



Houk-Jung Organic Colloquium

Highly Selective Catalytic Platforms for Reduction and Interhalogenation Chemistry: Our Early Explorations in ZrH and Lewis Base Catalysis

Abstract: Research in the Romero group is centered on the development and mechanistic study of novel catalytic reactions, with applications in natural product synthesis and drug discovery. To this end, we are exploring new avenues for the catalytic halo- and hydrofunctionalization of simple π -systems. The first research program regards our efforts to develop a unified strategy for the interhalogenation of alkenes and alkynes via Lewis base activation of sulfinyl halides. This approach furnishes vicinal dihalides with pronounced chemo-, regio-, and stereocontrol. Notably, when 1–3 mol% of a chiral Lewis basic catalyst is employed, a novel enantioselective bromochlorination of chalcones is realized. The second part of this seminar will focus on the development of a general platform for zirconocene hydride catalysis utilizing hydrosilanes as mild reductants. This catalytic system enables a variety of chemoselective and redox-economic functional group interconversions, including the catalytic semi-reductive diversification of amides and esters, as well as the hydrofunctionalization of alkynes.

Dr. Liela Romero
Department of Chemistry and
Biochemistry
Baylor University

UCLA College | Physical Sciences
Chemistry & Biochemistry

Thursday, Oct 26, 2023 | 4:00 PM
Mani L. Bhuamik Collaboratory - YH 4222
Dongwon Yoo Seminar & Conference Hall

Questions: Isaiahgtz@chem.ucla.edu