



Dr. Guy R. ROUQUET

Education;

June 2007- M.Sc., University Bordeaux I (France).

December 2010- Ph. D., University Bordeaux I (France), (Supervisor: Landais Yannick.)

Research area: Catalytic C-H bond activation reactions.

Key words: catalysed C-H activation, bidentate directing groups, transition metal catalysts.

Employment experience;

March 2011- Present Global COE Post-doctoral fellow (Supervisor: Prof. Chatani Naoto)

Awards;

Ph.D. Fellowships of the French ministry of Research and Technology.

Selected publications;

Fragmentation of β -Silyl Radicals. A Computational Study.

Méreau R.; D'Antuono P.; Castet F.; Rouquet G.; Robert F.; Landais Y. *Organometallics*, **2010**, *29*, 2406–2412.

Silyl-borane reagents as precursors of Silyl radicals.

Rouquet G., Robert F., Méreau R., Castet F., Renaud P., Landais Y. *Chemistry - A European Journal*, in preparation.

Allylsilanes in “Tin-free” Oximation, Vinylation and Allylation of Alkyl Halides.

Rouquet G., Robert F., Méreau R., Castet F., Landais Y. *Chemistry - A European Journal*, in preparation.

Research Statement:

Carbon-hydrogen bonds are ubiquitous in organic compounds. If the C-H bonds could be used as a functional group, it would become one of the most powerful methods for producing complex molecules. Therefore, the development of new catalytic reactions involving C-H bond cleavage by transition metals is currently one of the most challenging research subjects in synthetic chemistry. Directing groups have been widely used in recent years to promote the activation of the C-H bond by transition metal catalysts via a chelation-assistance strategy. Most examples reported to date deal with monodentate systems but recently, bidentate directing groups have emerged as a new promising tool. Some recent achievements introduce the potential of bidentate directing groups to lead to new catalytic C-H activation reactions that cannot be achieved using a conventional monodentate system. In this context, we explore new transition metals catalyzed C-H activation reactions using bidentate directing groups.

My Goal ;

To develop new catalytic C-H bond activation reactions assisted by bidentate directing groups.