC CCGGTC

GGCCAGGC

GGGGGGCACGA

PK4: -37.140000(kcal/mol): PK_start=1573 sp=8 s1=6 s2=8 l1=4 l2=20 L3=2 PK_end=1624
(fs_start=1557)

CCCG

AACAGGCAAATTTTTTAGGGAAATACTGGCC

GACCGG AG CACGGGGG

GTGCCCCCAT

GCAATTATRCACAGAGACAA

PK4B: -32.270000(kcal/mol): PK_start=1573 sp=8 s1=6 s2=7 l1=3 l2=32 L3=4 PK_end=1633
(fs_start=1557)

CCC

AACAGGCAAATTTTTTAGGGAAATACTGGCC

GACCGG AGCA CGGGGGG

GCCCTCCG

GCAATTATRCACAGAGACAAGTGCCCCCATCA

=====
(48) GU362885
=====

PK1: -12.505000(kcal/mol): PK_start=1509 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1536
(fs_start=1528)

A

AAAGGAAGGACACCAAATGAAAGACTGT

ACG GAGAGTC

TTTTTTAGGG

AGCAAAT

PK3: -27.275000(kcal/mol): PK_start=1536 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1570
(fs_start=1528)

AAA

TACTGAGAGGCAAGCAAATTTTTTAGGGA

CCCT TCCGGTCT
 AGGCCAGGGA
 ACAAGGGA

PK4: -24.995000(kcal/mol): PK_start=1543 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1580
 (fs_start=1528)

TCCCACAA
 AGGCAAGCAAATTTTTTAGGGAAAATCTGGCCT

GGACCGGA AGGG
 TCTCCA
 GAATTT

=====

(49) HQ215553

=====

PK1: -15.100000(kcal/mol): PK_start=1298 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1326
 (fs_start=1318)

CA
 GGAAGGAAGGACATCAAATGAAAGACTG

GAC AGAGAGTC
 TTTTTTAGGG
 GCGAA

PK3: -21.005000(kcal/mol): PK_start=1327 sp=0 s1=3 s2=6 l1=5 l2=9 L3=0 PK_end=1358
 (fs_start=1318)

GGCTG
 ACTGAGAGACAGGCGAATTTTTTAGGGA

CCT TCCGGT
 AGGCCAGG
 AACAAGGGA

PK4: -25.845000(kcal/mol): PK_start=1335 sp=9 s1=6 s2=5 l1=7 l2=7 L3=0 PK_end=1370
 (fs_start=1318)

TCCAACA
 ACAGGCGAATTTTTTAGGGAGGCTGTGGCCT

ACCGGA AGGGA
 TCCCTCA
 GGCAATT

=====

(50) JF320144

=====

PK1: -13.065000(kcal/mol): PK_start=1468 sp=0 s1=3 s2=8 l1=5 l2=16 L3=0 PK_end=1510
 (fs_start=1503)

CCAAA
 GCTGTTGGAAATGTGGACAGGAAGGACA

TGT TAGAAAGT
 ATTTTTTAGG
 ACCGGAAGACAGGCTA

PK3: -23.815000(kcal/mol): PK_start=1512 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1545 (fs_start=1503)

AAA
ACCGGAAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTCT
AGGCCAGGGA
AACAAGGGG

PK4: -28.540000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555 (fs_start=1503)

CAAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1581 (fs_start=1503)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCCTTCAGAGCAGACCAGAGCCTTCAG

=====
(51) JF320146
=====

PK1: -13.065000(kcal/mol): PK_start=1468 sp=0 s1=3 s2=8 l1=5 l2=16 L3=0 PK_end=1510 (fs_start=1503)

CCAAA
GCTGTTGGAAATGTGGACAGGAAGGACA
TGT TAGAAAGT
ATTTTTTAGG
ACCGGAAGACAGGCTA

PK3: -23.815000(kcal/mol): PK_start=1512 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1545 (fs_start=1503)

AAA
ACCGGAAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTCT
AGGCCAGGGA
AACAAGGGG

PK4: -28.540000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555 (fs_start=1503)

CAAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1581
(fs_start=1503)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCCTTCAGAGCAGACCAGAGCCTTCAG

=====
(52) JF320148
=====

PK1: -13.065000(kcal/mol): PK_start=1468 sp=0 s1=3 s2=8 l1=5 l2=16 L3=0 PK_end=1510
(fs_start=1503)

CCAAA
GCTGTTGGAAATGTGGACAGGAAGGACA
TGT TAGAAAGT
ATTTTTTAGG
ACCGGAAGACAGGCTA

PK3: -21.175000(kcal/mol): PK_start=1512 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1545
(fs_start=1503)

AAA
ACCGGAAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTCT
AGGTCAGGGA
AACAAGGGG

PK4: -25.900000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)

CAAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACTGGAGG GGAA
CCTTCA
GAATTT

PK4B: -27.755000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1581
(fs_start=1503)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACTGGA GGGG
CCCCAC
GAATTTTCCTTCAGAGCAGACCAGAGCCTTCAG

=====
(53) JF320149
=====

PK1: -13.065000(kcal/mol): PK_start=1468 sp=0 s1=3 s2=8 l1=5 l2=16 L3=0 PK_end=1510
(fs_start=1503)

CCAAA
GCTGTTGGAAATGTGGACAGGAAGGACA
TGT TAGAAAGT

```

                ATTTTTTAGG
            ACCGGAAGACAGGCTA

PK3:  -23.815000(kcal/mol): PK_start=1512 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1545
(fs_start=1503)
                AAA
            ACCGGAAGACAGGCTAATTTTTTAGGGA
                CCT      TCCGGTCT
                    AGGCCAGGGA
                AACAAGGGG

PK4:  -28.540000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)
                    CAAC
            AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                GGACCGGAGG      GGAA
                    CCTTCA
                GAATTT

PK4B:  -30.395000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1581
(fs_start=1503)
                    TCCAACAA
            AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
                GGACCGGA      GGGG
                    CCCAC
                GAATTTCTTCAGAGCAGACCAGAGCCTTCAG

=====
(54) JF320151
=====
PK1:  -13.065000(kcal/mol): PK_start=1468 sp=0 s1=3 s2=8 l1=5 l2=16 L3=0 PK_end=1510
(fs_start=1503)
                CCAAA
            GCTGTTGGAAATGTGGACAGGAAGGACA
                TGT      TAGAAAGT
                    ATTTTTTAGG
                ACCGGAAGACAGGCTA

PK3:  -23.815000(kcal/mol): PK_start=1512 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1545
(fs_start=1503)
                AAA
            ACCGGAAGACAGGCTAATTTTTTAGGGA
                CCT      TCCGGTCT
                    AGGCCAGGGA
                AACAAGGGG

PK4:  -28.540000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1555
(fs_start=1503)
                    CAAC
            AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
                GGACCGGAGG      GGAA

```

CCTTCA
GAATTT
PK4B: -30.395000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1581
(fs_start=1503)
TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCCCTTCAGAGCAGACCAGAGCCTTCAG

=====
(55) JF683751
=====

PK1: -13.555000(kcal/mol): PK_start=1308 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1336
(fs_start=1328)
A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCAAAT

PK3: -27.275000(kcal/mol): PK_start=1336 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1370
(fs_start=1328)
AAA
TACTGAGAGACAGGCAAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1343 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1380
(fs_start=1328)
CCAC
AGACAGGCAAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
GAATTT

=====
(56) JF683808
=====

PK1: -13.555000(kcal/mol): PK_start=1287 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1315
(fs_start=1307)
A
GAAAGGAAGGACATCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCAAAT

PK3: -27.275000(kcal/mol): PK_start=1315 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1349
(fs_start=1307)
AAA
TACTGAGAGACAGGCAAATTTTTTAGGGA

```

          CCCT   TCCGGTCT
                AGGCCAGGGA
ACAAGGGG
PK4:  -28.54000(kcal/mol): PK_start=1322 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1359
(fs_start=1307)
                CCAC
AGACAGGCAAATTTTTTAGGGAAAATCTGGCCTTC
                GGACCGGAGG   GGAA
                                CCTTCA
                GAATTT

PK4B:  -30.395000(kcal/mol): PK_start=1322 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1385
(fs_start=1307)
                TCCCACAA
AGACAGGCAAATTTTTTAGGGAAAATCTGGCCT
                GGACCGGA   GGGG
                                CCCCAA
                GAATTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(57) JF932492
=====
PK1:  -11.665000(kcal/mol): PK_start=1497 sp=0 s1=3 s2=8 l1=5 l2=16 L3=0 PK_end=1539
(fs_start=1532)
                CCAAA
GCTGTTGGAAATGTGGAAAGGAAGGACA
                TGT   TAGGAAGT
                                ATTTTTTAGG
                ACTGGACCACAGGCTA

PK3:  -26.110000(kcal/mol): PK_start=1540 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1574
(fs_start=1532)
                A
TACTGGACCACAGGCTAATTTTTTAGGGAAG
                CCCTTC   CGGTCT
                                GCCAGGGA
                ACAAGGGGAG

PK4:  -26.235000(kcal/mol): PK_start=1547 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1584
(fs_start=1532)
                CCAC
CCACAGGCTAATTTTTTAGGGAAGATCTGGCCTTC
                GGACCGGAGG   GGAA
                                TCTTCA
                GAATTT

PK4B:  -30.395000(kcal/mol): PK_start=1547 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1610
(fs_start=1532)
                TCCCACAA
CCACAGGCTAATTTTTTAGGGAAGATCTGGCCT

```

GGACCGGA GGGG
CCCCAC
GAATTTTCTTCAGAGCAGGCCAGAGCCAACAG

=====
(58) JN248349
=====

PK1: -13.555000(kcal/mol): PK_start=1279 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1307
(fs_start=1299)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCAAAT

PK3: -27.275000(kcal/mol): PK_start=1307 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1341
(fs_start=1299)

AAA
TACTGAGAGACAGGCAAATTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=1314 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1351
(fs_start=1299)

CCAC
AGACAGGCAAATTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1314 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1377
(fs_start=1299)

TCCCACAA
AGACAGGCAAATTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCTTCAGAGCAGACCAGAGCCAACAG

=====
(59) JN692432
=====

PK1: -11.435000(kcal/mol): PK_start=1533 sp=0 s1=4 s2=6 l1=2 l2=5 L3=0 PK_end=1559
(fs_start=1553)

AC
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGG
TTTTTTAG
GCAAA

PK3: -27.275000(kcal/mol): PK_start=1561 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1595
(fs_start=1553)

AAA
TACGGAGAGACAGGCAAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=1568 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1605
(fs_start=1553)

CCAC
AGACAGGCAAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1568 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1631
(fs_start=1553)

TCCCACAA
AGACAGGCAAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCTTCAGAGCAGGCCAGCCAACAG

=====
(60) JN692453
=====

PK1: -13.555000(kcal/mol): PK_start=1483 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1511
(fs_start=1503)

A
GAAAAGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
CATAAT

PK3: -26.145000(kcal/mol): PK_start=1511 sp=0 s1=4 s2=7 l1=4 l2=8 L3=0 PK_end=1544
(fs_start=1503)

AAAT
TACTGAGAGACAGCATAATTTTTTAGGGA
CCCT TCCGGTC
AGGCCAGCG
ACAAGGGA

PK4: -25.285000(kcal/mol): PK_start=1519 sp=8 s1=9 s2=4 l1=4 l2=7 L3=0 PK_end=1555
(fs_start=1503)

CCAC
GACAGCATAATTTTTTAGGGAAAATCTGGCCTTC
GACCGGAAG GGAA
TCTTCA
CGAACTT

=====
(61) JN692458
=====

PK1: -13.555000(kcal/mol): PK_start=1502 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1530
(fs_start=1522)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCGAAT

PK3: -27.275000(kcal/mol): PK_start=1530 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1564
(fs_start=1522)

AAA
TACTGAGAGACAGGCGAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=1537 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1574
(fs_start=1522)

CCAC
AGACAGGCGAATTTTTTAGGGAAAATCTGGCCTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1537 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1600
(fs_start=1522)

TCCCACAA
AGACAGGCGAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCTTCAGAACAGACCAGAGCCAACAG

=====
(62) JN692460
=====

PK1: -13.595000(kcal/mol): PK_start=1403 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1431
(fs_start=1423)

A
GAAAAGAAGGACACCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCAAAT

PK3: -24.730000(kcal/mol): PK_start=1431 sp=0 s1=4 s2=7 l1=3 l2=9 L3=1 PK_end=1464
(fs_start=1423)

AAA
TACTGAAAGACAGGCAAATTTTTTAGGGA
CCCT C CCGGTCT

GGCCAGGGA

ACAAGGGAA

PK4: -25.870000(kcal/mol): PK_start=1438 sp=7 s1=7 s2=6 l1=8 l2=3 L3=0 PK_end=1474
(fs_start=1423)

CTCCCACA

AGACAGGCAAATTTTTTAGGGAAAATCTGGCC

GGACCGG AAGGGA

TTTCCTCC

GAA

=====
(63) JN692476
=====

PK1: -13.595000(kcal/mol): PK_start=1523 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1551
(fs_start=1543)

A

GAAAAGAAGGACACCAAATGAAAGATTGT

GACA GAAAGTC

TTTTTAGGG

GCAAAT

PK3: -27.275000(kcal/mol): PK_start=1551 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1585
(fs_start=1543)

AAA

TACTGAAAGACAGGCAAATTTTTTAGGGA

CCCT TCCGGTCT

AGGCCAGGGA

ACAAGGGA

PK4: -29.020000(kcal/mol): PK_start=1558 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1595
(fs_start=1543)

CCAC

AGACAGGCAAATTTTTTAGGGAAAATCTGGCCTTC

GGACCGGAAG GGAA

CCTTCA

GAATTT

=====
(64) JN864055
=====

PK1: -15.100000(kcal/mol): PK_start=1299 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1327
(fs_start=1319)

CA

GGAAGGAAGGACACCAAATGAAAGACTG

GAC AGAGAGTC

TTTTTTAGGG

GCGAA

PK3: -23.815000(kcal/mol): PK_start=1328 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1361
(fs_start=1319)

AAA

ACTGAGAGACAGGCGAATTTTTTAGGGA


```

          CCT      TCCGGTCT
                AGGCCAGGAA
          AACAAAGGG
PK4:  -30.530000(kcal/mol): PK_start=1334 sp=7 s1=7 s2=5 l1=9 l2=6 L3=0 PK_end=1372
(fs_start=1319)
                TTCCAACAA
AGACAGGCGAATTTTTTAGGGAAAATCTGGCC
                GGACCGG      AGGGG
                TCCCCAA
          AAATTT
PK4B:  -24.810000(kcal/mol): PK_start=1335 sp=8 s1=6 s2=4 l1=9 l2=32 L3=1 PK_end=1395
(fs_start=1319)
                TTCCAACAA
GACAGGCGAATTTTTTAGGGAAAATCTGGCC
                GACCGG  A  GGGG
                CCCCCA
          GAAATTTTCCCCAAAGCAAACCAAACCAACA
=====
(65) JX140645
=====
PK1:  -15.100000(kcal/mol): PK_start=1424 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1452
(fs_start=1444)
                CA
GAAAGGAGGGACACCAAATGAAAGACTG
                GAC      AGAGAGTC
                TTTTTTAGGG
          GCAAA
PK3:  -22.370000(kcal/mol): PK_start=1452 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1486
(fs_start=1444)
                AA
CACTGAGAGACAGGCAAATTTTTTAGGGAG
                CCTTC      CGGTCT
                GCCAGGCA
          AGCAAGGGGAG
PK4:  -25.745000(kcal/mol): PK_start=1459 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1496
(fs_start=1444)
                CCAGCA
AGACAGGCAAATTTTTTAGGGAGAATCTGGCCTT
                GGACCGGAG      GGGA
                TCCTCA
          CAATTT
PK4B:  -30.395000(kcal/mol): PK_start=1459 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1522
(fs_start=1444)
                TCCAGCAA
AGACAGGCAAATTTTTTAGGGAGAATCTGGCCT

```

GGACCGGA GGGG
CCCCGC
CAATTTTCCTCAGAGCAGACCAGAACCAACAG

=====
(66) JX245014
=====

PK1: -11.580000(kcal/mol): PK_start=1287 sp=0 s1=4 s2=6 l1=5 l2=6 L3=0 PK_end=1317
(fs_start=1310)

AGAaa
GACAGGAAGGTCACCAAATGAAAGATTGC

GACG AAAGGt
TTTTTAGG
GCGAAT

PK3: -24.490000(kcal/mol): PK_start=1318 sp=0 s1=4 s2=6 l1=4 l2=10 L3=0 PK_end=1351
(fs_start=1310)

AGTA
AaatGGAAAGCAGGCGAATTTTTTAGGGA

TCCT CCGGTC
GGCCAGGC
GGGGGcacgA

PK4: -41.120000(kcal/mol): PK_start=1326 sp=8 s1=8 s2=9 l1=1 l2=20 L3=0 PK_end=1380
(fs_start=1310)

C
AGCAGGCGAATTTTTTAGGGAAGTACTGGCCTC
GACCGGAg cacGGGGT
GTGTCCCCATC
GCAATTATGTGCAGAAACAA

PK4B: -33.960000(kcal/mol): PK_start=1326 sp=8 s1=8 s2=5 l1=3 l2=32 L3=2 PK_end=1386
(fs_start=1310)

CTG
AGCAGGCGAATTTTTTAGGGAAGTACTGGCCTC
GACCGGAg ca cGGGG
GCCCCAC
GCAATTATGTGCAGAAACAAGTGTCCCCATCA

=====
(67) JX447465
=====

PK1: -12.340000(kcal/mol): PK_start=1423 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1451
(fs_start=1443)

CA
GGGAGGAAGGACATCACATGAAAGACTG
GAC AGAGGGTC
TTTTTTAGGG
GCTAA

PK3: -23.730000(kcal/mol): PK_start=1451 sp=0 s1=4 s2=8 l1=2 l2=10 l3=0 PK_end=1486
(fs_start=1443)

AA
CACTGGGAGACAGGCTAATTTTTTAGGGA
CCCT CCGGTTTC
GGCCGGGGAA
AGCAAGGGAA

PK4: -23.805000(kcal/mol): PK_start=1457 sp=6 s1=9 s2=5 l1=7 l2=4 l3=0 PK_end=1495
(fs_start=1443)

CCCAGCA
GAGACAGGCTAATTTTTTAGGGAACTTTGGCCT
GGGGCCGGA AGGGA
TTCCTCA
AATT

=====
(68) JX447466
=====

PK1: -12.340000(kcal/mol): PK_start=1423 sp=0 s1=3 s2=8 l1=2 l2=5 l3=0 PK_end=1451
(fs_start=1443)

CA
GGGAGGAAGGACATCACATGAAAGACTG
GAC AGAGGGTC
TTTTTTAGGG
GCTAA

PK3: -23.730000(kcal/mol): PK_start=1451 sp=0 s1=4 s2=8 l1=2 l2=10 l3=0 PK_end=1486
(fs_start=1443)

AA
CACTGGGAGACAGGCTAATTTTTTAGGGA
CCCT CCGGTTTC
GGCCGGGGAA
AGCAAGGGAA

PK4: -23.805000(kcal/mol): PK_start=1457 sp=6 s1=9 s2=5 l1=7 l2=4 l3=0 PK_end=1495
(fs_start=1443)

CCCAGCA
GAGACAGGCTAATTTTTTAGGGAACTTTGGCCT
GGGGCCGGA AGGGA
TTCCTCA
AATT

=====
(69) JX447467
=====

PK1: -12.340000(kcal/mol): PK_start=1353 sp=0 s1=3 s2=8 l1=2 l2=5 l3=0 PK_end=1381
(fs_start=1373)

CA
GGGAGGAAGGACATCACATGWAAGACTG
GAC AGAGGGTC

TTTTTTAGGG
GCTAA
PK3: -23.730000(kcal/mol): PK_start=1381 sp=0 s1=4 s2=8 l1=2 l2=10 L3=0 PK_end=1416
(fs_start=1373)

AA
CACTGGGAGACAGGCTAATTTTTTAGGGA
CCCT CCGGTTTC
GGCCGGGAA
AGCAAGGGAA

PK4: -23.805000(kcal/mol): PK_start=1387 sp=6 s1=9 s2=5 l1=7 l2=4 L3=0 PK_end=1425
(fs_start=1373)

CCCAGCA
GAGACAGGCTAATTTTTTAGGGAACTTTGGCCT
GGGGCCGGA AGGGA
TTCCTCA
AATT

=====

(70) JX447472

=====

PK1: -12.340000(kcal/mol): PK_start=1410 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1438
(fs_start=1430)

CA
GGGAGGAAGGACATCACATGAAAGACTG
GAC AGAGGGTC
TTTTTTAGGG
GCTAA

PK3: -23.730000(kcal/mol): PK_start=1438 sp=0 s1=4 s2=8 l1=2 l2=10 L3=0 PK_end=1473
(fs_start=1430)

AA
CACTGGGAGACAGGCTAATTTTTTAGGGA
CCCT CCGGTTTC
GGCCGGGAA
AGCAAGGGAA

PK4: -23.805000(kcal/mol): PK_start=1444 sp=6 s1=9 s2=5 l1=7 l2=4 L3=0 PK_end=1482
(fs_start=1430)

CCCAGCA
GAGACAGGCTAATTTTTTAGGGAACTTTGGCCT
GGGGCCGGA AGGGA
TTCCTCA
AATT

=====

(71) JX447715

=====

PK1: -15.585000(kcal/mol): PK_start=1494 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1522
(fs_start=1514)

A
GGAAGGAAGGACATCAAATGAAAGACTGT

```

                GACA    GAGAGTC
                    TTTTATAGGG
GYTAAT
PK3:  -18.840000(kcal/mol): PK_start=1522 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1556
(fs_start=1514)
                    AA
TACTGAGAGACAGGYTAATTTTTTAGGGAG
                CCTTC    CGGTTT
                    GCCAGGGA
                CACAAGGGAAG

PK4:  -25.245000(kcal/mol): PK_start=1529 sp=7 s1=8 s2=4 l1=8 l2=5 L3=0 PK_end=1565
(fs_start=1514)
                    TCCCACAA
AGACAGGYTAATTTTTTAGGGAGAATTTGGCCT
                GGACCGGA    AGGG
                    TCCCAC
                GAATT

=====
(72) JX960615
=====
PK1:  -15.100000(kcal/mol): PK_start=1269 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1297
(fs_start=1289)
                    CA
GGAAGGAAGGACATCAAATGAAAGACTG
                GAC    AGAGAGTC
                    TTTTTTAGGA
                GCGAA

PK3:  -20.630000(kcal/mol): PK_start=1297 sp=0 s1=4 s2=5 l1=5 l2=10 L3=0 PK_end=1329
(fs_start=1289)
                    GACTG
CACTGAGAGACAGGCGAATTTTTTAGGAA
                CCTT    CCGGT
                    GGCCAGG
                AACAAAGGAA

PK4:  -22.585000(kcal/mol): PK_start=1306 sp=9 s1=6 s2=4 l1=8 l2=8 L3=0 PK_end=1341
(fs_start=1289)
                    TCCAACAA
ACAGGCGAATTTTTTAGGAAGACTGTGGCCT
                ACCGGA    AGGA
                    TCCTCA
                GGCAATTT

=====
(73) JX960617
=====

```

PK1: -15.100000(kcal/mol): PK_start=1269 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1297
(fs_start=1289)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCGAA

PK3: -21.005000(kcal/mol): PK_start=1298 sp=0 s1=3 s2=6 l1=5 l2=9 L3=0 PK_end=1329
(fs_start=1289)

GACTG
ACTGAGAGACAGGCGAATTTTTTAGGGA
CCT TCCGGT
AGGCCAGG
AACAAAGGA

PK4: -23.280000(kcal/mol): PK_start=1306 sp=9 s1=8 s2=4 l1=4 l2=5 L3=0 PK_end=1338
(fs_start=1289)

CAAC
ACAGGCGAATTTTTTAGGGAGACTGTGGCCTTC
ACCGGAAG GAAA
CTTCC
GGCAA

=====
(74) JX960618
=====

PK1: -15.100000(kcal/mol): PK_start=1269 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1297
(fs_start=1289)

CA
GAAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCGAA

PK3: -21.005000(kcal/mol): PK_start=1298 sp=0 s1=3 s2=6 l1=5 l2=9 L3=0 PK_end=1329
(fs_start=1289)

GGCTG
ACTGAGAGACAGGCGAATTTTTTAGGGA
CCT TCCGGT
AGGCCAGG
AACAAAGGA

PK4: -23.280000(kcal/mol): PK_start=1306 sp=9 s1=8 s2=4 l1=4 l2=5 L3=0 PK_end=1338
(fs_start=1289)

CAAC
ACAGGCGAATTTTTTAGGGAGGCTGTGGCCTTC
ACCGGAAG GAAA
CTTCC
GGCAA

=====
(75) JX960619
=====

PK1: -15.100000(kcal/mol): PK_start=1269 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1297
(fs_start=1289)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCGAA

PK3: -21.005000(kcal/mol): PK_start=1298 sp=0 s1=3 s2=6 l1=5 l2=9 L3=0 PK_end=1329
(fs_start=1289)

GACTG
ACTGAGAGACAGGCGAATTTTTAGGGA
CCT TCCGGT
AGGCCAGG
AACAAAGGA

PK4: -23.280000(kcal/mol): PK_start=1306 sp=9 s1=8 s2=4 l1=4 l2=5 L3=0 PK_end=1338
(fs_start=1289)

CAAC
ACAGGCGAATTTTTAGGGAGACTGTGGCCTTC
ACCGGAAG GAAA
CTTTCC
GGCAA

=====
(76) JX960620
=====

PK1: -15.100000(kcal/mol): PK_start=1269 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1297
(fs_start=1289)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCGAA

PK3: -21.005000(kcal/mol): PK_start=1298 sp=0 s1=3 s2=6 l1=5 l2=9 L3=0 PK_end=1329
(fs_start=1289)

GACTG
ACTGAGAGACAGGCGAATTTTTAGGGA
CCT TCCGGT
AGGCCAGG
AACAAAGGA

PK4: -23.280000(kcal/mol): PK_start=1306 sp=9 s1=8 s2=4 l1=4 l2=5 L3=0 PK_end=1338
(fs_start=1289)

CAAC
ACAGGCGAATTTTTAGGGAGACTGTGGCCTTC
ACCGGAAG GAAA

CTTTCC

GGCAA

=====
(77) JX960621
=====

PK1: -15.100000(kcal/mol): PK_start=1269 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1297
(fs_start=1289)

CA

GAAAGGAAGGACATCAAATGAAAGACTG

GAC AGAGAGTC

TTTTTTTAGGG

GCGAA

PK3: -21.005000(kcal/mol): PK_start=1298 sp=0 s1=3 s2=6 l1=5 l2=9 L3=0 PK_end=1329
(fs_start=1289)

GACTG

ACTGAGAGACAGGCGAATTTTTTAGGGA

CCT TCCGGT

AGGCCAGG

AACAAAGGA

PK4: -23.280000(kcal/mol): PK_start=1306 sp=9 s1=8 s2=4 l1=4 l2=5 L3=0 PK_end=1338
(fs_start=1289)

CAAC

ACAGGCGAATTTTTTAGGGAGACTGTGGCCTTC

ACCGGAAG GAAA

CTTTCC

GGCAA

=====
(78) JX960625
=====

PK1: -15.140000(kcal/mol): PK_start=1269 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1297
(fs_start=1289)

CA

GGAAGGAAGGACATCAAATGAAAGACTG

GAC AGAAAGTC

TTTTTTTAGGG

GCGAA

PK3: -21.005000(kcal/mol): PK_start=1298 sp=0 s1=3 s2=6 l1=5 l2=9 L3=0 PK_end=1329
(fs_start=1289)

GACTG

ACTGAAAGACAGGCGAATTTTTTAGGGA

CCT TCCGGT

AGGCCAGG

AACAAAGGA

PK4: -23.035000(kcal/mol): PK_start=1306 sp=9 s1=6 s2=5 l1=7 l2=7 L3=0 PK_end=1341
(fs_start=1289)

TCCAACA

ACAGGCGAATTTTTTAGGGAGACTGTGGCCT


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                ACCGGA    AGGGA
                    TTCCTCA
                GGCAATT

=====
(79) JX960626
=====
PK1:  -15.100000(kcal/mol): PK_start=1269 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1297
(fs_start=1289)
                    CA
GGAAGGAAGGACATCTGATGAAAGACTG

                GAC    AGAGAGTC
                    TTTTTTAGGG
                GCGAA

PK3:  -21.005000(kcal/mol): PK_start=1298 sp=0 s1=3 s2=6 l1=5 l2=9 L3=0 PK_end=1329
(fs_start=1289)
                    GACTG
ACTGAGAGACAGGCGAATTTTTTAGGGA

                CCT    TCCGGT
                    AGGCCAGG
                AACAAAGGA

PK4:  -23.280000(kcal/mol): PK_start=1306 sp=9 s1=8 s2=4 l1=4 l2=5 L3=0 PK_end=1338
(fs_start=1289)
                    CAAC
ACAGGCGAATTTTTTAGGGAGACTGTGGCCTTC

                ACCGGAAG    GAAA
                    CTTTCC
                GGCAA

=====
(80) JX960627
=====
PK1:  -15.100000(kcal/mol): PK_start=1269 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1297
(fs_start=1289)
                    CA
GGAAGGAAGGACATCAAATGAAAGACTG

                GAC    AGAGAGTC
                    TTTTTTAGGG
                GCGAA

PK3:  -21.005000(kcal/mol): PK_start=1298 sp=0 s1=3 s2=6 l1=5 l2=9 L3=0 PK_end=1329
(fs_start=1289)
                    GACTG
ACTGAGAGACAGGCGAATTTTTTAGGGA

                CCT    TCCGGT
                    AGGCCAGG
                AACAAAGGA

```

PK4: -23.035000(kcal/mol): PK_start=1306 sp=9 s1=6 s2=5 l1=7 l2=7 L3=0 PK_end=1341
(fs_start=1289)

TCCAACA
ACAGGCGAATTTTTTAGGGAGACTGTGGCCT
ACCGGA AGGGA
TTCCTCA
GGCAATT

=====
(81) JX960629
=====

PK1: -15.100000(kcal/mol): PK_start=1269 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1297
(fs_start=1289)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCGAA

PK3: -21.005000(kcal/mol): PK_start=1298 sp=0 s1=3 s2=6 l1=5 l2=9 L3=0 PK_end=1329
(fs_start=1289)

GACTG
ACTGAGAGACAGGCGAATTTTTTAGGGA
CCT TCCGGT
AGGCCAGG
AACAAGGGA

PK4: -23.035000(kcal/mol): PK_start=1306 sp=9 s1=6 s2=5 l1=7 l2=7 L3=0 PK_end=1341
(fs_start=1289)

TCCAACA
ACAGGCGAATTTTTTAGGGAGACTGTGGCCT
ACCGGA AGGGA
TTCCTCA
GGCAATT

=====
(82) JX960631
=====

PK1: -15.100000(kcal/mol): PK_start=1269 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1297
(fs_start=1289)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCGAA

PK3: -21.005000(kcal/mol): PK_start=1298 sp=0 s1=3 s2=6 l1=5 l2=9 L3=0 PK_end=1329
(fs_start=1289)

AGCTG
ACTGAGAGACAGGCGAATTTTTTAGGGA
CCT TCCGGT

AGGCCAGG
 AACAAGGGA
 PK4: -23.035000(kcal/mol): PK_start=1306 sp=9 s1=6 s2=5 l1=7 l2=7 L3=0 PK_end=1341
 (fs_start=1289)
 TCCAACA
 ACAGGCGAATTTTTTAGGGAAGCTGTGGCCT
 ACCGGA AGGGA
 TTCCTCA
 GGCAATT

=====
 (83) JX960632
 =====

PK1: -15.100000(kcal/mol): PK_start=1269 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1297
 (fs_start=1289)
 CA
 GGAAGGAAGGACATCAAATGAAAGACTG
 GAC AGAGAGTC
 TTTTTTAGGG
 GCGAA

PK3: -21.005000(kcal/mol): PK_start=1298 sp=0 s1=3 s2=6 l1=5 l2=9 L3=0 PK_end=1329
 (fs_start=1289)
 GGCTG
 ACTGAGAGACAGGCGAATTTTTTAGGGA
 CCT TCCGGT
 AGGCCAGG
 AACAAGGGA

PK4: -23.035000(kcal/mol): PK_start=1306 sp=9 s1=6 s2=5 l1=7 l2=7 L3=0 PK_end=1341
 (fs_start=1289)
 TCCAACA
 ACAGGCGAATTTTTTAGGGAGGCTGTGGCCT
 ACCGGA AGGGA
 TTCCTCA
 GGCAATT

=====
 (84) KC473827
 =====

PK1: -15.625000(kcal/mol): PK_start=1412 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1440
 (fs_start=1432)
 A
 GAAAGGAAGGACACCAAATGAAAGACTGT
 GACA GAAAGTC
 TTTTTTAGGG
 GCAAAT

PK3: -27.275000(kcal/mol): PK_start=1440 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1474
 (fs_start=1432)
 AAA
 TACTGAAAGACAGGCAAATTTTTTAGGGA

CCCT TCCGGTCT
 AGGCCAGGGA
 ACAAGGGA

PK4: -29.020000(kcal/mol): PK_start=1447 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1484
 (fs_start=1432)

CCAC
 AGACAGGCAAATTTTTAGGGAAAATCTGGCCTTC

GGACCGGAAG GGAA
 CCTTCA
 GAATTT

=====

(85) KC596061

=====

PK1: -15.100000(kcal/mol): PK_start=1430 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1458
 (fs_start=1450)

CA
 GAAAGGAAGGACATCAAATGAAAGACTG

GAC AGAGAGTC
 TTTTTTAGGG
 GCGAA

PK3: -21.005000(kcal/mol): PK_start=1459 sp=0 s1=3 s2=6 l1=5 l2=9 L3=0 PK_end=1490
 (fs_start=1450)

GGCTG
 ACTGAGAGACAGGCGAATTTTTAGGGA

CCT TCCGGT
 AGGCCAGG
 AACAAAGGA

PK4: -23.280000(kcal/mol): PK_start=1467 sp=9 s1=8 s2=4 l1=4 l2=5 L3=0 PK_end=1499
 (fs_start=1450)

CAAC
 ACAGGCGAATTTTTAGGGAGGCTGTGGCCTTC

ACCGGAAG GAAA
 CTTTCC
 GGCAA

=====

(86) KC596062

=====

PK1: -15.100000(kcal/mol): PK_start=1428 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1456
 (fs_start=1448)

CA
 GAAAGGAAGGACATCAAATGAAAGACTG

GAC AGAGAGTC
 TTTTTTAGGG
 GCGAA

PK3: -21.005000(kcal/mol): PK_start=1457 sp=0 s1=3 s2=6 l1=5 l2=9 L3=0 PK_end=1488
(fs_start=1448)

GGCTG
ACTGAGAGACAGGCGAATTTTTTAGGGA
CCT TCCGGT
AGGCCAGG
AACAAAGGA

PK4: -23.280000(kcal/mol): PK_start=1465 sp=9 s1=8 s2=4 l1=4 l2=5 L3=0 PK_end=1497
(fs_start=1448)

CAAC
ACAGGCGAATTTTTTAGGGAGGCTGTGGCCTTC
ACCGGAAG GAAA
CTTTCC
GGCAA

=====
(87) L20571
=====

PK1: -10.640000(kcal/mol): PK_start=2092 sp=0 s1=3 s2=7 l1=1 l2=21 L3=0 PK_end=2133
(fs_start=2126)

A
CTGGAAATGTGGACAGGAAGGTCACCAA
GTT AGAAAGT
TTTTTTAGG
CAAAAATGGAAGACAGGCAAA

PK3: -22.080000(kcal/mol): PK_start=2135 sp=0 s1=3 s2=6 l1=4 l2=11 L3=0 PK_end=2167
(fs_start=2126)

AGTA
AATGGAAGACAGGCAAATTTTTTAGGGA
CCT CCGGTC
GGCCAGGC
GGGGGGCACGA

PK4: -40.110000(kcal/mol): PK_start=2142 sp=8 s1=8 s2=8 l1=2 l2=20 L3=0 PK_end=2195
(fs_start=2126)

CG
GACAGGCAAATTTTTTAGGGAAGTACTGGCCTC
GACCGGAG CACGGGG
GTGTCCCAT
GCAATTATGTGCAGAAACAA

PK4B: -33.960000(kcal/mol): PK_start=2142 sp=8 s1=8 s2=5 l1=3 l2=32 L3=2 PK_end=2202
(fs_start=2126)

CGG
GACAGGCAAATTTTTTAGGGAAGTACTGGCCTC
GACCGGAG CA CGGG
GCCCCAC
GCAATTATGTGCAGAAACAAGTGTCCCATCA

3. 24 strains (0.56%) have three pseudoknots PK1, PK2, and PK4

=====
(1) AF407418
=====

PK1: -10.440000(kcal/mol): PK_start=1625 sp=0 s1=3 s2=7 l1=1 l2=21 L3=0 PK_end=1666
(fs_start=1659)

A
CTGGAAATGTGGACAGGAAGGTCATCAA

GTT AGAAAGT

TTTTTTAAA
CAAAAATAGGAGACAGACAAA

PK2: -6.245000(kcal/mol): PK_start=1653 sp=0 s1=3 s2=4 l1=3 l2=4 L3=0 PK_end=1673
(fs_start=1659)

CAA
ATGAAAGATTGCAAAAATAGGAGACAGA

TTT TTTA

AAATAT
AAAG

PK4: -27.680000(kcal/mol): PK_start=1675 sp=8 s1=8 s2=4 l1=6 l2=8 L3=0 PK_end=1712
(fs_start=1659)

CGAGAG
GACAGACAAATTTTTTAAAGAAATATTGGCCTC

GACCGGAG CACG

GTGCAG
GCAATTAT

=====
(2) AJ249235
=====

PK1: -15.585000(kcal/mol): PK_start=1260 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1288
(fs_start=1280)

T
GGAAAGAAGGACATCAGATGAAAGACTGT

GACA GAGAGTC

TTTTTAGGG
GCTAAT

PK2: -21.020000(kcal/mol): PK_start=1263 sp=0 s1=10 s2=6 l1=1 l2=6 L3=1 PK_end=1301
(fs_start=1280)

C
AAGAAGGACATCAGATGAAAGACTGTTCTGAGAGA

GGGATTTTTT A ATCGGA

TGGCCTCT
AAGTTC

PK4: -28.060000(kcal/mol): PK_start=1294 sp=6 s1=10 s2=4 l1=6 l2=5 L3=0 PK_end=1332
(fs_start=1280)

TCAACA
GAGACAGGCTAATTTTTTTAGGGAAGTTCTGGCCTC
AGGACCGGAG AGAA
TCTTCA
AATTT

=====
(3) AM000054
=====

PK1: -15.100000(kcal/mol): PK_start=1268 sp=0 s1=3 s2=8 l1=2 l2=5 l3=0 PK_end=1296
(fs_start=1288)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1273 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1310
(fs_start=1288)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAGT

PK4: -20.510000(kcal/mol): PK_start=1303 sp=7 s1=7 s2=4 l1=10 l2=5 l3=0 PK_end=1339
(fs_start=1288)

TTCCAACAAA
AGACAGGCTAATTTTTTTAGGGAAAGTTTGGCC
GGACCGG AAGG
TTCCCC
GAACT

=====
(4) AY945712
=====

PK1: -15.100000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 l3=0 PK_end=1291
(fs_start=1283)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1305
(fs_start=1283)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK4: -25.145000(kcal/mol): PK_start=1301 sp=10 s1=7 s2=6 l1=2 l2=7 L3=0 PK_end=1335
(fs_start=1283)

CA
CAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
CCGGAAG GAGGGA
TTTCCTCA
GGGAAAT

=====
(5) AY967807
=====

PK1: -14.825000(kcal/mol): PK_start=1260 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1288
(fs_start=1280)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACG GAAAGTC
TTTTTAGAG
GCTAAT

PK2: -17.380000(kcal/mol): PK_start=1265 sp=0 s1=8 s2=5 l1=2 l2=8 L3=1 PK_end=1300
(fs_start=1280)

CA
GAAGGACACCAAATGAAAGACTGTACTGAAAGG
GATTTTTT A ATCGG
TGGCCCT
AGAAGATC

PK4: -19.680000(kcal/mol): PK_start=1297 sp=9 s1=5 s2=6 l1=8 l2=6 L3=0 PK_end=1332
(fs_start=1280)

CTCCCACA
GCAGGCTAATTTTTTAGAGAAGATCTGGCC
ACCGG AAGGGA
TTTCTTCA
AGGAAT

=====
(6) DQ085871
=====

PK1: -15.140000(kcal/mol): PK_start=1467 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1495
(fs_start=1487)

CA
GAAGAGAAGGACACCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTTAGGG
GCTAA

PK2: -21.980000(kcal/mol): PK_start=1472 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1509
(fs_start=1487)

C
GAAGGACACCAAATGAAAGACTGCACTGAAAGA
GATTTTTT AATCGGA

TTGGCCTCC
GGAAAAAT
PK4: -25.630000(kcal/mol): PK_start=1505 sp=10 s1=7 s2=4 l1=4 l2=9 L3=0 PK_end=1539
(fs_start=1487)
CAAC
CAGGCTAATTTTTTAGGGAAAAATTTGGCCTCC
CCGGAGG GGAA
CCTTCA
TGGGAATTT

=====
(7) DQ230842
=====

PK1: -10.975000(kcal/mol): PK_start=1256 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=1283
(fs_start=1276)
AC
GAAAAGAAGGACACCAAATGAAAGATTGT
GACA GAGAGT
TTTTTAAA
GCCAAT

PK2: -18.860000(kcal/mol): PK_start=1262 sp=0 s1=7 s2=5 l1=2 l2=9 L3=1 PK_end=1296
(fs_start=1276)
CA
AAGGACACCAAATGAAAGATTGTACTGAGAGA
ATTTTTT A ACCGG
TGGCCCT
AAGAAAATC

PK4: -23.190000(kcal/mol): PK_start=1291 sp=7 s1=7 s2=6 l1=8 l2=4 L3=0 PK_end=1328
(fs_start=1276)
CTCCCACA
AGACAGGCCAATTTTTTAAAGAAAATCTGGCC
GGACCGG AAGGGA
TTTCTTCA
GAAC

=====
(8) EF029068
=====

PK1: -15.585000(kcal/mol): PK_start=1951 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1979
(fs_start=1971)
A
GAAGGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -21.940000(kcal/mol): PK_start=1956 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1993
(fs_start=1971)
C

GAAGGACACCAAATGAAAGACTGTACTGAGAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAGT

PK4: -22.745000(kcal/mol): PK_start=1986 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=2023
(fs_start=1971)

TCCAACA

AGACAGGCTAATTTTTTAGGAAAGTTTGGCCT

GGACCGGA GGGAA

TCCTTCA

GAATT

=====

(9) EF029069

=====

PK1: -18.400000(kcal/mol): PK_start=1951 sp=0 s1=3 s2=9 l1=1 l2=5 L3=0 PK_end=1980
(fs_start=1971)

C

GAAGGGAAGGACACCAAATGAAAGACTG

GAC AGAAAGTCC

TTTTTTAGGGA

GCTAA

PK2: -28.200000(kcal/mol): PK_start=1954 sp=0 s1=10 s2=7 l1=1 l2=5 L3=0 PK_end=1993
(fs_start=1971)

C

GGGAAGGACACCAAATGAAAGACTGCCCTGAAAGA

GGGATTTTTT AATCGGA

TTGGCCTTC

AAAGT

PK4: -19.885000(kcal/mol): PK_start=1986 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=2023
(fs_start=1971)

CCAACA

AGACAGGCTAATTTTTTAGGAAAGTTTGGCCTT

GGACCGGAG GGAA

TCTTCA

GAATTT

=====

(10) EU170147

=====

PK1: -15.140000(kcal/mol): PK_start=1604 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1632
(fs_start=1624)

CA

GAARAGAGGGACACCAAATGAAAGACTG

GAC AGAAAGTC

TTTTTTAGGG

GCTAA

PK2: -21.985000(kcal/mol): PK_start=1609 sp=0 s1=6 s2=9 l1=3 l2=5 l3=0 PK_end=1646
(fs_start=1624)

GAC
GAGGGACACCAAATGAAAGACTGCACTGAAA
GATTTT TTAATCGGA
AGTTGGCCTTC
GGAAA

PK4: -24.455000(kcal/mol): PK_start=1640 sp=8 s1=7 s2=4 l1=8 l2=8 l3=0 PK_end=1677
(fs_start=1624)

TCCAACAA
GACAGGCTAATTTTTTAGGGAAAAGTTGGCCT
GACCGGA GGGG
CTCCAG
GAAATTTTC

=====
(11) EU581828
=====

PK1: -15.140000(kcal/mol): PK_start=1254 sp=0 s1=3 s2=8 l1=2 l2=5 l3=0 PK_end=1282
(fs_start=1274)

CA
GAAGAGAAGGACACCAAATGAAAGACTG
GAC AGAAAGTC
TTTTTTAGGG
GCTAA

PK2: -21.980000(kcal/mol): PK_start=1259 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1296
(fs_start=1274)

C
GAAGGACACCAAATGAAAGACTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAGT

PK4: -22.845000(kcal/mol): PK_start=1292 sp=10 s1=7 s2=4 l1=4 l2=8 l3=0 PK_end=1325
(fs_start=1274)

C
CAGGCTAATTTTTTAGGGAAAGTTTGGCCTTC
CCGGAG GGA
TCCTTC
CGGAAATT

PK4B: -25.535000(kcal/mol): PK_start=1292 sp=10 s1=6 s2=4 l1=6 l2=35 l3=0
PK_end=1352 (fs_start=1274)

CCAACA
CAGGCTAATTTTTTAGGGAAAGTTTGGCCTT
CCGGAG GGGG
CCCCGC
CGGAAATTTCTTCAGAACAGGACAGAGCCAACAG

=====
(12) EU697909
=====

PK1: -11.420000(kcal/mol): PK_start=1592 sp=0 s1=3 s2=6 l1=4 l2=5 L3=0 PK_end=1618
(fs_start=1612)

CACA
GAAGGGAGGGACATCAAATGAAAGACTG
GAC AGAGAG
TTTTTTAG
GCTAA

PK2: -18.660000(kcal/mol): PK_start=1599 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1634
(fs_start=1612)

C
GGGACATCAAATGAAAGACTGCACAGAGAGA
TTTTTT AATCGGA
TTGGCCTC
AGGRAAAAT

PK4: -22.705000(kcal/mol): PK_start=1627 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1664
(fs_start=1612)

CCAC
AGACAGGCTAATTTTTTTAGGRAAAATTTGGCCTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1627 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1690
(fs_start=1612)

TCCCACAA
AGACAGGCTAATTTTTTTAGGRAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCTTCARAACAGGCCAGAGCCAACAG

=====
(13) JX390611
=====

PK1: -13.555000(kcal/mol): PK_start=1420 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1448
(fs_start=1440)

A
GACAGGAAGGACATCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1425 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1461
(fs_start=1440)

C
GAAGGACATCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA

TGGCCTCC

GGAAGTTC

PK4: -27.620000(kcal/mol): PK_start=1454 sp=6 s1=10 s2=4 l1=6 l2=5 L3=0 PK_end=1492
(fs_start=1440)

CCAACA

GAGACAGGCTAATTTTTTTAGGGAAGTTCTGGCCTC

GGGACCGGAG GGAA

CCTTCA

AACTT

=====
(14) JX447403
=====

PK1: -13.595000(kcal/mol): PK_start=1409 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1437
(fs_start=1429)

A

GAAAGGAAGGACATCAAATGAAAGATTGT

GACA GAAAGTC

TTTTTAGGG

GCTAAT

PK2: -21.980000(kcal/mol): PK_start=1414 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1451
(fs_start=1429)

C

GAAGGACATCAAATGAAAGATTGTACTGAAAGA

GATTTTTT AATCGGA

TTGGCCTTC

GGAAAAT

PK4: -20.715000(kcal/mol): PK_start=1444 sp=7 s1=8 s2=4 l1=8 l2=5 L3=0 PK_end=1480
(fs_start=1429)

TCCAAACA

AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT

GGGCCGGA AGGG

TTCCAC

GAATT

=====
(15) JX447404
=====

PK1: -13.595000(kcal/mol): PK_start=1408 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1436
(fs_start=1428)

A

GAAAGGAAGGACATCAAATGAAAGATTGT

GACA GAAAGTC

TTTTTAGGG

GCTAAT

PK2: -21.980000(kcal/mol): PK_start=1413 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1450
(fs_start=1428)

C

GAAGGACATCAAATGAAAGATTGTACTGAAAGA

PK2: -21.98000(kcal/mol): PK_start=1477 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1514
(fs_start=1492)

C
GAAGGACATCAAATGAAAGATTGTACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK4: -20.715000(kcal/mol): PK_start=1507 sp=7 s1=8 s2=4 l1=8 l2=5 L3=0 PK_end=1543
(fs_start=1492)

TCCAAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA AGGG
TTCCAC
GAATT

=====
(18) JX447408
=====

PK1: -13.595000(kcal/mol): PK_start=1457 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1485
(fs_start=1477)

A
GAAAGGAAGGACATCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -21.980000(kcal/mol): PK_start=1462 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1499
(fs_start=1477)

C
GAAGGACATCAAATGAAAGATTGTACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK4: -20.715000(kcal/mol): PK_start=1492 sp=7 s1=8 s2=4 l1=8 l2=5 L3=0 PK_end=1528
(fs_start=1477)

TCCAAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGGCCGGA AGGG
TTCCAC
GAATT

=====
(19) JX447409
=====

PK1: -13.595000(kcal/mol): PK_start=1470 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1498
(fs_start=1490)

A
GAAAGGAAGGACATCAAATGAAAGATTGT
GACA GAAAGTC

TTTTTAGGG
GCTAAT
PK2: -21.980000(kcal/mol): PK_start=1475 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1512
(fs_start=1490)

C
GAAGGACATCAAATGAAAGATTGTACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK4: -20.715000(kcal/mol): PK_start=1505 sp=7 s1=8 s2=4 l1=8 l2=5 L3=0 PK_end=1541
(fs_start=1490)

TCCAAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGCCGGA AGGG
TTCCAC
GAATT

=====

(20) JX447410

=====

PK1: -13.595000(kcal/mol): PK_start=1458 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1486
(fs_start=1478)

A
GAAAGGAAGGACATCAAATGAAAGATTGT
GACA GAAAGTC
TTTTTAGGG
GCTAAT

PK2: -21.980000(kcal/mol): PK_start=1463 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1500
(fs_start=1478)

C
GAAGGACATCAAATGAAAGATTGTACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK4: -20.715000(kcal/mol): PK_start=1493 sp=7 s1=8 s2=4 l1=8 l2=5 L3=0 PK_end=1529
(fs_start=1478)

TCCAAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGCCGGA AGGG
TTCCAC
GAATT

=====

(21) JX447411

=====

PK1: -13.595000(kcal/mol): PK_start=1444 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1472
(fs_start=1464)

A
GAAAGGAAGGACATCAAATGAAAGATTGT


```

          GACA   GAAAGTC
                TTTTATAGGG
    GCTAAT
PK2:  -21.98000(kcal/mol): PK_start=1449 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1486
(fs_start=1464)
                C
GAAGGACATCAAATGAAAGATTGTACTGAAAGA
                GATTTTTT   AATCGGA
                TTGGCCTTC
    GGAAAAT
PK4:  -20.71500(kcal/mol): PK_start=1479 sp=7 s1=8 s2=4 l1=8 l2=5 L3=0 PK_end=1515
(fs_start=1464)
                TCCAAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                GGGCCGGA   AGGG
                TTCCAC
    GAATT

=====
(22) JX960624
=====
PK1:  -15.10000(kcal/mol): PK_start=1269 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1297
(fs_start=1289)
                CA
GGAAAGAAGGACATCAAATGAAAGACTG
                GAC   AGAGAGTC
                TTTTTTATAGGG
    GTGAA
PK2:  -8.87000(kcal/mol): PK_start=1274 sp=0 s1=8 s2=4 l1=3 l2=5 L3=1 PK_end=1305
(fs_start=1289)
                CAG
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
                GATTTTTT   A   AGTG
                TTGTGG
    GGAAA
PK4:  -19.77500(kcal/mol): PK_start=1306 sp=9 s1=8 s2=4 l1=4 l2=5 L3=0 PK_end=1338
(fs_start=1289)
                CAAC
ACAGGTGAATTTTTTAGGGAAAATTTGTGGCCTTC
                ACCGGAAG   GGAA
                TTTTCC
    GGCAA
PK4B: -25.13500(kcal/mol): PK_start=1306 sp=9 s1=7 s2=4 l1=6 l2=35 L3=0 PK_end=1368
(fs_start=1289)
                CCAACA
ACAGGTGAATTTTTTAGGGAAAATTTGTGGCCTT

```

ACCGGAA GGA
CCCTCC
GGCAATTTTCCTCAGAGCAGAACAGAGCCAACAGC

=====
(23) KC596063
=====

PK1: -15.100000(kcal/mol): PK_start=1433 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1461
(fs_start=1453)

CA
GAAAGGAAGGACATCAAATGAAAGACTG

GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1438 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1475
(fs_start=1453)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA

GATTTTTT AATCGGA
TTGGCCTTC
GGAAAGT

PK4: -22.465000(kcal/mol): PK_start=1468 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1505
(fs_start=1453)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAGTTTGGCCT

GGACCGGA AGGA
TCCTCA
GAATTT

=====
(24) KC596064
=====

PK1: -15.100000(kcal/mol): PK_start=1436 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1464
(fs_start=1456)

CA
GGAAAGAAGGACATCAAATGAAAGACTG

GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -20.460000(kcal/mol): PK_start=1441 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1477
(fs_start=1456)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA

GATTTTTT A ATCGGA
TGGCCTTC
GGAGGCTG

PK4: -25.760000(kcal/mol): PK_start=1469 sp=5 s1=4 s2=7 l1=1 l2=4 L3=0 PK_end=1495
(fs_start=1456)

```

                                     T
AGAGACAGGCTAATTTTTTAGGGAGGCTG
                                     CGAC   CTTCCGG
                                     GGAGGCCAG
AAGG
```

4. 34 strains (0.91%) have three pseudoknots PK2, PK3, and PK4

=====
(1) AF443108
=====

PK2: -18.760000(kcal/mol): PK_start=1431 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1467
(fs_start=1446)

```

                                     C
GAGGGACACCAAATGAAAGATTATACTGAAAGG
                                     GATTTTTT  A  ATCGGA
                                     TGGCCTTC
GGAAAATC
```

PK3: -27.275000(kcal/mol): PK_start=1454 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1488
(fs_start=1446)

```

                                     AAA
TACTGAAAGGCAGGCTAATTTTTTAGGGA
                                     CCCT   TCCGGTCT
                                     AGGCCAGGGA
ACAAGGGG
```

PK4: -27.515000(kcal/mol): PK_start=1461 sp=7 s1=8 s2=4 l1=8 l2=7 L3=0 PK_end=1499
(fs_start=1446)

```

                                     TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCT
                                     GGACCGGA   GGGG
                                     CTCCAA
GAATTTTC
```

PK4B: -30.395000(kcal/mol): PK_start=1461 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1524
(fs_start=1446)

```

                                     TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATCTGGCCT
                                     GGACCGGA   GGGG
                                     CCCCAA
GAATTTCTCCAAAACAGGCCAGAACCAACAG
```

=====
(2) AF457056
=====

PK2: -21.980000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1305
(fs_start=1283)

```

                                     C
GAAGGACACCAAATGAAAGAATGCACTGAAAGA
```

GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT
PK3: -20.285000(kcal/mol): PK_start=1292 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1325
(fs_start=1283)

AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGAA
AGCAAGGGG

PK4: -22.215000(kcal/mol): PK_start=1298 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1335
(fs_start=1283)

CCAGCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGAG GGGA
TCCTCA
AAATTT

PK4B: -26.865000(kcal/mol): PK_start=1298 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1361
(fs_start=1283)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGA GGGG
CCCCAC
AAATTTTCCTCAGAACAGATTGGAGCCAACAG

=====

(3) AJ866555

=====

PK2: -20.460000(kcal/mol): PK_start=2063 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=2099
(fs_start=2078)

C
GAAGGACACCAAATGAAAGAATGCACTGAGAGA
GATTTTTT A ATCGGA
TTGGCCTTC
GGAAAATC

PK3: -23.815000(kcal/mol): PK_start=2087 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2120
(fs_start=2078)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTCT
AGGCCAGGAA
AGCAAGGGG

PK4: -25.745000(kcal/mol): PK_start=2093 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=2130
(fs_start=2078)

CCAGCA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTT

```

                GGACCGGAG    GGGA
                                TCCTCA
          AAATTT
PK4B:  -30.395000(kcal/mol): PK_start=2093 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=2156
(fs_start=2078)
                                TCCAGCAA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT
                GGACCGGA    GGGG
                                CCCCAC
          AAATTTTCCTCAGAGCAGACCGGAGCCAACAG

```

```

=====
(4) AY322185
=====

```

```

PK2:  -20.500000(kcal/mol): PK_start=1522 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1558
(fs_start=1537)
                                C
GAGGGACACCAAATGAAAGAATGCACTGAAAGA
                GATTTTTT    A    ATCGGA
                                TGGCCTCC
          GGAAAATC

```

```

PK3:  -25.770000(kcal/mol): PK_start=1545 sp=0 s1=4 s2=7 l1=3 l2=10 L3=0 PK_end=1579
(fs_start=1537)
                                AAA
CACTGAAAGACAGGCTAATTTTTTTAGGGA
                CCCT    CCGGTCT
                                GGCCAGGGA
          AGCAAGGGGA

```

```

PK4:  -28.115000(kcal/mol): PK_start=1552 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1589
(fs_start=1537)
                                CCAGCA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTC
                GGACCGGAG    GGGA
                                TCCTCA
          GAATTT

```

```

PK4B:  -30.395000(kcal/mol): PK_start=1552 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1615
(fs_start=1537)
                                CCCAGCAA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT
                GGACCGGA    GGGG
                                CCCCAC
          GAATTTTCCTCAGAGCAGACCGGAGCCAACAG

```

```

=====
(5) AY371159
=====

```

PK2: -23.55000(kcal/mol): PK_start=1275 sp=0 s1=10 s2=7 l1=1 l2=5 l3=0 PK_end=1314
(fs_start=1292)

C
ACCAAATGAAAGACTGCACTCTTACTCTTGAGAGA
GGGATTTTTT AATCGGA
TTGGCCTTC
AAAAT

PK3: -20.285000(kcal/mol): PK_start=1301 sp=0 s1=3 s2=8 l1=3 l2=9 l3=0 PK_end=1334
(fs_start=1292)

AAA
CTTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AGCAAGGGG

PK4: -22.215000(kcal/mol): PK_start=1307 sp=7 s1=9 s2=4 l1=6 l2=6 l3=0 PK_end=1344
(fs_start=1292)

CCAGCA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGAG GGGA
TCCTCA
GAACTT

PK4B: -26.865000(kcal/mol): PK_start=1307 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=1370
(fs_start=1292)

TCCAGCAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAACTTTCCTCAGGGCAGACCCGAGCCAACAG

=====
(6) DQ085876
=====

PK2: -21.980000(kcal/mol): PK_start=1470 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1507
(fs_start=1485)

C
GAAGGACACCAAATGAAAGAATGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -21.780000(kcal/mol): PK_start=1493 sp=0 s1=5 s2=4 l1=5 l2=9 l3=0 PK_end=1524
(fs_start=1485)

AATTT
CACTGAAAGACAGGCTAATTTTTTAGGGAA
CCCTT CCGG
GGCCCG
ACAAGGGGA

PK4: -22.82000(kcal/mol): PK_start=1503 sp=10 s1=7 s2=4 l1=4 l2=9 l3=0 PK_end=1537
(fs_start=1485)

CCAC
CAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
CCGGAGG GGAA
CCTTCA
CGGGAATTT

PK4B: -24.675000(kcal/mol): PK_start=1503 sp=10 s1=5 s2=4 l1=8 l2=35 l3=0
PK_end=1563 (fs_start=1485)

TCCCACAA
CAGGCTAATTTTTTAGGGAAAATTTGGCCT
CCGGA GGGG
CCCCGC
CGGGAATTTCTTCAGAACAGGCCAGGCCATCAG

=====
(7) DQ369990
=====

PK2: -20.330000(kcal/mol): PK_start=1488 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1525
(fs_start=1503)

C
GAAGGACACCAAATGAAAGACCGTACTGAGAGG
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1511 sp=0 s1=4 s2=8 l1=3 l2=8 l3=0 PK_end=1545
(fs_start=1503)

AAA
TACTGAGAGGCAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGAA
ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1518 sp=7 s1=10 s2=4 l1=4 l2=6 l3=0 PK_end=1555
(fs_start=1503)

CCAC
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
AAACTT

PK4B: -26.865000(kcal/mol): PK_start=1518 sp=7 s1=8 s2=4 l1=8 l2=32 l3=0 PK_end=1581
(fs_start=1503)

TCCCACAA
AGGCAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
AAACTTCTTCAGAACAGGCCAGGCCAACAG

=====

(8) DQ859180

=====

PK2: -19.66000(kcal/mol): PK_start=2089 sp=0 s1=7 s2=7 l1=1 l2=8 L3=0 PK_end=2125
(fs_start=2103)

C

GACATCAAATGAAAGACTGCACTAATGAGAGA

ATTTTTT AATCGGA

TTGGCCTTC

GGGAAAAT

PK3: -18.565000(kcal/mol): PK_start=2112 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=2145
(fs_start=2103)

AAA

AATGAGAGACAGGCTAATTTTTTTAGGGA

CCT TCCGGTTT

AGGCCGGGA

AACAAGGGA

PK4: -23.295000(kcal/mol): PK_start=2118 sp=7 s1=9 s2=4 l1=6 l2=33 L3=0 PK_end=2182
(fs_start=2103)

CCAACA

AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTT

GGGCCGGAA GGGA

CCCTCC

GAATTTTCCTCAAAGCAGACCAGACCAACAGC

=====

(9) EF087994

=====

PK2: -19.700000(kcal/mol): PK_start=1275 sp=0 s1=7 s2=7 l1=1 l2=8 L3=0 PK_end=1311
(fs_start=1289)

C

GACACCAAATGAAAGACTGCACTAATGAAAGA

ATTTTTT AATCGGA

TTGGCCTTC

GGGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1298 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1331
(fs_start=1289)

AAA

AATGAAAGACAGGCTAATTTTTTTAGGGA

CCT TCCGGTTT

AGGCCAGGGA

AGCAAGGGG

PK4: -22.215000(kcal/mol): PK_start=1304 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1341
(fs_start=1289)

CCAGCA

AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTT

GGACCGGAG GGGA

TCCTCA

GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1304 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1367
(fs_start=1289)

TCCAGCAA

AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG

CCCCAC

GAATTTTCCTCAGAGCAGACCAGAACCAACAG

=====
(10) EF087995
=====

PK2: -19.700000(kcal/mol): PK_start=1272 sp=0 s1=7 s2=7 l1=1 l2=8 L3=0 PK_end=1308
(fs_start=1286)

C

GACACCGAATGAAAGACTGCACTAATGAAAGA

ATTTTTT AATCGGA

TTGGCCTTC

GGGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1295 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1328
(fs_start=1286)

AAA

AATGAAAGACAGGCTAATTTTTTTAGGGA

CCT TCCGGTTT

AGGCCAGGGA

AGCAAGGGG

PK4: -22.215000(kcal/mol): PK_start=1301 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1338
(fs_start=1286)

CCAGCA

AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTT

GGACCGGAG GGGA

TCCTCA

GAACTT

PK4B: -26.865000(kcal/mol): PK_start=1301 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1364
(fs_start=1286)

TCCAGCAA

AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG

CCCCAC

GAACTTTTCCTCAGAGCAGATCAGAACCAACAG

=====
(11) EF637055
=====

PK2: -21.980000(kcal/mol): PK_start=1417 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1454
(fs_start=1432)

C

GAAGGACACCAAATGAAAGAATGCACTGAAAGA

```

          GATTTTTT   AATCGGA
                    TTGGCCTTC
GGAAAGT
PK3:  -21.780000(kcal/mol): PK_start=1440 sp=0 s1=5 s2=4 l1=5 l2=9 L3=0 PK_end=1471
(fs_start=1432)
          AGTTT
CACTGAAAGACAGGCTAATTTTTTTAGGGAA
          CCCTT   CCGG
                    GGCCCG
          ACAAGGGGA
PK4:  -21.795000(kcal/mol): PK_start=1450 sp=10 s1=5 s2=4 l1=8 l2=10 L3=0 PK_end=1485
(fs_start=1432)
          TCCCACAA
CAGGCTAATTTTTTTAGGGAAAGTTTGGCCT
          CCGGA   GGGG
                    CTCCAG
          CGGAAATTC
PK4B:  -24.675000(kcal/mol): PK_start=1450 sp=10 s1=5 s2=4 l1=8 l2=35 L3=0
PK_end=1510 (fs_start=1432)
          TCCCACAA
CAGGCTAATTTTTTTAGGGAAAGTTTGGCCT
          CCGGA   GGGG
                    CCCCAC
          CGGAAATTCCTCCAGAGCAGGCCAGAGCCAACAG
=====
(12) EU220698
=====
PK2:  -21.980000(kcal/mol): PK_start=1585 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1622
(fs_start=1600)
          C
GAGGGACACCAAATGAAAGAATGCACTGAAAGA
          GATTTTTT   AATCGGA
                    TTGGCCTTC
          GGAAAAT
PK3:  -20.285000(kcal/mol): PK_start=1609 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1642
(fs_start=1600)
          AAA
ACTGAAAGACAGGCTAATTTTTTTAGGGAA
          CCT   TCCGGTTT
                    AGGCCAGGGA
          AGCAAGGGA
PK4:  -22.915000(kcal/mol): PK_start=1615 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1652
(fs_start=1600)
          TCCAGCA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT

```

```

                GGACCGGA    AGGGA
                                TTCCTCA
          GAATT
=====
(13) EU581824
=====
PK2:  -21.98000(kcal/mol): PK_start=1259 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1296
(fs_start=1274)
                                C
GAAGGACACCAAATGAAAGAATGCACTGAAAGA
                GATTTTTT    AATCGGA
                                TTGGCCTTC
          GGAAAAT

PK3:  -20.28500(kcal/mol): PK_start=1283 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1316
(fs_start=1274)
                                AAA
ACTGAAAGACAGGCTAATTTTTTTAGGGA
                CCT    TCCGGTTT
                                AGGCCAGGGA
          AACAAGGGG

PK4:  -25.01000(kcal/mol): PK_start=1289 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1326
(fs_start=1274)
                                CAAC
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTTC
                GGACCGGAGG    GGAA
                                CCTTCA
          GAATTT

PK4B: -26.86500(kcal/mol): PK_start=1289 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1352
(fs_start=1274)
                                TCCAACAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
                GGACCGGA    GGGG
                                CCCCCG
          GAATTTCC TTCAGAACAGGCCAGAGCCAACAG

=====
(14) EU735534
=====
PK2:  -17.18000(kcal/mol): PK_start=1545 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=1579
(fs_start=1558)
                                C
AGGACACCAAATGAAAGAATGCACAGAGAGA
                TTTTTT    A    AATCGGA
                                TGGCCTTC
          AGGGAAAATC

```

PK3: -27.275000(kcal/mol): PK_start=1566 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1600
(fs_start=1558)

AAA
CACAGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -26.235000(kcal/mol): PK_start=1573 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1610
(fs_start=1558)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTC
GGACCGGAGG GGAA
TCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1573 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1636
(fs_start=1558)

TCCCACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCTTCAGACCAGACCAGCCAACAG

=====
(15) FJ389366
=====

PK2: -17.180000(kcal/mol): PK_start=1585 sp=0 s1=6 s2=6 l1=1 l2=10 L3=1 PK_end=1619
(fs_start=1598)

C
GGGACATCAGATGAAAGAMTGCACAGAGAGA
TTTTTT A ATCGGA
TGGCCTC
AGGGAAAATC

PK3: -23.815000(kcal/mol): PK_start=1607 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1640
(fs_start=1598)

AAA
ACAGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTCT
AGGCCAGGGA
MACAAGGGR

PK4: -20.980000(kcal/mol): PK_start=1613 sp=7 s1=8 s2=4 l1=7 l2=5 L3=1 PK_end=1648
(fs_start=1598)

TCCMACA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA R GGGA
TTCTCC
GAAYT

=====
(16) FJ496198
=====

PK2: -20.50000(kcal/mol): PK_start=1476 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1512
(fs_start=1491)

C
GAAGGACACCAAATGAAAGAATGCACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -23.815000(kcal/mol): PK_start=1500 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1533
(fs_start=1491)

AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTCT
AGGCCAGGGA
AACAAGGGG

PK4: -28.540000(kcal/mol): PK_start=1506 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1543
(fs_start=1491)

CAAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1506 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1569
(fs_start=1491)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCTTCAGAGCAGACCAGAGCCATCAG

=====
(17) FJ496200
=====

PK2: -20.50000(kcal/mol): PK_start=1476 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1512
(fs_start=1491)

C
GAAGGACACCAAATGAAAGAATGCACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -23.815000(kcal/mol): PK_start=1500 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1533
(fs_start=1491)

AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTCT

```

                                AGGCCAGGGA
                AACAAGGGG

PK4:  -28.540000(kcal/mol): PK_start=1506 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1543
(fs_start=1491)
                                CAAC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAGG    GGAA
                                CCTTCA
                GAATTT

PK4B:  -30.395000(kcal/mol): PK_start=1506 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1569
(fs_start=1491)
                                TCCAACAA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT
                                GGACCGGA    GGGG
                                CCCCAC
                GAATTTCTTCAGAGCAGACCAGAGCCATCAG

=====
(18) FJ496201
=====
PK2:  -20.500000(kcal/mol): PK_start=1476 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1512
(fs_start=1491)
                                C
GAAGGACACCAAATGAAAGAATGCACTGAAAGA
                                GATTTTTT    A    ATCGGA
                                TGGCCTTC
                GGAAAATC

PK3:  -23.815000(kcal/mol): PK_start=1500 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1533
(fs_start=1491)
                                AAA
ACTGAAAGACAGGCTAATTTTTTTAGGGA
                                CCT    TCCGGTCT
                                AGGCCAGGGA
                AACAAGGGG

PK4:  -28.540000(kcal/mol): PK_start=1506 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1543
(fs_start=1491)
                                CAAC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
                                GGACCGGAGG    GGAA
                                CCTTCA
                GAATTT

PK4B:  -30.395000(kcal/mol): PK_start=1506 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1569
(fs_start=1491)
                                TCCAACAA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCT
                                GGACCGGA    GGGG

```

CCCCAC
GAATTCCTTCAGAGCAGACCAGAGCCATCAG

=====
(19) FJ496205
=====

PK2: -20.50000(kcal/mol): PK_start=1476 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1512
(fs_start=1491)

C
GAAGGACACCAAATGAAAGAATGCACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -23.815000(kcal/mol): PK_start=1500 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1533
(fs_start=1491)

AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTCT
AGGCCAGGGA
ACAAGGGG

PK4: -28.540000(kcal/mol): PK_start=1506 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1543
(fs_start=1491)

CAAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -30.395000(kcal/mol): PK_start=1506 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1569
(fs_start=1491)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTCCTTCAGAGCAGACCAGAGCCATCAG

=====
(20) FJ623488
=====

PK2: -21.980000(kcal/mol): PK_start=1290 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1327
(fs_start=1305)

C
GAAGGACACCAAATGAAAGAATGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAGAAT

PK3: -18.840000(kcal/mol): PK_start=1313 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1347
(fs_start=1305)

AA
CACTGAAAGACAGGCTAATTTTTTAGGGAG

```

          CCTTC   CGGTTT
                GCCAGGGA
    AACAAAGGGGAG

PK4:  -22.215000(kcal/mol): PK_start=1320 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1357
(fs_start=1305)
                CCAACA
AGACAGGCTAATTTTTTTAGGGAGAATTTGGCCTT
                GGACCGGAG   GGGA
                        TCCTCA
                GAATTT

PK4B:  -26.865000(kcal/mol): PK_start=1320 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1383
(fs_start=1305)
                TCCAACAA
AGACAGGCTAATTTTTTTAGGGAGAATTTGGCCT
                GGACCGGA   GGGG
                        CCCCAC
                GAATTTTCCTCAGAGCAGACTGGAGCCAACGG

=====
(21) HQ385479
=====

PK2:  -14.080000(kcal/mol): PK_start=1502 sp=0 s1=4 s2=7 l1=1 l2=11 L3=0 PK_end=1535
(fs_start=1513)
                C
GACACCAAATGAAGGACTGCACAGCGGGA
                TTTT   AATCGGA
                        TTGGCCTTC
                TTAGGGAGAAT

PK3:  -18.840000(kcal/mol): PK_start=1521 sp=0 s1=5 s2=6 l1=2 l2=11 L3=0 PK_end=1555
(fs_start=1513)
                AA
CACAGCGGGACAGGCTAATTTTTTTAGGGAG
                CCTTC   CGGTTT
                        GCCAGGGA
                CACAAGGGGAG

PK4:  -18.485000(kcal/mol): PK_start=1528 sp=7 s1=9 s2=4 l1=6 l2=5 L3=0 PK_end=1564
(fs_start=1513)
                CCCACA
GGACAGGCTAATTTTTTTAGGGAGAATTTGGCCTT
                GGACCGGAG   GGGA
                        TTCTCC
                GAATT

PK4B:  -26.865000(kcal/mol): PK_start=1528 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1591
(fs_start=1513)
                TCCCACAA
GGACAGGCTAATTTTTTTAGGGAGAATTTGGCCT

```


GGACCGGA GGGG
CCCCAC
GAATTTTCTCCAGAACAGACCAGAGCCAACAG

=====
(22) JF320022
=====

PK2: -17.740000(kcal/mol): PK_start=1478 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1514
(fs_start=1493)

C
GAAGGACATCAAATGAAAGACCGTACTGGGAAA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -22.650000(kcal/mol): PK_start=1502 sp=0 s1=5 s2=6 l1=1 l2=11 L3=0 PK_end=1535
(fs_start=1493)

A
ACTGGGAAACAGGCTAATTTTTTAGGGAAG
CCTTC CGGTCT
GCCAGGGA
AACAAAGGGAG

PK4: -26.275000(kcal/mol): PK_start=1508 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1545
(fs_start=1493)

TCCAACA
AAACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA GGGAA
TCCTTCA
GAATT

=====
(23) JF683789
=====

PK2: -20.500000(kcal/mol): PK_start=1301 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1337
(fs_start=1316)

C
GAGGGACACCAAATGAAAGAATGCACTGAAAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAAATC

PK3: -23.815000(kcal/mol): PK_start=1325 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1358
(fs_start=1316)

AAA
ACTGAAAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTCT
AGGCCAGGGA
AGCAAGGGG

PK4: -25.745000(kcal/mol): PK_start=1331 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1368
(fs_start=1316)

```

                                CCAGCA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTT
                                GGACCGGAG    GGGA
                                TCCTCA
                                GAACTT
```

PK4B: -30.395000(kcal/mol): PK_start=1331 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1394
(fs_start=1316)

```

                                TCCAGCAA
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTT
                                GGACCGGA    GGGG
                                CCCCAC
                                GAACTTTCCTCAGAGCAGACCAGAGCCAACAG
```

=====
(24) JF689860
=====

PK2: -17.390000(kcal/mol): PK_start=1277 sp=0 s1=5 s2=7 l1=1 l2=10 L3=0 PK_end=1311
(fs_start=1289)

```

                                C
GGACATCAAATGAAAGACTGTACTCAGAGA
                                TTTTT    AATCGGA
                                TTGGCCTTC
                                TAGGGAAGAT
```

PK3: -21.530000(kcal/mol): PK_start=1297 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1331
(fs_start=1289)

```

                                A
TACTCAGAGACAGGCTAATTTTTTTAGGGAAG
                                TCCTTC    CGGTTT
                                GCCAGGGA
                                CCAAGGGAAG
```

PK4: -23.185000(kcal/mol): PK_start=1304 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1341
(fs_start=1289)

```

                                CTCC
AGACAGGCTAATTTTTTTAGGGAAGATTGGCCTTC
                                GGACCGGAAG    GGAA
                                TCTTCA
                                GAATTT
```

=====
(25) JN024378
=====

PK2: -20.500000(kcal/mol): PK_start=1489 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1525
(fs_start=1504)

```

                                C
GAGGGACACCAAATGAAAGATCGTACTGAAAGA
                                GATTTTTT    A    ATCGGA
```

TGGCCTTC
GGAAAATC
PK3: -27.275000(kcal/mol): PK_start=1512 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1546
(fs_start=1504)

AAA
TACTGAAAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGAA
ACAAGGGA

PK4: -26.715000(kcal/mol): PK_start=1519 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1556
(fs_start=1504)

CCAC
AGACAGGCTAATTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
TCTTCA
AAATTT

=====

(26) JN024478

=====

PK2: -20.460000(kcal/mol): PK_start=1491 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1527
(fs_start=1506)

C
GAAGGACACCAAATGAAAGACCGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -25.060000(kcal/mol): PK_start=1514 sp=0 s1=6 s2=6 l1=1 l2=10 L3=0 PK_end=1548
(fs_start=1506)

A
TACTGAGAGACAGGCTAATTTTTTAGGGAAG
TCCTTC CGGTCT
GCCAGGGA
CCAAGGGAAG

PK4: -24.995000(kcal/mol): PK_start=1521 sp=7 s1=8 s2=4 l1=8 l2=6 L3=0 PK_end=1558
(fs_start=1506)

TCCTCCAA
AGACAGGCTAATTTTTTAGGGAAGATCTGGCCT
GGACCGGA AGGG
TCTCCA
GAATTT

=====

(27) JN235962

=====

PK2: -26.800000(kcal/mol): PK_start=1257 sp=0 s1=10 s2=7 l1=1 l2=5 L3=0 PK_end=1296
(fs_start=1274)

C
GAGAAGGACACCAAATAAAAGAATGCCCTGAAGGA

```

GGGATTTTTT    AATCGGA
                TTGGCCTTC
AAAAT
PK3:  -18.720000(kcal/mol): PK_start=1283 sp=0 s1=4 s2=4 l1=5 l2=10 L3=0 PK_end=1313
(fs_start=1274)
                AATTT
CCTGAAGGACAGGCTAATTTTTTTAGGGAA
                CCTT    CCGG
                GGCTG
                AACAAAGGGGA
PK4:  -22.820000(kcal/mol): PK_start=1292 sp=10 s1=7 s2=4 l1=4 l2=9 L3=0 PK_end=1326
(fs_start=1274)
                CAAC
CAGGCTAATTTTTTTAGGGAAAATTTGGCCTTC
                CCGGAGG    GGAA
                CCTTCA
                TGGGAATTT
PK4B:  -24.675000(kcal/mol): PK_start=1292 sp=10 s1=5 s2=4 l1=8 l2=35 L3=0
PK_end=1352 (fs_start=1274)
                TCCAACAA
CAGGCTAATTTTTTTAGGGAAAATTTGGCCT
                CCGGA    GGGG
                CCCCCG
                TGGGAATTTCTTCAGAACAGGACAGAGCCAACAG
=====
(28) JN248356
=====
PK2:  -16.840000(kcal/mol): PK_start=1279 sp=0 s1=4 s2=7 l1=1 l2=11 L3=0 PK_end=1312
(fs_start=1290)
                C
GACATCAAATGAAAGACTGCACTGCGAGA
                TTTT    AATCGGA
                TTGGCCTTC
                TTAGGAAATT
PK3:  -19.815000(kcal/mol): PK_start=1299 sp=0 s1=3 s2=9 l1=2 l2=9 L3=0 PK_end=1333
(fs_start=1290)
                AA
ACTGCGAGACAGGCTAATTTTTTTAGGGA
                CCT    TCCGGTTTT
                AGGCCAGGGAA
                AACAAAGGGGA
PK4:  -22.445000(kcal/mol): PK_start=1304 sp=6 s1=9 s2=5 l1=7 l2=4 L3=0 PK_end=1342
(fs_start=1290)
                TCCAACA
GAGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT

```

```

                GGGACCGGA    AGGGA
                                TTCCTCA
        AATT
=====
(29) JN864059
=====
PK2:  -19.66000(kcal/mol): PK_start=1333 sp=0 s1=7 s2=7 l1=1 l2=8 L3=0 PK_end=1369
(fs_start=1347)
                                C
GACACCAAATGAAAGACTGCAATAATGAGAGA
                ATTTTTT    AATCGGA
                                TTGGCCTTC
        GGGAAAAT

PK3:  -20.285000(kcal/mol): PK_start=1356 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1389
(fs_start=1347)
                AAA
AATGAGAGACAGGCTAATTTTTTTAGGGA
                CCT    TCCGGTTT
                                AGGCCAGGGA
        AACAAGGGG

PK4:  -22.215000(kcal/mol): PK_start=1362 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1399
(fs_start=1347)
                                CCAACA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTT
                GGACCGGAG    GGGA
                                TCCTCA
        GAATTT

PK4B:  -26.865000(kcal/mol): PK_start=1362 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1425
(fs_start=1347)
                                TCCAACAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTT
                GGACCGGA    GGGG
                                CCCCAC
        GAATTTTCCTCAGAGCAGACAAGAGCCAACAG

=====
(30) JQ403089
=====
PK2:  -20.460000(kcal/mol): PK_start=1223 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1259
(fs_start=1238)
                                C
GAAGGACACCAGATGAAAGAATGCACTGAGAGA
                GATTTTTT    A    ATCGGA
                                TGGCCTTC
        GGAAAATC

```

PK3: -27.275000(kcal/mol): PK_start=1246 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1280
(fs_start=1238)

AAA
CACTGAGAGACAGGCTAATTTTTTTAGGGA
CCCT TCCGGTCT
AGGCCAGGGA
ACAAGGGA

PK4: -29.020000(kcal/mol): PK_start=1253 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1290
(fs_start=1238)

CCAC
AGACAGGCTAATTTTTTTAGGGAAAATCTGGCCTTC
GGACCGGAAG GGAA
CCTTCA
GAATTT

=====
(31) JX140660
=====

PK2: -16.500000(kcal/mol): PK_start=1438 sp=0 s1=4 s2=7 l1=1 l2=11 L3=0 PK_end=1471
(fs_start=1449)

C
GACACCAAATGAAAGACTGCACTGCAAGA
TTTT AATCGGA
TTGGCCTTC
TTAGGGAAAAT

PK3: -22.025000(kcal/mol): PK_start=1457 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1491
(fs_start=1449)

AAA
CACTGCAAGACAGGCTAATTTTTTTAGGGA
CCCT TCCGGTTT
AGGCCGGGAA
ACAAGGGG

PK4: -23.290000(kcal/mol): PK_start=1464 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1501
(fs_start=1449)

CCAC
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCTTC
GGGCCGGAGG GGAA
CCTTCA
AAATTT

PK4B: -25.145000(kcal/mol): PK_start=1464 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1527
(fs_start=1449)

TCCCACAA
AGACAGGCTAATTTTTTTAGGGAAAATTTGGCCT
GGGCCGGA GGGG
CCCCGC
AAATTTCTTCAGAGCAGGCCAGAACCAACAG

=====
(32) JX140671
=====

PK2: -21.980000(kcal/mol): PK_start=1405 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1442
(fs_start=1420)

C
GAAGGACACCAAATGAAAGAATGCACTGAAAGA
GATTTTTT AATCGGA
TTGCCTTC
GGAAAAT

PK3: -21.780000(kcal/mol): PK_start=1428 sp=0 s1=5 s2=4 l1=5 l2=9 L3=0 PK_end=1459
(fs_start=1420)

AATTT
CACTGAAAGACAGGCTAATTTTTTAGGGAA
CCCTT CCGG
GGCCCG
ACAAGGGGA

PK4: -21.795000(kcal/mol): PK_start=1438 sp=10 s1=5 s2=4 l1=8 l2=10 L3=0 PK_end=1473
(fs_start=1420)

TCCCACAA
CAGGCTAATTTTTTAGGGAAAATTTGGCCT
CCGGA GGGG
CTCCAG
CGGAAATTC

PK4B: -24.675000(kcal/mol): PK_start=1438 sp=10 s1=5 s2=4 l1=8 l2=35 L3=0
PK_end=1498 (fs_start=1420)

TCCCACAA
CAGGCTAATTTTTTAGGGAAAATTTGGCCT
CCGGA GGGG
CCCCAC
CGGAAATTCCTCCAGAACAGGCCAGAGCCAACAG

=====
(33) JX446995
=====

PK2: -20.460000(kcal/mol): PK_start=1266 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1302
(fs_start=1281)

C
GAAGGACATCAAATGAAAGACTRCACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAGAATA

PK3: -19.505000(kcal/mol): PK_start=1290 sp=0 s1=3 s2=6 l1=5 l2=9 L3=0 PK_end=1321
(fs_start=1281)

GAATA
ACTGAGAGACAGGCTAATTTTTTAGGGA
CCT TCCGGT

```

                                AGGCCGGG
                        AACAAGGGA
PK4:  -22.135000(kcal/mol): PK_start=1298 sp=9 s1=6 s2=5 l1=7 l2=7 L3=0 PK_end=1333
(fs_start=1281)
                                TCCAACA
ACAGGCTAATTTTTTAGGGAGAATATGGCCT
                                GCCGGA   AGGGA
                                TTCCTCA
                        GGGAATT

```

```

=====
(34) JX447006
=====

```

```

PK2:  -21.940000(kcal/mol): PK_start=1502 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1539
(fs_start=1517)
                                C
GAAGGACATCAAATGAAAGAKTGCCTGAGAGA
                                GATTTTTT   AATCGGA
                                TTGGCCTTC
                        GGAAAAT

```

```

PK3:  -20.285000(kcal/mol): PK_start=1526 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1559
(fs_start=1517)
                                AAA
ACTGAGAGACAGGCTAATTTTTTAGGGA
                                CCT   TCCGGTTT
                                AGGCCAGGGA
                        AACAAGGGA

```

```

PK4:  -25.725000(kcal/mol): PK_start=1532 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1569
(fs_start=1517)
                                TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
                                GGACCGGA   AGGGA
                                TCCCTCA
                        GAACT

```

5. 15 strains (0.35%) have three pseudoknots PK1, PK2, and PK3

```

=====
(1) AY371158
=====

```

```

PK1:  -15.140000(kcal/mol): PK_start=1254 sp=0 s1=3 s2=8 l1=2 l2=5 L3=0 PK_end=1282
(fs_start=1274)
                                CA
GAAAGGAAGGACACCAAATGAAAGACTG
                                GAC   AGAAAGTC
                                TTTTTTAGGG
                        GCTAA

```


PK2: -21.980000(kcal/mol): PK_start=1259 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1296
(fs_start=1274)

C
GAAGGACACCAAATGAAAGACTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -18.720000(kcal/mol): PK_start=1283 sp=0 s1=4 s2=4 l1=5 l2=10 L3=0 PK_end=1313
(fs_start=1274)

AATTT
ACTGAAAGACAGGCTAATTTTTTAGGGAA
CCTT CCGG
GGCCTG
AACAAAGGGA

=====
(2) AY563170
=====

PK1: -15.585000(kcal/mol): PK_start=1260 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1288
(fs_start=1280)

A
GAAAGGAAGGACACCAAATGAAAGACTGT
GACA GAGAGTC
TTTTTAGGG
GCTAAT

PK2: -21.940000(kcal/mol): PK_start=1265 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1302
(fs_start=1280)

C
GAAGGACACCAAATGAAAGACTGTACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -20.285000(kcal/mol): PK_start=1289 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1322
(fs_start=1280)

AAA
ACTGAGAGACAGGCTAATTTTTTAGGGAA
CCT TCCGGTTT
AGGCCAGGAA
AACAAAGGGA

=====
(3) AY773339
=====

PK1: -10.640000(kcal/mol): PK_start=1294 sp=0 s1=3 s2=7 l1=1 l2=18 L3=0 PK_end=1332
(fs_start=1325)

A
TTGGAAATGTGGAAGGGAAGGACACCAA
GTT AGAAAGT

TTTTTTAGA
CACTGAAAGACAGGAAAA
PK2: -15.870000(kcal/mol): PK_start=1310 sp=0 s1=8 s2=4 l1=2 l2=13 l3=2 PK_end=1348
(fs_start=1325)

CA
GAAGGACACCAAATGAAAGATTGCACTGAAAGA
GATTTTTT AA AAGG
TTCCCA
AGAAAATTTTGCC

PK3: -6.770000(kcal/mol): PK_start=1333 sp=0 s1=3 s2=5 l1=4 l2=4 l3=1 PK_end=1356
(fs_start=1325)

AAAA
CACTGAAAGACAGGAAAATTTTTTAGAG
TTC C GTTTT
CAAGGGA
CCCA

=====
(4) AY945736
=====

PK1: -15.100000(kcal/mol): PK_start=1263 sp=0 s1=3 s2=8 l1=2 l2=5 l3=0 PK_end=1291
(fs_start=1283)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCTAA

PK2: -21.940000(kcal/mol): PK_start=1268 sp=0 s1=8 s2=7 l1=1 l2=7 l3=0 PK_end=1305
(fs_start=1283)

C
GAAGGACATCAAATGAAAGACTGCACTGAGAGA
GATTTTTT AATCGGA
TTGGCCTCC
GGAAAAT

PK3: -22.240000(kcal/mol): PK_start=1291 sp=0 s1=4 s2=7 l1=3 l2=10 l3=0 PK_end=1325
(fs_start=1283)

AAA
CACTGAGAGACAGGCTAATTTTTTAGGGA
CCCT CCGGTTT
GGCCAGGAA
AACAACAGGA

=====
(5) EU697905
=====

PK1: -11.420000(kcal/mol): PK_start=1594 sp=0 s1=3 s2=6 l1=4 l2=5 l3=0 PK_end=1620
(fs_start=1614)

CACA
GAAAGGAGGGACATCAAATGAAAGACTG

GAC AGAGAG
 TTTTTTAG
 GCTAA

PK2: -16.020000(kcal/mol): PK_start=1601 sp=0 s1=6 s2=7 l1=1 l2=9 L3=0 PK_end=1636
 (fs_start=1614)

C
 GGGACATCAAATGAAAGACTGCACAGAGAGA
 TTTTTT AATCGGA
 TTGGTCTTC
 AGGGAAAAT

PK3: -21.105000(kcal/mol): PK_start=1622 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1656
 (fs_start=1614)

AAA
 CACAGAGAGACAGGCTAATTTTTTAGGGA
 CCCT TCTGGTTT
 AGGCCAGGGA
 ACAAGGGA

=====
 (6) FJ388960
 =====

PK1: -13.555000(kcal/mol): PK_start=1272 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1300
 (fs_start=1292)

C
 GAAGGGAAGGACACCAAATGAAAGATTGT
 GACA GAGAGTC
 TTTTTAGGG
 GCTAAT

PK2: -19.700000(kcal/mol): PK_start=1275 sp=0 s1=10 s2=4 l1=2 l2=24 L3=2 PK_end=1328
 (fs_start=1292)

CA
 GGGAAAGGACACCAAATGAAAGATTGTCCTGAGAGA
 GGGATTTTTT AA TCGG
 AGTCCA
 AAGATCTGCCCTTCCCACAAGGGA

PK3: -16.230000(kcal/mol): PK_start=1299 sp=0 s1=4 s2=4 l1=4 l2=16 L3=0 PK_end=1334
 (fs_start=1292)

AAGA
 GTCCTGAGAGACAGGCTAATTTTTTAGGG
 TCCC GTCT
 CAGGGA
 TCCCACAAGGGAAGTC

=====
 (7) FJ670528
 =====

PK1: -11.05000(kcal/mol): PK_start=1526 sp=0 s1=3 s2=5 l1=2 l2=8 L3=0 PK_end=1551
(fs_start=1545)

AC
AAGGGAGGGACATCAAATGAAAGACTGC

ACG AAAGA
TTTTTAG
AGGCTAAT

PK2: -19.04000(kcal/mol): PK_start=1531 sp=0 s1=6 s2=8 l1=1 l2=9 L3=0 PK_end=1568
(fs_start=1545)

C
AGGGACATCAAATGAAAGACTGCACAGAAAG

TTTTTT AATCGGAA
TTGGCCTTCC
AGGGAAAAT

PK3: -20.28500(kcal/mol): PK_start=1554 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1587
(fs_start=1545)

AAA
ACAGAAAGCAAGGCTAATTTTTTAGGGA

CCT TCCGGTTT
AGGCCAGGGA
AACAAGGGR

=====

(8) JF320418

=====

PK1: -10.97500(kcal/mol): PK_start=1476 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=1503
(fs_start=1496)

AA
GAAAGGAAGGACACCAAATGAAAGATTGT

GACA GAGAGT
TTTTTAGG
GCTAAT

PK2: -18.18000(kcal/mol): PK_start=1482 sp=0 s1=7 s2=6 l1=1 l2=9 L3=1 PK_end=1517
(fs_start=1496)

C
AAGGACACCAAATGAAAGATTGTAATGAGAGA

ATTTTTT A ATCGGA
TGGCCTTC
GGGAAGATC

PK3: -16.75000(kcal/mol): PK_start=1504 sp=0 s1=6 s2=4 l1=1 l2=12 L3=2 PK_end=1536
(fs_start=1496)

A
TAATGAGAGACAGGCTAATTTTTTAGGGAAG

TCCTTC CG GTCT
CAGGGA
ACAAAGGAAGGA

=====

(9) JN248353

=====

PK1: -13.555000(kcal/mol): PK_start=1300 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1328
(fs_start=1320)

T

GAAAAGAAGGACATCAAATGAAAGATTGT

GACA GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -21.020000(kcal/mol): PK_start=1303 sp=0 s1=10 s2=6 l1=1 l2=6 L3=1 PK_end=1341
(fs_start=1320)

C

AAGAAGGACATCAAATGAAAGATTGTTCTGAGAGA

GGGATTTTTT A ATCGGA

TGGCCTTC

AAAGTC

PK3: -22.180000(kcal/mol): PK_start=1328 sp=0 s1=5 s2=4 l1=5 l2=9 L3=0 PK_end=1359
(fs_start=1320)

AGTCT

TTCTGAGAGACAGGCTAATTTTTTAGGGAA

CCCTT CCGG

GGCCTG

ACAAGGGAA

=====

(10) JN397365

=====

PK1: -13.555000(kcal/mol): PK_start=1626 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1654
(fs_start=1646)

A

GACAGGAAGGACACCAAATGAAAGATTGT

GACA GAGAGTC

TTTTTAGGG

GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1631 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1667
(fs_start=1646)

C

GAAGGACACCAAATGAAAGATTGTACTGAGAGA

GATTTTTT A ATCGGA

TGGCCTTC

GGAAGATC

PK3: -20.950000(kcal/mol): PK_start=1654 sp=0 s1=6 s2=5 l1=1 l2=25 L3=1 PK_end=1701
(fs_start=1646)

A

TACTGAGAGACAGGCTAATTTTTTAGGGAAG

CCCTTC C GGTCT

TCAGAGC
ACAAGGTGAGGCGGGGAAATGTCCT

=====
(11) JN417238
=====

PK1: -13.065000(kcal/mol): PK_start=1328 sp=0 s1=3 s2=8 l1=5 l2=19 L3=0 PK_end=1373
(fs_start=1366)

CCAAA
GCTGTTGAAATGTGGAAAGGAAGGACA
TGT TAGAAAGT
ATTTTTTAGG
AATAATGAGAGACAGGCTA

PK2: -19.660000(kcal/mol): PK_start=1352 sp=0 s1=7 s2=7 l1=1 l2=8 L3=0 PK_end=1388
(fs_start=1366)

C
GACACCAAATGAAAGATTGTAATAATGAGAGA
ATTTTTT AATCGGA
TTGGCCTTC
GGGAAAAT

PK3: -23.745000(kcal/mol): PK_start=1374 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1408
(fs_start=1366)

AAA
TAATGAGAGACAGGCTAATTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGA
RCAAAGSA

=====
(12) JX236675
=====

PK1: -12.640000(kcal/mol): PK_start=2047 sp=0 s1=3 s2=7 l1=4 l2=18 L3=0 PK_end=2088
(fs_start=2081)

CAAA
CTGTTGAAATGTGGAAAGGAAGGACAC
GTG AGAAAGT
TTTTTTTAGG
CACTGAAAGACAGGCTAA

PK2: -21.980000(kcal/mol): PK_start=2066 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=2103
(fs_start=2081)

C
GAAGGACACCAAATGAAAGAGTGCACTGAAAGA
GATTTTTT AATCGGA
TTGGCCTTC
GGAAAAT

PK3: -24.970000(kcal/mol): PK_start=2089 sp=0 s1=3 s2=10 l1=5 l2=6 L3=0 PK_end=2125
(fs_start=2081)

AAAAT
CACTGAAAGACAGGCTAATTTTTTAGGG

```

          CTC      CCTTCCGGTT
                    GGAAGCCCGGG
AACAAAC
=====
(13) JX448023
=====
PK1:  -12.52000(kcal/mol): PK_start=1426 sp=0 s1=3 s2=7 l1=3 l2=5 L3=0 PK_end=1453
(fs_start=1446)
                    CAA
GGAAGGAAGGACATCAAATAAAAGACTG
                    GAC      AGAGAGT
                    TTTTTTAGG
          GCTAA

PK2:  -5.005000(kcal/mol): PK_start=1440 sp=0 s1=3 s2=5 l1=2 l2=5 L3=0 PK_end=1462
(fs_start=1446)
                    CT
CAAATAAAAGACTGCAATGAGAGACAGG
                    TTT      TTTAA
                    AAATTTR
          AGGGA

PK3:  -11.390000(kcal/mol): PK_start=1453 sp=0 s1=3 s2=7 l1=1 l2=20 L3=2 PK_end=1493
(fs_start=1446)
                    G
GCAATGAGAGACAGGCTAATTTTTTAGG
                    TCC  GR  TTTAAAA
                    AAATTTTCC
          TCCAGCAAGGAAGGCCGGG
=====
(14) KC596073
=====
PK1:  -12.640000(kcal/mol): PK_start=1399 sp=0 s1=3 s2=7 l1=4 l2=18 L3=0 PK_end=1440
(fs_start=1433)
                    CAAA
CTGTTGAAATGTGGAAGGAAGGACAC
                    GTG      AGAAAGT
                    TTTTTTAGG
          CACTGAAAGACAGGCTAA

PK2:  -21.980000(kcal/mol): PK_start=1418 sp=0 s1=8 s2=7 l1=1 l2=7 L3=0 PK_end=1455
(fs_start=1433)
                    C
GAAGGACACCAAATGAAAGAGTGCACTGAAAGA
                    GATTTTTT  AATCGGA
                    TTGGCCTTC
          GGAAAAT

```

PK3: -24.970000(kcal/mol): PK_start=1441 sp=0 s1=3 s2=10 l1=5 l2=6 l3=0 PK_end=1477
(fs_start=1433)

AAAAAT
CACTGAAAGACAGGCTAATTTTTTTAGGG
CTC CCTTCCGGTT
GGAAGCCGGGG
AACAAAC

=====
(15) M17449
=====

PK1: -13.555000(kcal/mol): PK_start=2070 sp=0 s1=4 s2=7 l1=1 l2=6 l3=0 PK_end=2098
(fs_start=2090)

A
GAAAGGAAGGACACCAAATGAAAGATTGT
GACA GAGAGTC
TTTTTTAGGG
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=2075 sp=0 s1=8 s2=6 l1=1 l2=8 l3=1 PK_end=2111
(fs_start=2090)

C
GAAGGACACCAAATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGGCCTTC
GGAAGATC

PK3: -19.900000(kcal/mol): PK_start=2098 sp=0 s1=6 s2=5 l1=1 l2=22 l3=1 PK_end=2142
(fs_start=2090)

A
TACTGAGAGACAGGCTAATTTTTTTAGGGAAG
TCCTTC C GGTCT
TCAGAGC
GCAAGGGAAGGCGGAATTTTCC

6. 14 strains (0.33%) have two pseudoknots PK1, and PK4

=====
(1) AB485668
=====

PK1: -10.440000(kcal/mol): PK_start=2118 sp=0 s1=3 s2=7 l1=1 l2=21 l3=0 PK_end=2159
(fs_start=2152)

A
CTGGAAATGTGGACAGGAAGGTCATCAA
GTT AGAAAGT
TTTTTTAGG
CAGAAATGGAAAACAGGCAA

PK4: -42.750000(kcal/mol): PK_start=2168 sp=8 s1=8 s2=8 l1=2 l2=20 l3=0 PK_end=2221
(fs_start=2152)

CG
AACAGGCAAATTTTTTTAGGCAAATACTGGCCTC

GACCGGAG CACGGGGG
 GTGCCCCCAT
 GCAATTATATGCAGAAACAA

PK4B: -33.960000(kcal/mol): PK_start=2168 sp=8 s1=8 s2=5 l1=3 l2=32 L3=2 PK_end=2228
 (fs_start=2152)

CGG
 AACAGGCAAATTTTTTAGGCAAATACTGGCCTC

GACCGGAG CA CGGGG
 GCCCCAC
 GCAATTATATGCAGAAACAAGTGCCCCCATCA

=====

(2) AB485669

=====

PK1: -10.440000(kcal/mol): PK_start=2118 sp=0 s1=3 s2=7 l1=1 l2=21 L3=0 PK_end=2159
 (fs_start=2152)

A
 CTGGAAATGTGGACAGGAAGGTCATCAA

GTT AGAAAGT
 TTTTTTAGG
 CAGAAATGGAAAACAGGCAAA

PK4: -42.750000(kcal/mol): PK_start=2168 sp=8 s1=8 s2=8 l1=2 l2=20 L3=0 PK_end=2221
 (fs_start=2152)

CG
 AACAGGCAAATTTTTTAGGCAAATACTGGCCTC

GACCGGAG CACGGGGG
 GTGCCCCCAT
 GCAATTATATGCAGAAACAA

PK4B: -33.960000(kcal/mol): PK_start=2168 sp=8 s1=8 s2=5 l1=3 l2=32 L3=2 PK_end=2228
 (fs_start=2152)

CGG
 AACAGGCAAATTTTTTAGGCAAATACTGGCCTC

GACCGGAG CA CGGGG
 GCCCCAC
 GCAATTATATGCAGAAACAAGTGCCCCCATCA

=====

(3) AY169802

=====

PK1: -10.390000(kcal/mol): PK_start=1548 sp=0 s1=3 s2=7 l1=1 l2=21 L3=0 PK_end=1589
 (fs_start=1582)

A
 CTGGAACTGTGGGCAGGATGGTCACCAG

GTT AGAAAGT
 TTTTTTAGG
 CAGAAATGGAAAACAGGCAAA

PK4: -36.700000(kcal/mol): PK_start=1598 sp=8 s1=8 s2=7 l1=1 l2=32 l3=2 PK_end=1660
(fs_start=1582)

C

AACAGGCAAATTTTTTAGGCAAATACTGGCCTC

GACCGGAG CA CGGGGG

GCCCCTCCG

GCAATTTTATGCAGAAACAAGTGCCCCATCA

=====

(4) AY169805

=====

PK1: -10.440000(kcal/mol): PK_start=1513 sp=0 s1=3 s2=7 l1=1 l2=21 l3=0 PK_end=1554
(fs_start=1547)

A

CTGGAAATGTGGACAGGAAGGTCATCAA

GTT AGAAAGT

TTTTTTTAGG

CAGAAATGGAAARCAGGCAA

PK4: -42.750000(kcal/mol): PK_start=1563 sp=8 s1=8 s2=8 l1=2 l2=20 l3=0 PK_end=1616
(fs_start=1547)

CG

ARCAGGCAAATTTTTTAGGCAAATACTGGCCTC

GACCGGAG CACGGGG

GTGCCCCAT

GCAATTATATGCAGAAACAA

PK4B: -33.960000(kcal/mol): PK_start=1563 sp=8 s1=8 s2=5 l1=3 l2=32 l3=2 PK_end=1623
(fs_start=1547)

CGG

ARCAGGCAAATTTTTTAGGCAAATACTGGCCTC

GACCGGAG CA CGGGG

GCCCCAC

GCAATTATATGCAGAAACAAGTGCCCCATCA

=====

(5) AY169807

=====

PK1: -10.400000(kcal/mol): PK_start=1547 sp=0 s1=3 s2=7 l1=1 l2=21 l3=0 PK_end=1588
(fs_start=1581)

A

CTGGAAATGTGGACAGGAAGGTCATCAA

GTT AGAGAGT

TTTTTTTAGG

CAAAAATGGAAAACAGGCAA

PK4: -42.320000(kcal/mol): PK_start=1597 sp=8 s1=8 s2=8 l1=2 l2=20 l3=0 PK_end=1650
(fs_start=1581)

CG

AACAGGCAAATTTTTTAGGCAAATACTGGCCTC

GACCGGAG CGCGGGG

GTGCCCCAT
GCAATTATATGCAGAAACAA
PK4B: -33.96000(kcal/mol): PK_start=1597 sp=8 s1=8 s2=5 l1=3 l2=32 L3=2 PK_end=1657
(fs_start=1581)
CGG
AACAGGCAAATTTTTTAGGCAAATACTGGCCTC
GACCGGAG CG CGGGG
GCCCCAC
GCAATTATATGCAGAAACAAGTGCCCCCATCA

=====
(6) AY169809
=====

PK1: -10.44000(kcal/mol): PK_start=1549 sp=0 s1=3 s2=7 l1=1 l2=21 L3=0 PK_end=1590
(fs_start=1583)
A
CTGGAAATGTGGACAGGAAGGTCATCAA
GTT AGAAAGT
TTTTTTAGG
CAGAAATGGAAAACAGGCAAA

PK4: -42.32000(kcal/mol): PK_start=1599 sp=8 s1=8 s2=8 l1=2 l2=20 L3=0 PK_end=1652
(fs_start=1583)
CG
AACAGGCAAATTTTTTAGGCAGATACTGGCCTC
GACCGGAG CGCGGGGG
GTGCCCCAT
GCAATTATGTGCAGAAACAA

PK4B: -33.96000(kcal/mol): PK_start=1599 sp=8 s1=8 s2=5 l1=3 l2=32 L3=2 PK_end=1659
(fs_start=1583)
CGG
AACAGGCAAATTTTTTAGGCAGATACTGGCCTC
GACCGGAG CG CGGGG
GCCCCAC
GCAATTATGTGCAGAAACAAGTGCCCCCATCA

=====
(7) AY169811
=====

PK1: -10.64000(kcal/mol): PK_start=1496 sp=0 s1=3 s2=7 l1=1 l2=21 L3=0 PK_end=1537
(fs_start=1530)
A
CTGGAAATGTGGACAGGAAGGTCACCAA
GTT AGAAAGT
TTTTTTAGG
CAAAAATGGAAAACAGGCAAA

PK4: -42.32000(kcal/mol): PK_start=1546 sp=8 s1=8 s2=8 l1=2 l2=20 L3=0 PK_end=1599
(fs_start=1530)
CG
AACAGGCAAATTTTTTAGGCAAATACTGGCCTC

GACCGGAG CGCGGGGG
GTGCCCCCAG
GCAATTATGTGCAGAAACAA

PK4B: -33.960000(kcal/mol): PK_start=1546 sp=8 s1=8 s2=5 l1=3 l2=41 L3=2 PK_end=1615
(fs_start=1530)

CGG
AACAGGCAAATTTTTTAGGCAAATACTGGCCTC

GACCGGAG CG CGGGG
GCCCCAC
GCAATTATGTGCAGAAACAAGTGCCCCCAGCAACCCCATCA

=====
(8) AY169816
=====

PK1: -10.640000(kcal/mol): PK_start=1548 sp=0 s1=3 s2=7 l1=1 l2=21 L3=0 PK_end=1589
(fs_start=1582)

A
CTGGAAATGTGGACAGGAAGGTCACCAA

GTT AGAAAGT
TTTTTTTAGG
CAGAAATGAAAAACAGGCAAA

PK4: -34.180000(kcal/mol): PK_start=1598 sp=8 s1=8 s2=6 l1=1 l2=25 L3=3 PK_end=1651
(fs_start=1582)

C
AACAGGCAAATTTTTTAGGCAAATACTGGCCTC

GACCGGAG CAC GGGGG
CCCCTCAG
GCAATTATGTGCAGAAACAAGTGCA

PK4B: -33.960000(kcal/mol): PK_start=1598 sp=8 s1=8 s2=5 l1=3 l2=32 L3=2 PK_end=1658
(fs_start=1582)

CGG
AACAGGCAAATTTTTTAGGCAAATACTGGCCTC

GACCGGAG CA CGGGG
GCCCCAC
GCAATTATGTGCAGAAACAAGTGACCCCTCA

=====
(9) AY623602
=====

PK1: -10.640000(kcal/mol): PK_start=2106 sp=0 s1=3 s2=7 l1=1 l2=21 L3=0 PK_end=2147
(fs_start=2140)

A
CTGGAAATGTGGACAGGAAGGTCACCAA

GTT AGAAAGT
TTTTTTTAGG
CAAAAATGAAAAACAGGCAAA

PK4: -33.960000(kcal/mol): PK_start=2156 sp=8 s1=8 s2=5 l1=3 l2=23 l3=2 PK_end=2207
(fs_start=2140)

CGG
AACAGGCAAATTTTTTAGGCAAATACTGGCCTC
GACCGGAG CA CGGGG
GCCCCAT
GCAATTACTTGCAGAAACAAGTA

PK4B: -33.960000(kcal/mol): PK_start=2156 sp=8 s1=8 s2=5 l1=3 l2=32 l3=2 PK_end=2216
(fs_start=2140)

CGG
AACAGGCAAATTTTTTAGGCAAATACTGGCCTC
GACCGGAG CA CGGGG
GCCCCGC
GCAATTACTTGCAGAAACAAGTAGCCCCATCA

=====
(10) JN571034
=====

PK1: -8.130000(kcal/mol): PK_start=2038 sp=0 s1=3 s2=6 l1=1 l2=21 l3=0 PK_end=2077
(fs_start=2071)

T
TGGAAATGTGGACAGGAAGGTCACCTAA
GTT AGAAAG
TTTTTTAG
CAGAAATGGAAAACAGGCAAA

PK4: -33.960000(kcal/mol): PK_start=2087 sp=8 s1=8 s2=5 l1=3 l2=23 l3=2 PK_end=2138
(fs_start=2071)

CGG
AACAGGCAAATTTTTTAGGCAAGTACTGGCCTC
GACCGGAG CA CGGGG
GCCCCAT
GCAATTATGTACAGAAACAAGTG

PK4B: -31.080000(kcal/mol): PK_start=2087 sp=8 s1=8 s2=5 l1=3 l2=32 l3=2 PK_end=2147
(fs_start=2071)

CGG
AACAGGCAAATTTTTTAGGCAAGTACTGGCCTC
GACCGGAG CA CGGGG
GCTCCAC
GCAATTATGTACAGAAACAAGTGCCCCATCA

=====
(11) JX245015
=====

PK1: -10.190000(kcal/mol): PK_start=1273 sp=0 s1=3 s2=7 l1=1 l2=21 l3=0 PK_end=1314
(fs_start=1307)

A
CTGGAAATGTGGACAGGAAGGTCATCAG
GTT AGAAAGT

TTTTTTAGG
CAAaAatGGAAGACAGGCAA

PK4: -34.180000(kcal/mol): PK_start=1323 sp=8 s1=8 s2=6 l1=1 l2=25 l3=3 PK_end=1376
(fs_start=1307)

C
GACAGGCAAATTTTTTTAGGCAAATACTGGCCTC
GACCGGAg cac GGGGGG
CCCCTCAG
GCAATTATGTGCAGAAACAAGTGCA

PK4B: -33.960000(kcal/mol): PK_start=1323 sp=8 s1=8 s2=5 l1=3 l2=32 l3=2 PK_end=1383
(fs_start=1307)

CGG
GACAGGCAAATTTTTTTAGGCAAATACTGGCCTC
GACCGGAg ca cGGGG
GCCCCAC
GCAATTATGTGCAGAAACAAGTGCACCCCTCA

=====
(12) JX960622
=====

PK1: -15.100000(kcal/mol): PK_start=1269 sp=0 s1=3 s2=8 l1=2 l2=5 l3=0 PK_end=1297
(fs_start=1289)

CA
GGAAGGAAGGACATCAAATGAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCGAA

PK4: -23.280000(kcal/mol): PK_start=1306 sp=9 s1=8 s2=4 l1=4 l2=5 l3=0 PK_end=1338
(fs_start=1289)

CAAC
ACAGGCGAATTTTTTTAGGGAGACTGTGGCCTTC
ACCGGAAG GAAA
CTTTCC
GGCAA

=====
(13) JX960630
=====

PK1: -15.100000(kcal/mol): PK_start=1269 sp=0 s1=3 s2=8 l1=2 l2=5 l3=0 PK_end=1297
(fs_start=1289)

CA
GGAAGGAAGGACATCAACTAAAAGACTG
GAC AGAGAGTC
TTTTTTAGGG
GCGAA

PK4: -22.585000(kcal/mol): PK_start=1306 sp=9 s1=6 s2=4 l1=8 l2=8 l3=0 PK_end=1341
(fs_start=1289)

TCCAGCAA
ACAGGCGAATTTTTTTAGGGAGACTGTGGCCT

```

                ACCGGA    AGGA
                    TCCTCA
            GGCAATTT

=====
(14) L20587
=====
PK1:  -10.640000(kcal/mol): PK_start=2117 sp=0 s1=3 s2=7 l1=1 l2=21 L3=0 PK_end=2158
(fs_start=2151)
                A
CTGGAAATGTGGACAGGAAGGTCACCAA

                GTT    AGAAAGT

                    TTTTTTAGG
            CAGAAATGGAAAACAGGCAAA

PK4:  -33.960000(kcal/mol): PK_start=2167 sp=8 s1=8 s2=5 l1=3 l2=32 L3=2 PK_end=2227
(fs_start=2151)
                    CGG
AACAGGCAAATTTTTTAGGCAAATACTGGCCTC

                GACCGGAG  CA  CGGGG

                    GCCCCAC
            GCAATTATGTGCAGAGACCAGCACACCCATCA

```

7. 1 strains (0.02%) have two pseudoknots PK1, and PK3

```

=====
(1) GQ999975
=====
PK1:  -12.745000(kcal/mol): PK_start=1514 sp=0 s1=3 s2=7 l1=1 l2=7 L3=0 PK_end=1541
(fs_start=1533)
                A
AAAAGAAGGACACCAAATGAAAGAATGT

                ACG    GAAAGTC

                    TTTTTAGGG
            GGCTAAT

PK3:  -10.950000(kcal/mol): PK_start=1540 sp=0 s1=4 s2=5 l1=4 l2=4 L3=0 PK_end=1565
(fs_start=1533)
                    AAAA
GTA CTGAAAGGCAGGCTAATTTTTTAGGG

                TTCC    GTTTT

                    CAAGGGG
            CCCA

```

8. 3 strains (0.07%) have two pseudoknots PK1, and PK2

```

=====
(1) AF042105
=====

```

PK1: -13.555000(kcal/mol): PK_start=1419 sp=0 s1=4 s2=7 l1=1 l2=6 L3=0 PK_end=1447
(fs_start=1439)

A
GAAAGGAAGGACACCAGATGAAAGATTGT
GACA GAGAGTC
TTTTTAGGA
GCTAAT

PK2: -20.460000(kcal/mol): PK_start=1424 sp=0 s1=8 s2=6 l1=1 l2=8 L3=1 PK_end=1460
(fs_start=1439)

C
GAAGGACACCAGATGAAAGATTGTACTGAGAGA
GATTTTTT A ATCGGA
TGCCCTTC
GAAAAATC

=====
(2) FJ403482
=====

PK1: -11.850000(kcal/mol): PK_start=5829 sp=0 s1=3 s2=7 l1=1 l2=9 L3=0 PK_end=5858
(fs_start=5848)

A
TGTTACTTTAAATTGCACTGATCCTTCG
GGT AAATTTT
TTTAAAGAA
CACTGATTT

PK2: -5.525000(kcal/mol): PK_start=5840 sp=0 s1=3 s2=5 l1=5 l2=24 L3=0 PK_end=5884
(fs_start=5848)

CACTG
ATTGCACTGATCCTTCGACTTTAAATGG
ATT TTTTA
GAAATAA
AAGAATGCTACTATGAAAGAAGAA

=====
(3) JF320157
=====

PK1: -10.975000(kcal/mol): PK_start=1503 sp=0 s1=4 s2=6 l1=2 l2=6 L3=0 PK_end=1530
(fs_start=1523)

AA
GACAGGAAGGACACCAAATGAAGGATTGT
GACA GAGAGT
TTTTTAGG
GCTAAT

PK2: -16.670000(kcal/mol): PK_start=1509 sp=0 s1=7 s2=4 l1=2 l2=25 L3=2 PK_end=1557
(fs_start=1523)

CA
AAGGACACCAAATGAAGGATTGTAATGAGAGA
ATTTTTT AA TCGG

AA
AATGACAGACAGGCTAATTTTTTTAGGGA
CCT TCCGGTTTC
AGGCCAGGGAA
AACAAGGGA

PK4: -28.100000(kcal/mol): PK_start=1475 sp=6 s1=11 s2=4 l1=4 l2=5 L3=0 PK_end=1513
(fs_start=1461)

CAAC
CAGACAGGCTAATTTTTTTAGGGAACTTTGGCCTTC
GGGACCGGAAG GGAA
CCTTCA
AACTT

=====
(3) AY255826
=====

PK3: -23.745000(kcal/mol): PK_start=1282 sp=0 s1=4 s2=8 l1=3 l2=8 L3=0 PK_end=1316
(fs_start=1274)

AAA
TATTGAAGGGCAGGCTAATTTTTTTAGGGA
CCCT TCCGGTTT
AGGCCAGGGAA
ACAAGGGG

PK4: -25.010000(kcal/mol): PK_start=1289 sp=7 s1=10 s2=4 l1=4 l2=6 L3=0 PK_end=1326
(fs_start=1274)

CCAC
GGGCAGGCTAATTTTTTTAGGGAAAATTTGGCCTTC
GGACCGGAGG GGAA
CCTTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1289 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1352
(fs_start=1274)

TCCCACAA
GGGCAGGCTAATTTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTCCCTTCAGAGCAGACCAGAACCAACAG

=====
(4) EU697908
=====

PK3: -20.285000(kcal/mol): PK_start=1640 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1673
(fs_start=1631)

AAA
ACRGARAGACAGGCTAATTTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGAA
AACAAAGGA

PK4: -23.395000(kcal/mol): PK_start=1646 sp=7 s1=8 s2=5 l1=7 l2=5 L3=0 PK_end=1683
(fs_start=1631)

TCCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA AGGAA
TCCTTCA
GAATT

=====
(5) EU743964
=====

PK3: -20.285000(kcal/mol): PK_start=1388 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1421
(fs_start=1379)

AAA
AATGACAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AACAAGGGG

PK4: -22.215000(kcal/mol): PK_start=1394 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1431
(fs_start=1379)

CCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGAG GGGA
TCCTCA
GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1394 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1457
(fs_start=1379)

TCCAACAA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT
GGACCGGA GGGG
CCCCAC
GAATTTTCCTCAGAGCAGACCAGAGCCAACAG

=====
(6) FJ389365
=====

PK3: -20.285000(kcal/mol): PK_start=1612 sp=0 s1=3 s2=8 l1=3 l2=9 L3=0 PK_end=1645
(fs_start=1603)

AAA
ACAGARAGACAGGCTAATTTTTTAGGGA
CCT TCCGGTTT
AGGCCAGGGA
AACAAGGGG

PK4: -22.215000(kcal/mol): PK_start=1618 sp=7 s1=9 s2=4 l1=6 l2=6 L3=0 PK_end=1655
(fs_start=1603)

CCAACA
AGACAGGCTAATTTTTTAGGGAAAATTTGGCCTT
GGACCGGAG GGGA

TCCTCA

GAATTT

PK4B: -26.865000(kcal/mol): PK_start=1618 sp=7 s1=8 s2=4 l1=8 l2=32 L3=0 PK_end=1681
(fs_start=1603)

TCCAACAA

AGACAGGCTAATTTTTTAGGGAAAATTTGGCCT

GGACCGGA GGGG

CCCCAC

GAATTTTCCTCAGAGCAGACTGGAGCCAACAG

=====

(7) HQ179987

=====

PK3: -22.310000(kcal/mol): PK_start=1573 sp=0 s1=3 s2=7 l1=3 l2=11 L3=0 PK_end=1606
(fs_start=1564)

AGA

TCAGGAAGACAGGCAAATTTTTTAGGGA

CCT CCGGTCT

GGCCAGGCA

GGGGGGCAAGA

PK4: -34.990000(kcal/mol): PK_start=1579 sp=7 s1=9 s2=5 l1=3 l2=31 L3=2 PK_end=1640
(fs_start=1564)

CGG

AGACAGGCAAATTTTTTAGGGAAGATCTGGCCTC

GGACCGGAG AA CGGGG

GCCCCAC

CAACTATGTACAGAAACAAGTACAACCGACA

=====

(8) JA446000

=====

PK3: -22.310000(kcal/mol): PK_start=1573 sp=0 s1=3 s2=7 l1=3 l2=11 L3=0 PK_end=1606
(fs_start=1564)

AGA

TCAGGAAGACAGGCAAATTTTTTAGGGA

CCT CCGGTCT

GGCCAGGCA

GGGGGGCAAGA

PK4: -34.990000(kcal/mol): PK_start=1579 sp=7 s1=9 s2=5 l1=3 l2=31 L3=2 PK_end=1640
(fs_start=1564)

CGG

AGACAGGCAAATTTTTTAGGGAAGATCTGGCCTC

GGACCGGAG AA CGGGG

GCCCCAC

CAACTATGTACAGAAACAAGTACAACCGACA

12. 1 strains (0.02%) have one pseudoknot PK1

=====

(1) FJ388912

=====

PK1: -10.640000(kcal/mol): PK_start=1269 sp=0 s1=3 s2=7 l1=1 l2=17 l3=0 PK_end=1306
(fs_start=1299)

A
ATTGCAAATGTGGAAGAAAAACACCAA
GTT AGAAAGT
TTTTTTAGG
AAAGAGAGACAGGAAAA

13. 1 strains (0.02%) have one pseudoknot PK2

=====

(1) GU595160

=====

PK2: -17.280000(kcal/mol): PK_start=1955 sp=0 s1=8 s2=4 l1=2 l2=9 l3=2 PK_end=1989
(fs_start=1970)

CA
GAAGGACACCAAATKAVAGAWTGCCTGAGAGA
GATTTTTT AA TCGG
GGCCYY
GGAAAAHHY

14. 0 strains (0.00%) have one pseudoknot PK3

15. 3 strains (0.07%) have one pseudoknot PK4

=====

(1) AY169803

=====

PK4: -42.750000(kcal/mol): PK_start=1596 sp=8 s1=8 s2=8 l1=2 l2=20 l3=0 PK_end=1649
(fs_start=1580)

CG
AACAGGCAAATTTTTTAGGCAAATACTGGCCTC
GACCGGAG CACGGGGG
GTGCCCCCAT
GCAATTATGTGCAGAAACAA

PK4B: -36.700000(kcal/mol): PK_start=1596 sp=8 s1=8 s2=7 l1=1 l2=32 l3=2 PK_end=1658
(fs_start=1580)

C
AACAGGCAAATTTTTTAGGCAAATACTGGCCTC
GACCGGAG CA CGGGGGG
GCCCTCCG
GCAATTATGTGCAGAAACAAGTGCCCCCATCA

=====

(2) GQ328744

=====

PK4: -34.990000(kcal/mol): PK_start=1572 sp=7 s1=9 s2=5 l1=3 l2=31 L3=2 PK_end=1633
(fs_start=1557)

CTG

AGACAGGCAAATTTTTTAGGAAAGATCTGGCCTC

GGACCGGAG AA CGGGG

GCCCCAC

CAACTATGTACAGAAACAAGTACAACCAACA

=====

(3) GU111555

=====

PK4: -34.990000(kcal/mol): PK_start=2147 sp=7 s1=9 s2=5 l1=3 l2=31 L3=2 PK_end=2208
(fs_start=2132)

CTG

AGACAGGCAAATTTTTTAGGAAAGATCTGGCCTC

GGACCGGAG AA CGGGG

GCCCCAC

CAACTATGTACAGAAACAAGTACAACCAACA

16. 54 strains (1.27%) have none of PK1-PK4 pseudoknots

- (1) AF061641
- (2) AF067155
- (3) AF071473
- (4) AF075703
- (5) AF110976
- (6) AF110979
- (7) AF110980
- (8) AF119819
- (9) AF179368
- (10) AF443105
- (11) AF484483
- (12) AY253315
- (13) AY253319
- (14) AY314044
- (15) AY314051
- (16) AY536235
- (17) AY585264
- (18) AY772698
- (19) AY773340
- (20) AY838565
- (21) DQ011176
- (22) DQ164129
- (23) DQ351226
- (24) DQ396374
- (25) EU000506
- (26) EU839602
- (27) FJ388891
- (28) FJ388910
- (29) FJ388923
- (30) FJ388937
- (31) FJ388956
- (32) GQ999981
- (33) HM067748
- (34) HQ385477
- (35) JF320032
- (36) JF683770

- (37) JF683804
- (38) JF683805
- (39) JN024147
- (40) JN024181
- (41) JN024253
- (42) JN024265
- (43) JN024295
- (44) JN024316
- (45) JN024326
- (46) JN024379
- (47) JN024410
- (48) JN024438
- (49) JN024486
- (50) JN024535
- (51) JN024547
- (52) JN248582
- (53) JX447302
- (54) JX976690

17. 8 strains have no frameshift site

- (1) AF061641
- (2) AY314044
- (3) AY314051
- (4) JF320032
- (5) JN024181
- (6) JN024265
- (7) JN024379
- (8) JN024438

18. 10 strains have invalid characters within small range of frameshift site

- (1) AY169805
- (2) EU697908
- (3) FJ389365
- (4) HQ179987
- (5) JA446000
- (6) GU595160
- (7) AY169803
- (8) GU111555
- (9) AY536235
- (10) JN248582