Papers and textbook chapters used in fall 2012

For this year, based on student preparation and feedback from prior years, we spent the first part of the course doing student-led presentations on portions of the textbook, and then finished up with papers from the literature (both classic and modern). There were 7 students enrolled, which made discussion more difficult than in years past.

We used Spessard and Miessler as the textbook for the class. The class met three times per week for 50 minutes. I also link to VIPEr LOs that we used.

Week 1

Class 1: SM chapters 1 and 2.1-2.2.2, 3.1

Week 2

Class 2: SM chapters 3.2.2-3.3 (https://www.ionicviper.org/classactivity/analyzing-journal-article-non-content-issues-style-and-convention)

Class 3: SM chapters 4, 5.1

Class 4: SM chapters 6.2-6.3

Week 3

Class 5: SM chapters 6.2, 6.3

Class 6: SM chapter 7.2, 7.3

Class 7: SM chapter 8.1

Week 4: Smeltz, J. L.; Boyle, P. D.; Ison, E. A. “Mechanism for the Activation of Carbon Monoxide via Oxorhenium Complexes,” *J. Am. Chem. Soc.* **2011**, *133*, 13288-13291. (https://www.ionicviper.org/literaturediscussion/literature-discussion-%E2%80%9Cmechanisms-activation-carbon-monoxide-oxorhenium-complex)

Week 5: Yang, J. and Brookhart, M. “Reduction of Alkyl Halides by Triethylsilane Based on a Cationic Iridium Bis(phosphinite) Pincer Catalyst: Scope, Selectivity and Mechanism,” *Adv. Synth. Catal.*, **2009**, *351*, 175-187.(https://www.ionicviper.org/literaturediscussion/ir-based-catalysis-alkyl-halides-scope-mechanism-and-unexpected-reactivity-patt)

Week 6: Valdez, C. N., Dempsey, J. L., Brunschwig, B. S., Winkler, J. R. and Gray, H. B. “Catalytic hydrogen evolution from a covalently linked dicobaloxime,” *Proc. Natl. Acad. Sci. USA* **2012**109 (39) 15560-15564. (https://www.ionicviper.org/literaturediscussion/introduction-electrocatalysis-hydrogen-evolution-mono-and-binuclear-cobalt-comp)

Week 7: Labinger, J. A.; Bercaw, J. E. “DNUerstanding and exploiting C-H bond activation,” Nature **2002**, 417, 507-514. (https://www.ionicviper.org/classactivity/application-organometallic-chemistry-%E2%80%93-breaking-inert-%0Bc-h-bond)

Week 8: Choi, J., Wang, D. Y., Kundu, S., Choliy, Y., Emge, T. J., Krogh-Jespersen, K., and Goldman, A. S. “Net Oxidative Addition of C(sp3)-F Bonds to Iridium via Initial C-H Bond Activation,” *Science,* **2011,** *332,* 1545-1548. (https://www.ionicviper.org/problemset/oxidative-addition-c-f-bonds-ir)

Week 9: Sanford, Love & Grubbs “Mechanism and Activity of Ruthenium Olefin Metathesis Catalysts” *JACS*, **2001**, *123*, 6543.