

Massachusetts Institute of Technology  
Organic Chemistry 5.512

March 30, 2005  
Prof. Rick L. Danheiser

Unit 2  
Stereocontrolled Alkylation  
and Related Electrophilic Substitution Strategies

**V. Catalytic Methods**

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

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Special Issue on  
Asymmetric Organocatalysis  
*Accts. Chem. Res.* **2004**, *37*, 487-631

"Asymmetric Organocatalysis"  
A. Berkessel and H. Gröger  
Wiley-VCH, **2005**

*Enantioselective  
Organocatalytic  
Oxidation of Aldehydes with  
Nitrosobenzene*

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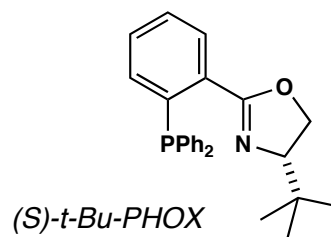
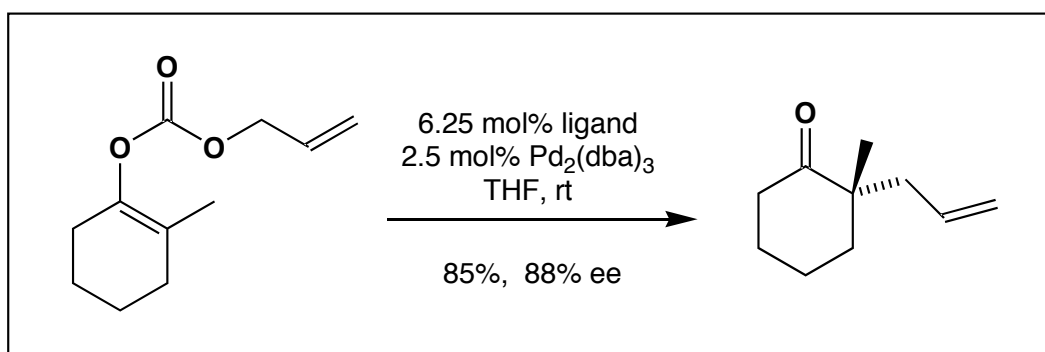
### Alkylation of Imine Derivatives of $\alpha$ -Amino Esters

Martin J. O'Donnell  
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### 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



# 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

