



Inorganic Chemistry Seminar Series

Tuesday, September 18, 2018, 12:30 pm

Seaver Science Library, Room 150

SSC Auditorium next to the library

Professor Scott R. Daly

Department of Chemistry

University of Iowa

Cooperative Small Molecule Reactivity with Triaminoborane-Bridged Diphosphines and Redox-Active Tetradentate Ligands

Ligands that actively participate in chemical or redox transformations (i.e. chemical or redox non-innocent ligands) continue to expand the scope of precious and non-precious metal complexes in stoichiometric and catalytic reactions, and have afforded new opportunities in diverse fields such as supramolecular chemistry and chemical sensing. In this talk I will describe our recent efforts aimed at designing (1) new triaminoborane-bridged diphosphines that react with small molecules with and without obvious participation of the metal, and (2) tetradentate ligands that can combine chemical and redox activity at the ligand. While diphosphine and tetradentate ligands are obviously quite different, the reactivity to be described for both systems shares a central design theme in that it relies on cooperative participation of either the metal and ligand (metal-ligand cooperativity) or two atoms on the ligand (cooperative ligand-centered reactivity). Structural, spectroscopic, and electrochemical data will be presented in support of the ligand reactivity studies while bound to late transition metals such as Ni, Pd, and Ru.

Hosted by Professor Megan Fieser

The scientific community is invited

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