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Department of Chemistry

Seminar

9:45 a.m. Thursday, October 30, 2014 • 331 Smith Hall



Assistant Professor

Jennifer Schomaker

Department of Chemistry
University of Wisconsin-Madison

Synthetic and Mechanistic Studies of new Cu- and Ag-Catalyzed Transformations

Research interests: new methodologies for the synthesis of polyamines; development of new catalysts for oxidative cyclization reactions; new metal complexes exhibiting ligand-based reactivity; and total synthesis of natural products.
Website: <http://schomaker.chem.wisc.edu/research>

Abstract

We have been exploring the synthetic utility and mechanistic details of an unusual Cu(I)-catalyzed 1,3-halogen migration/borylation reaction that achieves the formal asymmetric hydrobromination of ortho-halogenated styrenes in high *er*. Experimental and computational studies have been undertaken to understand the mechanism of the migration and gain insight into how the features of the substrate and product affect the reaction outcome.

Another research area in our group focuses on developing tunable, catalyst-controlled methods for both regio- and chemoselective oxidation chemistry. In this context, we have discovered that the ability of silver to adopt a multitude of different coordination geometries allows us to tune for chemoselective amination at either a C-H or a C=C bond or control regioselectivity between two different C-H bonds. Kinetic and computational studies to understand the reasons for this unexpected reactivity will be presented.

Host: Professor Thomas Hoye
Refreshments will be served prior to the seminar.