YSU Chemistry Seminar Series 2017-2018

Upcoming Seminar

Friday: 3/16/2018 3PM

Room 3022 Ward Beecher Hall

Refreshments Provided

Dr. Brian Popp

West Virginia University

Difunctionalization of Alkenes by Regioselective Hetero(element)–Carboxylation with CO_2

Carbon dioxide is an attractive C_1 synthon in chemical synthesis due to its abundance, obtainability, non-toxicity, and inherent renewability. However, it has been undervalued and underutilized for the synthetic installation of carboxyl functionality because of its unreactive nature, owing to its inherent thermodynamic stability and kinetic inertness. Traditionally the carboxyl group is accessed by organic chemists through redox manipulation and protection/deprotection reactions or through the use of strong nucleophiles that have limited functional group tolerance. Given the frequency and utility of carboxylic acids in organic compounds and biologically important molecules, there is a need for and high potential value in mild, functional group tolerant, atom-economical approaches to the installation of CO_2 in unsaturated organic molecules. Nevertheless, transformations of this type remain rare, are poorly understood, and generally limited to more energetic alkyne substrates. This seminar will discuss our methodological and mechanistic research efforts focused on regioselective copper-catalyzed bora–carboxylation of vinyl arenes.