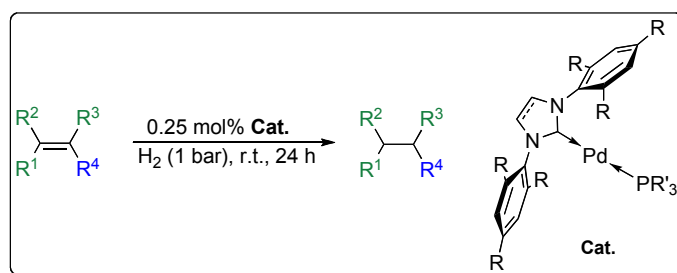
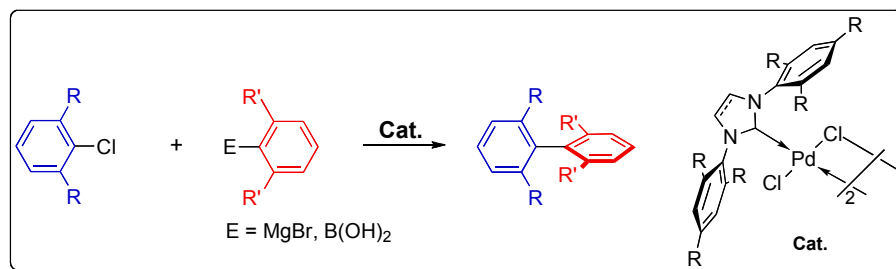




Our research interest mainly focuses on the development of *homogeneous catalytic systems* promoting organic reactions. Targeted applications are **pharmaceutical**, **environmental** and **cosmetic**.

We have generated novel catalyst composition exhibiting high thermal and reactivity characteristics. In the group, we target simple organometallic complexes for useful catalytic reactions. We make use of all modern synthetic methods and explore novel systems with an arsenal of physico-chemical techniques ranging from NMR to X-Ray diffraction studies

Examples of efficient systems that were recently developed by the group are given below.



## SELECTED RECENT PUBLICATIONS

1. Highly Active  $[\text{Pd}(\mu\text{-Cl})(\text{Cl})(\text{NHC})]_2$  (NHC = *N*-Heterocyclic Carbene) in the Cross Coupling of Grignard Reagents with Aryl Chlorides, C. E. Hartmann, S. P. Nolan, C. S. J. Cazin, *Organometallics*, **2009**, *in press*.
2. Hydrogenation of C-C multiple bonds mediated by  $[\text{Pd}(\text{NHC})(\text{PCy}_3)]$  (NHC = *N*-Heterocyclic Carbene) under mild reaction conditions. V. Jurčik, S. P. Nolan, C. S. J. Cazin, *Chem. Eur. J.*, **2009**, *15*, 2509-2511.
3. Room-temperature activation of aryl chlorides in Suzuki–Miyaura coupling using a  $[\text{Pd}(\mu\text{-Cl})\text{Cl}(\text{NHC})]_2$  complex (NHC = *N*-heterocyclic carbene). O. Diebolt, P. Braunstein, S. P. Nolan, C. S. J. Cazin, *Chem. Commun.*, **2008**, 3190-3192.