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C. EUGENE BENNETT
DEPARTMENT OF CHEMISTRY

Stereoselective Alkene Carbofunctionalization via Radical Pathways

Prof. Tianning Diao

Department of Chemistry
New York University

While asymmetric hydrogenation of alkenes represents the most important catalytic method to introduce chiral centers, stereoselective carbofunctionalization has been restricted to a handful of examples with limited scope. We develop stereoselective 1,2-dicarbofunctionalization and hydrofunctionalization reactions of alkenes to access molecules with intricate substitution patterns while introducing stereocenters. The new methods can be readily applied to prepare molecules with important bio-activity, such as α,α,β-triarylated ethane scaffolds. Mechanistic studies, including kinetic studies and isolation of reaction intermediates, reveal that Ni catalysts initiate radical formation and lead to unconventional enantio-determining steps.

Date: Wed, Feb. 20, 2019
Time: 4:30-5:30 pm
Location: 208 Clark Hall

Students, meet the speaker over coffee and cookies in the Bennett Conference room at 3:30 pm