

SÉMINAIRES DE CHIMIE ÉTUDIANTS PH.D.



MADAME SAHER HASAN SIDDIQUI

Étudiante au Ph.D.

Groupe du professeur André B. Charette

“Catalytic and Asymmetric Cyclopropanation of Functionalized Alkenes to Access Useful Building Blocks”

RÉSUMÉ: Cyclopropanes have attracted considerable interest by both physical and organic chemists due to their inherent strain and its importance in naturally occurring compounds. Functionalized cyclopropanes are widely used in pharmaceutically and agrochemically relevant compounds and therefore organic chemists have been challenged to develop efficient and robust enantioselective methodology for their synthesis. The presented work will focus primarily on the development of a non-oxidative work up for the dioxaborolane-mediated enantioselective cyclopropanation followed by the study of a novel class of chiral rhodium dimer complexes and their effectiveness towards synthesizing enantiopure cyclopropanes via decomposition of diazoalkanes. The enantioselective cyclopropanation of allylic alcohols using the bifunctional chiral controller, dioxaborolane, affords the corresponding cyclopropylmethanol derivatives in high yields and enantioselectivities. Upon completion, strongly oxidative or a highly basic work up to liberate the boron-ligated cyclopropylmethanol derivatives limits access to base-sensitive functionalities. Thus, a modified non-oxidative work up allows for improved functional group compatibility and affords base-sensitive cyclopropylmethanol derivatives. An alternative to synthesize enantiopure cyclopropanes has been established with rhodium(II) carboxamidate complexes via the decomposition of diazoalkanes. Therefore the synthesis of novel chiral rhodium diketopiperazine complexes and a study of their stability, reactivity and selectivity will be presented for asymmetric cyclopropanation reactions.

- > Vendredi 7 avril 2017
- > 11:00
- > Salle **G-415**
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