

Massachusetts Institute of Technology
Organic Chemistry 5.512

April 3, 2006
Prof. Rick L. Danheiser

Unit 2
Stereocontrolled Alkylation
and Related Electrophilic Substitution Strategies

V. Catalytic Methods

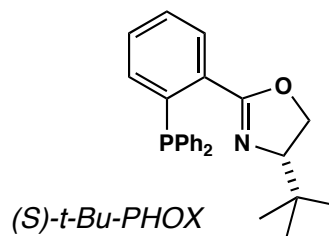
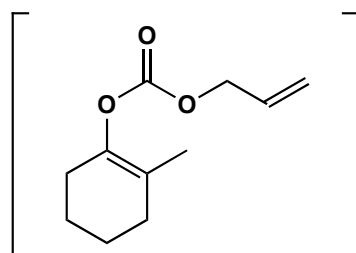
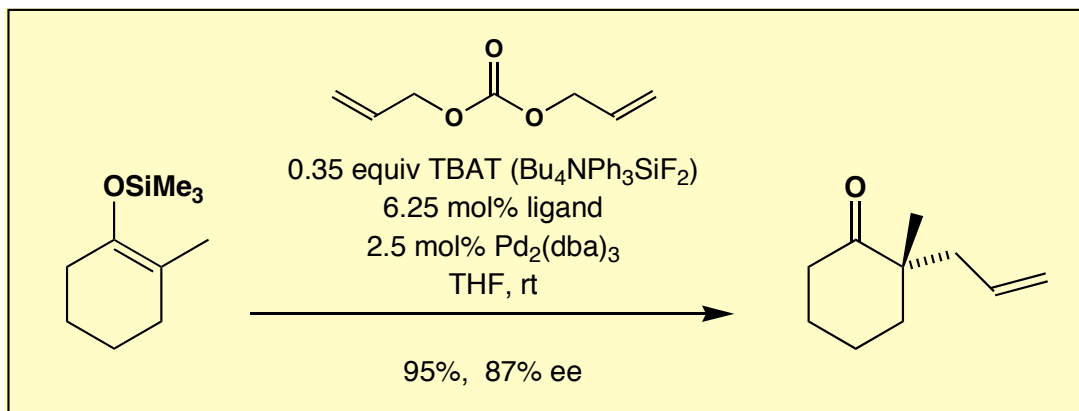
- ★ α -Oxidation of Aldehydes and Ketones (*H. Yamamoto, MacMillan, Zhong, Y. Hayashi*)
- ★ Alkylation of Imine Derivatives of α -Amino Esters (*O'Donnell, Corey, Maruoka*)
- ★ Tsuji Allylation of Ketones (*Stoltz, Trost*)
- ★ Enantioselective Protonation Strategies (*Fu*)

Enantioselective Tsuji Allylation

D. C. Behenna; B. M. Stoltz *J. Am. Chem. Soc.* **2004**, *126*, 15,044
B. M. Trost; J. Xu *J. Am. Chem. Soc.* **2005**, *127*, 2846

Acyclic ketones:

B. M. Trost; J. Xu *J. Am. Chem. Soc.* **2005**, *127*, 17180



Enantioselective Protonation Strategies

Review: J.-C. Plaquevent *Tetrahedron Asymmetry* **2004**, 15, 3653

Enantioselective Addition of Amines to Ketenes Catalyzed by a Planar-Chiral Derivative

B. L. Hodous; G. C. Fu *J. Am. Chem. Soc.* **2002**, 124, 10,006

