

Publications – 2016

A. Journal articles

1. Bancroft, S. F., Benson, S. K., & Johnson-Whitt, E. (2016). McNair Scholars' science, technology, engineering, and mathematics (STEM) graduate experience: A pilot study. *Mid-Western Educational Researcher*, 28(1), 3-27.
2. Herrington, D.G., Yerzierski, E., Bancroft, S.F. (2016). Tool trouble: Challenges with using self-report data to evaluate long-term chemistry teacher professional development. *Journal of Research in Science Teaching*. doi: 10.1002/tea.21323
3. Herrington, D.G., Bancroft, S.F., Edwards, M.M., Schairer, C.J. (2016). "I want to be the inquiry guy!" How research experiences for teachers change beliefs, attitudes, and values about teaching science as inquiry. *Journal of Science Teacher Education*, 27(2), 183-204. doi: 10.1007/s10972-016-9450-y
4. Deria, P.; Gómez-Gualdrón, D. A.; Hod, I.; Snurr, R. Q.; Hupp, J. T.; Farha, O. K. Topologically Dependent Catalytic Activity of Zirconium-Based Porphinatozinc(II) MOFs. *J. Am. Chem. Soc.* 2016, 138, 14449–14457.
5. Deria, P.; Yu, J.; Balaraman, R. P.; Mashni, J.; White, S. N. Topology-Dependent Emissive Properties of Zirconium-Based Porphyrin MOFs. *Chem. Commun.* 2016, 52, 13031-13034.
6. Depotter, G.; Olivier, J.-H.; Glesner, M. G.; Deria, P.; Bai, Y.; Bullard, G.; Kumbhar, A. S.; Therien, M. J.; Clays, K. First-Order Hyperpolarizabilities of Chiral, Polymer-Wrapped Single-Walled Carbon Nanotubes. *Chem. Comm.* 2016, 52, 12206-12209.
7. Chung, Y. G.; Gómez-Gualdrón, D. A.; Li, P.; Vermeulen, N.; Leperi, K.; Deria, P.; Zhang, H.; Fenqi You, F.; Stoddart, J. F.; Hupp, J. T.; Farha, O. K.; Snurr, R. Q. In silico discovery of metal-organic frameworks for pre-combustion CO₂ capture using a genetic algorithm. *Science Adv.* 2016, 2, e1600909.
8. Hoffeditz, W. L.; Katz, M. J.; Deria, P.; George, E. Cutsail III; Pellin, M. J.; Farha, O. K.; Hupp, J. T. One Electron Changes Everything. A Multispecies Copper Redox Shuttle for Dye-Sensitized Solar Cells. *J. Phys Chem. C.* 2016, 120, 3731-3740.
9. Wu Y, Zhu J, Huang X, Du Z. Crystal structure of a dimerization domain of human Caprin-1: insights into the assembly of an evolutionarily conserved ribonucleoprotein complex containing Caprin-1, FMRP and G3BP1. *Acta Crystallographica Section D: Biological Crystallography*, 72(6):718-727 (2016).
10. Ageely, E.A., Kartje, Z.J., Rohilla, K., Barkau, C.L., and Gagnon, K.T. (2016) Quadruplex-flanking stem structures modulate the stability and metal ion preferences of RNA mimics of GFP. *ACS Chem. Biol.*, 11:2398-2406.
11. Kalantari, R., Hicks, J.A., Li, L., Gagnon, K.T., Sridhara, V., Lemoff, A., Mirzaei, H., and Corey, D.R. (2016) Stable Association of RNAi Machinery is Conserved Between the Cytoplasm and Nucleus of Human Cells. *RNA*, 22:1-14.
12. Dodd, D.W., Tomchick, D.R., Corey, D.R., and Gagnon, K.T. (2016) Pathogenic C9ORF72 Antisense Repeat RNA Forms a Double Helix with Tandem C:C Mismatches. *Biochemistry*, 55:1283-1286.
13. "Anion-Conductive Perfluoroheteroaromatic Composite Membranes: High Chemical Stability under Strong Alkaline Conditions", Xu, S.; Jiang, R.; Jiang, S.; Gao, Y. *J. Electrochem. Soc.*, 2016, 163 (7), F688-F690.
14. "Synthesis and Performance Comparison of Perfluorobenzoic Acid and Perfluorobenzenesulfonic Acid Membranes", Xu, S.; Jiang, R.; Gao, Y., *J. Membr. Sci.*, 2016, 507, 63-71.
15. Zhao, Y.; Cui, C.; Han, J.; Wang, H.; Zhu, X. & Ge, Q. Direct C-C Coupling of CO₂ and the Methyl Group from CH₄ Activation Through Facile Insertion of CO₂ into Zn-CH₃ σ -bond, *J. Am. Chem. Soc.*, 138, 10191-8 (2016).

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21. Cui, C.; Han, J.; Zhu, X.; Liu, X.; Wang, H. & Ge, Q. Promotional Effect of Surface Hydroxyls on Electrochemical Reduction of CO₂ over SnO_x/Sn Electrode, *J. Catal.* 343, 257-265 (2016).
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23. Liu, C.-j.; Guo, Q.; Ye, J.; Sun, K.; Fan, Z.; & Ge, Q. Perspective on catalyst investigation for CO₂ conversion and related issues, *CIESC J.* 67, 6-13 (2016).
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25. “¹⁵N NMR SABRE-SHEATH Hyperpolarization of Imidazole-¹⁵N₂ for pH Sensing.” Roman V. Shchepin, Danila A. Barskiy, Aaron M. Coffey, Thomas Theis, Fan Shi, Warren S. Warren, Boyd M. Goodson, Eduard Y. Chekmenev, *ACS Sensors* 1, 640–644 (2016).
26. [52] "Aqueous NMR Signal Enhancement by Reversible Exchange in a Single Step Using Water-Soluble Catalysts" Fan Shi, Ping He, Quinn Best, Kirsten Groome, Milton L. Truong, Aaron M. Coffey, Greg Zimay, Roman V. Shchepin, Kevin Waddell, Eduard Y. Chekmenev, and Boyd M. Goodson, *J. Phys. Chem. C*. 120, 12149–12156 (2016).
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32. Mohamed Hemis, Ruplal Choudhary, Nathalie Becerra-Mora, Punit Kohli, VijayaRaghavan. “Modelling of microwave assisted hot-air drying and microstructural study of oilseeds”. *International Journal of Agricultural and Biological Engineering* 2016, 9, pp 167-177.

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34. MallikaDasari, R. R. Pradeep, R. G. Iyer, Punit Kohli “Calligraphic Solar Cells: Acknowledging Paper and Pencil” Journal of Materials Research 2016, 31, 2578-2589 (DOI: <https://doi.org/10.1557/jmr.2016.281>).
35. Kratochvil H.T.; Carr, J.K.; Matulef, K.; Annen, A.W.; Li, H.; Ostmeyer, J.; Serrano, A.L.; Raghuraman, H.; Moran, S.D.; Skinner, J. L.; Perozo, E.; Roux, B., Valiyaveetil, F.I, Zanni, M.T. “Instantaneous ion configurations in the K⁺ ion channel selectivity filter revealed by 2D IR spectroscopy.” Science, 2016, 353, 1040-1044
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37. Zhu, X., Shao, B., Vanden Bout, D.A., Plunkett, K.N., "Directing the Conformation of Oligo(PhenyleneVinylene) Polychromophores with Rigid, Non-Conjugatable Morphons", Macromolecules, 2016, 49, 3838-3844.
38. Bheemireddy, S. R., Ubaldo, P.C., Finke, A.D., Wang, L., Plunkett, K.N., "Contorted Aromatics via a Palladium-Catalyzed Cyclopentannulation Strategy", J. Mater. Chem. C., 2016, 4, 3963-3969. 2016 Emerging Investigators Themed Issue: Novel design strategies for new functional materials.
39. Bheemireddy, S.R., Plunkett, K.N., "Dicyclopenta[cd,jk]pyrene Based Acceptors in Conjugated Polymers", Polym. Chem. 2016, 7, 292-296. Impact Factor = 5.520
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B. Books & Book Chapters

1. Bakul. C. Dave, "Sol-gel coating methods in biomedical systems" in *Medical Coatings and Deposition Technologies* eds. D. Glocker and S. Ranade, Ch. 10, pp 373-402, John Wiley & Sons, New York, August 2016.
2. Gagnon, K.T. (2016) "Loading of Argonaute Protein with Small Duplex RNA in Cellular Extracts" in *Meth. Mol. Biol.*, Ren-Jang Lin editor, Human Press, 1421:53-67.
3. "The Physics of Hyperpolarized Gas MRI." Boyd M. Goodson, Kaili Ranta, Jason Skinner, Aaron M. Coffey, Peter Nikolaou, Max Gemeinhardt, Drake Anthony, Shawn Stephenson, Steven Hardy, John Owers-Bradley, Michael J. Barlow, and Eduard Y. Chekmenev, invited chapter for: *Hyperpolarized and Inert Gas MRI From Technology to Application in Research and Medicine* (peer-reviewed); Mitchell Albert and Francis Hane (Eds.), Academic Press / Elsevier (London); ISBN: 978-0-12-803675-4; pp 23-40 (2017).