

Publications - 2013

1. K. Polychronopoulou, B. Sirota, K. Polychronopoulou, D. Stone, L. Wang, P. Kohli, M. McCarroll, S.M. Aouadi, "Hierarchical structures produced using unbalanced magnetron sputtering for photocatalytic degradation of Rhodamine 6g dye", *J. Nanopart. Res.* **2013**, 16, 2180.
2. Ali Srour, Ahmad Afzal, Abhishek Goil, Sheeja Vasudevan, Tianyun Liu, Ram Samudrala, Navneet Dogra, Punit Kohli, Ayan Malakar and David A Lightfoot "Homo-dimerization and Ligand Binding by the Leucine-rich Repeat Domain at RHG1/RFS2 Causes Resistance To Soybean Pathogens" *BMC Plant Biology* **2013**, 13, 43.
3. Saha, I., Chaffee, K.E., Duanmu, C., Woods, B.M., Stokes, A.M., Buck, L., Walkup, L., Sattenapally, N., Huggenvik, J., Gao, Y., Goodson, B.M. "pH-Sensitive MR Responses Induced by Dendron-Functionalized SPIONs" full paper, *J. Phys. Chem. C*, published online Dec. 21 (2012) (DOI: 10.1021/jp306128v); **117**, 1893-1903 (**2013**).
4. "Near-unity nuclear polarization with an 'open-source' ^{129}Xe hyperpolarizer for NMR and MRI" P Nikolaou, AM Coffey, LL Walkup, BM Gust, S Barcus, N Whiting, H Newton, I Muradyan, M Dabaghyan, G.D. Moroz, MS Rosen, S Patz, MJ Barlow, EY Chekmenev, BM Goodson, *Proc. Natl. Acad. Sci. USA*, **110**, 14150-14155 (**2013**).
5. Xia, Y.; Murray, P.; Ali A; Ge, Q. & Zhang, Z. Imaging reactions of acetone with oxygen adatoms on partially oxidized $\text{TiO}_2(110)$, *Phys. Chem. Chem. Phys.* 15, 13897-13901 (**2013**).
6. Meng, Q.S.; Wang, T.; Liu, E.Z.; Ma, X.B.; Ge, Q. & Gong, J.L. Understanding electronic and optical properties of anatase TiO_2 photocatalysts co-doped with nitrogen and transition metals, *Phys. Chem. Chem. Phys.* 15, 9549-9561 (**2013**).
7. Ye, J.; Liu, C.-j.; Mei, D. & Ge, Q. Active Oxygen Vacancy Site for Methanol Synthesis from CO_2 Hydrogenation on $\text{In}_2\text{O}_3(110)$: A DFT Study, *ACS Catal.* 3, 1296-1306 (**2013**).
8. Liu, J.; Tyrrell, J.; Cheng, L. & Ge, Q. First-Principles Studies on Hydrogen Desorption Mechanism of Mg_nH_{2n} ($n=3, 4$), *J. Phys. Chem. C* 117, 8099-8104 (**2013**).
9. Xu, L. & Ge, Q. Effect of defects and dopants in grapheme on hydrogen interaction in grapheme-supported NaAlH_4 , *Int. J. Hydrogen Energy*, 38, 3670-80 (**2013**).
10. Huang, X., Cheng, Q., Du, Z. A Genome-wide Analysis of RNA Pseudoknots that Stimulate Efficient -1 Ribosomal Frameshifting or Readthrough in Animal Viruses. *BioMed Research International*, vol. 2013, Article ID 984028, 15 pages (**2013**).
11. Shang, J., Wang, G., Yang, Y., Huang, X. & Du, Z. Expression, purification and crystallization of the FP domain of the human F-box protein Fbxo7. *Acta Cryst. Section F: Structural Biology and Crystallization Communications*, 69(10):1097-1099 (**2013**).
12. Huang, X., Wang, G., Wu, Y., Du, Z. The structure of full-length human CTNNB1 reveals a distinct member of the armadillo-repeat protein family. *Acta crystallographica. Section D, Biological crystallography*. 69(8):1598-608 (**2013**).
13. Huang, X., Cheng, Q., Du, Z. Possible utilization of -1 ribosomal frame shifting in the expression of a human SEMA6C isoform. *Bioinformatics*. 9(14):736-8 (**2013**).
14. Huang, X., Du, Z., Cheng, J., Cheng, Q. PKscan: a program to identify H-type RNA pseudoknots in any RNA sequence with unlimited length. *Bioinformatics*. 9(9):440-442 (**2013**).
15. C. Cetinkaya, **I.I. Suni**, S. Andreescu, M.B. Esch, W.L. Cui, D.J. Jones, S. Jones, G.S. Chojecki, J.D. Stephens and A.S. Vahdat, "A Conceptual Framework for the

- Development of a Course in Nano/Micro-Scale Systems Engineering,” *J. Nano Educ.* **5**, 115 (2013). DOI: <http://dx.doi.org/10.1166/jne.2013.1054>
16. R. Radhakrishnan, M. Jahne, S.W. Rogers and **I.I. Suni**, “Detection of *Listeria monocytogenes* by Electrochemical Impedance Spectroscopy,” *Electroanalysis* **25**, 2231 (2013). DOI: 10.1002/elan.201300140
 17. B.D. Falola, A. Krishnamurthy, R. Radhakrishnan and **I.I. Suni**, “Galvanic Deposition of Mo atop Al 6061 Alloy,” *ECS Electrochem. Lett.* **2**, D37 (2013). DOI: 10.1149/2.003307eel
 18. K. Sun, M. Zhang, and L. Wang, *Chem. Phys. Lett.* 585(2013)85-94: “Effects of catalyst surface and hydrogen bond on ethanol dehydrogenation to ethoxy on Cu catalysts”.
 19. L. Wang, W. Li, D. Liu, L. Wang, and X. Zhou, *Chem. Ind. Eng. Prog.* **32** (2013) 2160-2165: “Research Progress on Self-Assembly Methods to Prepare Porphyrin Nanomaterials in Solution (in Chinese with English Title/Abstract).”
 20. Matsui, M., Zhang, H., Chu, J., Gagnon, K.T., Shaikh, S., Kuchimanchi, S., Manoharan, M., Corey, D.R., and Janowski, B.A. (2013) Promoter RNA Links Transcriptional Regulation of Inflammatory Pathway Genes. *Nucl. Acids Res.*, 41:10086-10109.
 21. Dodd, D.W., Gagnon, K.T., and Corey, D.R. (2013) Digital Quantitation of Potential Therapeutic Target RNAs. *Nucl. Acid Therap.*, 23:188-194.
 22. **Deria, P.**; Mondloch, J. E.; Tylianakis, E.; Ghosh, P.; Bury, W.; Snurr, R. Q.; Hupp, J. T.; Farha, O. K. Perfluoroalkane Functionalization of NU-1000 via Solvent-Assisted Ligand Incorporation: Synthesis and CO₂ Adsorption Studies. *J. Am. Chem. Soc.* **2013**, *135*, 16801.
 23. Olivier, J.-H.; **Deria, P.**; Park, J.; Kumbhar, A.; Andrian-Albescu, M.; Therien, M. J. Ionic Self-Assembly Provides Dense Arrays of Individualized, Aligned Single-Walled Carbon Nanotubes. *Angew. Chem. Int. Ed.* **2013**, *52*, 13080-13085.
 24. **Deria, P.**; Von Bargaen, C.; Olivier, J.-H.; Kumbhar, A.; Saven, J. G; Therien, M. J. Single-Handed Helical Wrapping of Single-Walled Carbon Nanotubes by Chiral, Ionic, Semiconducting Polymers. *J. Am. Chem. Soc.* **2013**, *135*, 16220.
 25. Von Bargaen, C. D.; MacDermaid, C. M.; Lee, O.-S.; **Deria, P.**; Therien, M. J.; Saven, J. G. Origins of the Helical Wrapping of Phenyleneethynylene Polymers about Single-Walled Carbon Nanotubes. *J. Phys. Chem. B* **2013**, *117*, 12953-12965.
 26. Bonhommeau, S.; Deria, P.; Glesner, M. G.; Talaga, D.; Najjar, S.; Belin, C.; Auneau, L.; Trainini, S.; Therien, M. J.; Rodriguez, V. Raman Spectroscopic Investigation of Individual Single-Walled Carbon Nanotubes Helically Wrapped by Ionic, Semiconducting Polymers. *J. Phys. Chem. C* **2013**, *117*, 14840-14849.
 27. Shamsi, M. H., Kraatz, H.-B. (2013). Electrochemical signature of mismatch in overhang DNA films: a scanning electrochemical microscopic study. *Analyst*, *138*, 3538-3543.
 28. Dryden, M. D., Rackus, D. D., Shamsi, M. H., Wheeler, A. R. (2013). Integrated digital microfluidic platform for voltammetric analysis. *Analytical chemistry*, *85*(18), 8809–8816.
 29. Shamsi, M. H., Kraatz, H.-B. (2013). Interactions of metal ions with DNA and some applications. *Journal of Inorganic and Organometallic Polymers and Materials*, *23*(1), 4–23.
 30. “*N*-Butyl-2,4-dinitro-anilinium *p*-toluenesulfonate as a highly active and selective esterification catalyst”, Narsimha Sattenapally, Wei Wang, Huimin Liu, and Yong Gao, *Tetrahedron Lett.*, **2013**, *64*, 6665-6668.

31. "Esterification Catalysis by Pyridinium *p*-Toluenesulfonate Revisited— Modification with a Lipid Chain for Improved Activities and Selectivities", Wei Wang, Huimin Liu, Shaoyi Xu, and Yong Gao, *Syn. Commun.* **2013**, 43, 2906-2912.
32. Traub, M.C., DuBay, K.H., Ingle, S.E., Zhu, X.,* Plunkett, K.N., Reichman, D.R., Vanden Bout, D.A., "Chromophore Controlled Self-Assembly of Highly-Ordered Polymer Nanostructures", *J. Phys. Chem. Lett.*, **2013**, 4, 2520-2524. Impact Factor =6.687
33. Plunkett, K.N.† "What About the Five-Membered Ring? Cyclopenta-fused Polycyclic Aromatic Hydrocarbons as a Building Block for Functional Materials", *Syn. Lett.* (Invited SYNFACTS article), **2013**, 24, 898-902. Impact Factor = 2.655
34. Lee, C.-H.,* Plunkett, K.N.†, "Orthogonal Functionalization of Cyclopenta[hi]aceanthrylenes", *Org. Lett.*, **2013**, 15, 1202-1205. Impact Factor = 6.324
35. Schiros, T., Kladnik, G., Prezzi, D., Ferretti, A., Olivieri, G., Cossaro, A., Floreano, L., Verdini, A., Schenck, C., Cox, M., Plunkett, K.N., Delongchamp, D., Nuckolls, C., Morgante, A., Cvetko, D., Kymissis, I., "Donor-acceptor Shape Matching Drives Performance in Photovoltaics", *Adv. Energy Mater.*, **2013**, 3, 894-902. Impact Factor = 14.385
36. Lam, A.; **Moran, S.D.**; Preketes, N.; Zhang, T.O.; Zanni, M.T.; Mukamel, S. "Study of the D-Crystallin Protein Using Two-dimensional Infrared (2D IR) Spectroscopy: Experiment and Simulation", *J. Phys. Chem. B.* **2013**, 117, 15436-15443.
37. **Moran, S.D.**; Zhang, T.; Decatur, S.M.; Zanni, M.T. "Amyloid Fiber Formation in Human D-crystallin Induced by UV-B Photodamage", *Biochemistry* **2013**, 52, 6169-6181.
38. Woys, A.M.; Mukherjee, S. Skoff, D.R.; **Moran, S.D.**; Zanni, M.T. "A Strongly Absorbing Class of Non-Natural Labels for Probing Protein Electrostatics and Solvation with FTIR and 2D IR Spectroscopies", *J. Phys. Chem. B.* **2013**, 117, 5009-5018.
39. "AnilinoMethylRhodamines as Sensitive Fluorescent Probes for Optical Measurements of pH", Quinn A. Best[§], Chuangjun Liu[§], Paul D. van Hoveln, Matthew E. McCarroll, Colleen N. Scott, *J. Org. Chem.*, **2013**, 78 (20), 10134–10143.
40. "A pH Dependent Si-Fluorescein Hypochlorous Acid Fluorescent Probe: Spiro-Cyclic Ring Opening and Excess HOCl Induced Chlorination", Quinn A. Best[§], Narsimha Sattenapally[§], Daniel J. Dyer, Colleen Scott, and Matthew E. McCarroll, *J. Am. Chem. Soc.*, **2013**, 135 (36), 13365-13370.
41. "Detection of Protein Targets with Fluorescence Anisotropy", Lin Wang[§], Brendan Clifford[†], Lacey Starkey[†], Luke Tolley, and Matthew E. McCarroll, *J. Fluorescence.*, **2013**, 23(5), 881-888.
42. Scott, C.; Mitrovic, B.; Eastwood, S.; Wong, V. N.; Dyer, D.; Kinsel, G. "Peptide / protein separation with cationic polymer brush nanosponges for MALDI-MS analysis" *Langmuir* **2013**, 29, 696-700.
43. Amin, H.S., Hatfield, M.L. and **Huff Hartz, K.E.** (2013) Characterization of secondary organic aerosol generated from ozonolysis of α -pinene mixtures. *Atmospheric Environment*, 67, 323-330.
44. Amin, H.S.,* Russo, R.S., Sive, B., Hoebeke, E.R., Dodson, C., McCubbin, I.B., Hallar, A.G. and **Huff Hartz, K.E.** (2013) Monoterpene emission from bark beetle infested Engelmann spruce trees. *Atmospheric Environment*, 72, 130-133.

45. Daniel J. Merkel*, Sarah B. Wells*, Bryce C. Hilburn*, Fatima Elazzouzi, Gabriela C. Pérez-Alvarado and Brian M. Lee (2013) “The C-terminal region of cytoplasmic polyadenylation element binding protein is a ZZ domain with potential for both nucleic acid and protein-protein interactions.” *Journal of Molecular Biology*, **425** (11) 2015-2026. doi:10.1016/j.jmb.2013.03.009.
46. C. V. R. K. Tammineedi, R. Choudhary, G. C. Pérez-Alvarado & D. G. Watson. (2013) Determining the effect of UV-C, high intensity ultrasound and nonthermal atmospheric plasma treatments on reducing the allergenicity of β -casein and whey proteins. *LWT - Food Science and Technology* 54 (1), Epub 2013). doi:10.1016/j.lwt.2013.05.020