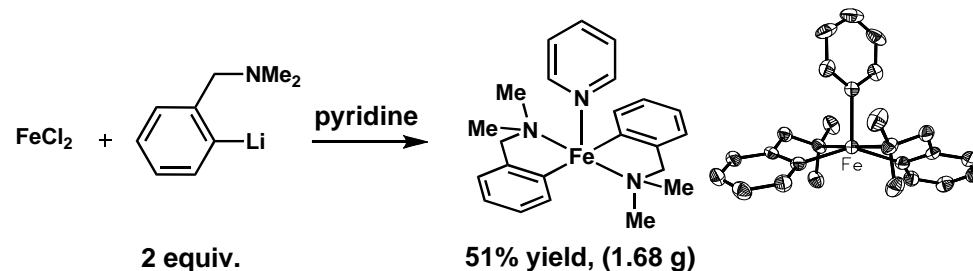
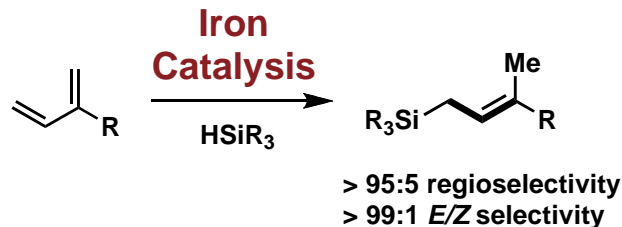


Low-Valent Iron-Catalyzed Transformations of Unsaturated Hydrocarbons

Tobias Ritter, Harvard University

QuickTime™ and a decompressor are needed to see this picture.

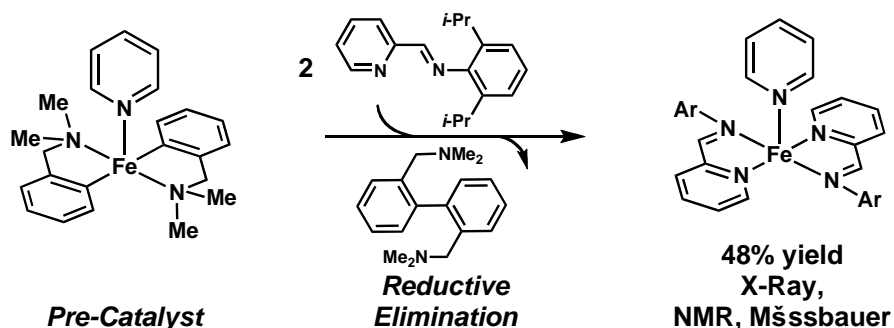
Project goals: (1) Develop Fe-catalyzed transformations to access value-added building blocks from commodity chemicals such as dienes
(2) Improve understanding of carbonyl-free Fe catalysis



A Strategy for the Synthesis of Well-Defined Iron Catalysts and Application to Regioselective Diene Hydrosilylation

J. Am. Chem. Soc. **2010**, 132, 13214–13216.

- Development of a well-defined Fe precatalyst that generates low-valent Fe catalysts via reductive elimination upon addition of ligand
- Isolation and characterization of Fe-iminopyridine complex; kinetic analysis using Fe-iminopyridine precatalyst
- Development of regio- and stereoselective 1,4-hydrosilylation of 1,3-dienes



For more references, see:

Iron-Catalyzed 1,4-Addition of α -Olefins to 1,3-Dienes. *Org. Lett.* **2009**, 11, 337–339.

Iron-Catalyzed 1,4-Hydroboration of 1,3-Dienes. *J. Am. Chem. Soc.* **2009**, 131, 12915–12917.