

Directed Reactions

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Directed Hydrogenation

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Early examples of hydroxyl directed hydrogenation with Pd/C

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- Thompson, *J. Am. Chem. Soc.* **1973**, *93*, 838

Directed Reduction with Rh(DIPHOS)⁺

- Evans *J. Am. Chem. Soc.* **1984**, *106*, 3866.

Peracid Epoxidation, Review:

- Rao, A. S. *Addition Reactions with Formation of Carbon-Oxygen Bonds: (i) General Methods of Epoxidation*. In *Comprehensive Organic Synthesis*; Trost, B. M., Fleming, I., Eds.; Pergamon Press: Oxford, 1991; Vol. 7, p 357.

Hydroxyl directed Epoxidation

- with mCPBA: Henbest, *J. Chem. Soc.* **1957**, 1958
- with VO(acac)₂/tBuOOH: Sharpless *J. Am. Chem. Soc.* **1973**, *95*, 6136

Regioselective Opening of Epoxides

- Parker, Isaacs *Chem. Rev.* **1959**, *59*, 737.

Regioselective opening of epoxyalcohols

- Regioselective Reduction: Review
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Kishi *Tetrahedron Lett.* **1982**, 2719
- Nucleophilic opening with Ti(O*i*Pr)₄ to give 1,2 diols
Dai et al, *Tetrahedron Lett.* **1986**, 4343
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Acyloin Condensation

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- **Aldol Reaction:**

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- **Zimmerman Model for Aldol Reactions**

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- **Model for Regioselective formation of E vs Z boron enolates**

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- **Diastereoselective Crotylmetallations**

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- **Felkin control in Mukaiyama Aldol Reactions**

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