

Massachusetts Institute of Technology
Organic Chemistry 5.512

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Unit 7

Stereocontrolled Reduction of Ketones

- ★ Substrate Control: 1,2-Asymmetric Induction
- ★ Substrate Control: 1,3-Asymmetric Induction
- ★ Reagent Control Strategies
- ★ Retrosynthetic Analysis: Chiral Secondary Alcohols

General Review

"Enantioselective Reduction of Ketones" Itsuno, S. *Organic Reactions* **1998**, 52, 395

Reagent Control Strategies

(1) Itsuno-Corey Reduction ("CBS Reduction")

Review:

"Reduction of Carbonyl Compounds with Chiral Oxazaborolidine Catalysts: A New Paradigm for Enantioselective Catalysis and a Powerful Synthetic Method" Corey, E. J.; Helal, C. J. *Angew. Chem. Int. Ed.* **1998**, 37, 1987

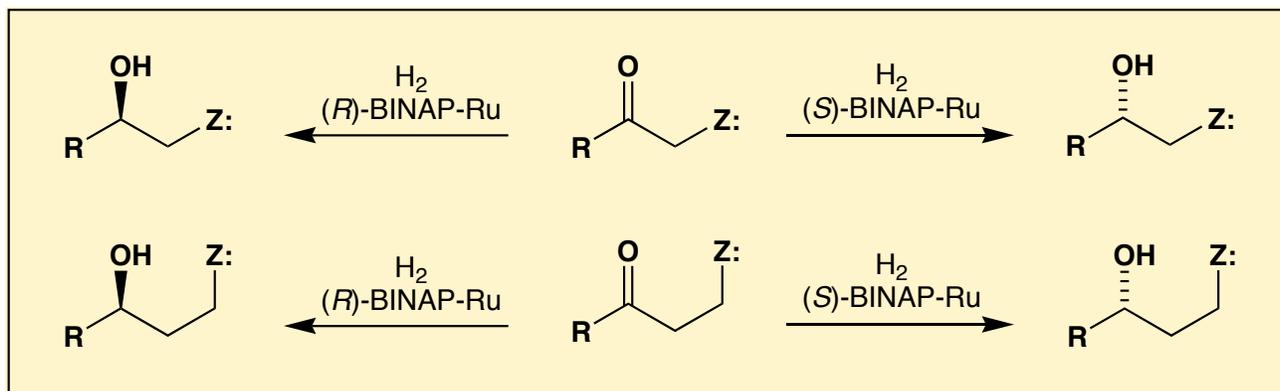
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E. J. Corey

See
Organic Syntheses
Coll. Vol. **9** 676

(2) Noyori Asymmetric Hydrogenation



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R. Noyori et al. *J. Am. Chem. Soc.* **1988**, 110, 629

Also see R. Noyori et al. *Organic Syntheses Coll. Vol.* **9** 589

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