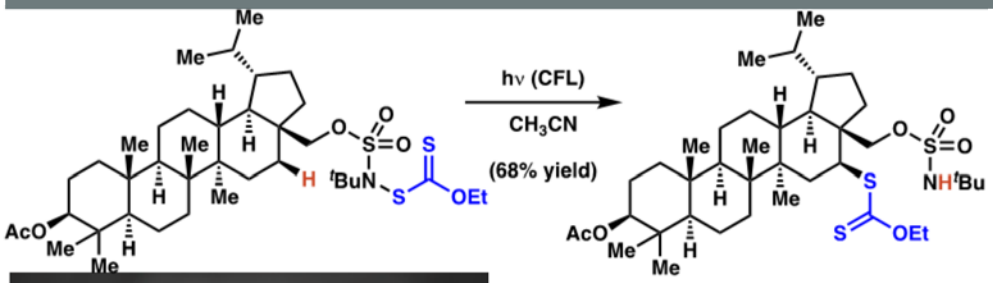
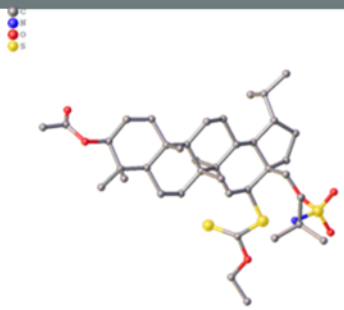
Organic Seminar

Title: "Alcohol and Amine Derivatives Guide Position-Selective C–H Functionalization Reactions"





Guest Speaker:

Professor Jennifer L. Roizen

Duke University

Department of Chemistry

Friday, November 15th, 9:00am

Hutchison Hall 473

University of Rochester

Department of Chemistry

Abstract:: Like many robust radical-mediated technologies, the Hofmann–Löffler–Freytag (HLF) reaction is typically guided through 1,5-hydrogen-atom transfer (HAT) processes, which proceeds through a kinetically-favorable six-membered ring transition state. By contrast, few reports describe 1,6-HAT with a traceless linker, such as a sulfamate ester or a sulfamide, and there are no general strategies to enable alcohols or amines to serve as anchors to direct functionalization of aliphatic g-C(sp3)–H centers. This talk will outline this novel strategy to harness alcohols1,2,3,4 and amines5,6 to replace C–H bonds at g-C (sp3)–H centers, which are not generally accessible to directed functionalization. We will demonstrate that C–H abstraction can be robustly coupled with varied functionalization reactions. This talk will highlight the first generalizable synthetic strategy to functionalize g-C(sp3)–H bonds using alcohols or amines as anchors for these directed processes, as well as new strategies to prepare sulfamate esters and sulfamides.

Host: Shauna Paradine ● Email: sparadin@UR.Rochester.edu