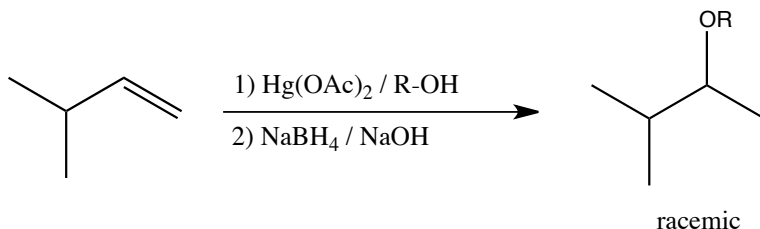
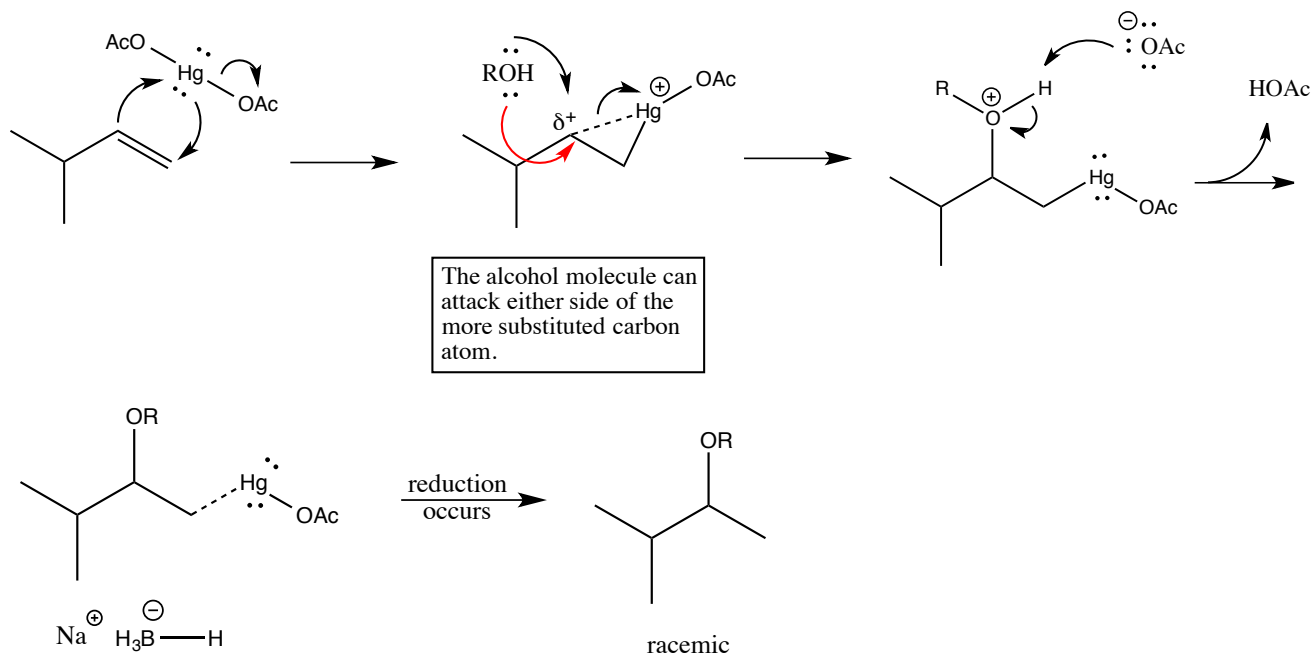


Chem 343 – Organic Reactions
Chapter 11

Synthesis and Reactions of Ethers #5: Alkoxymercuration-Reduction



Mechanism



The cyclic mercurinium ion has a greater positive charge on the most substituted carbon of the three-membered ring intermediate. The solvent alcohol as the nucleophile in the reaction will then attack and displace the Hg-atom. In the reduction phase of the reaction (NaBH_4) the Hg-carbon bond is broken and mercury is reduced.

The reaction proceeds by a Markovnikov addition regiochemistry. Scrambling occurs at the nucleophilic attack by water and consequently, the stereochemistry of the product results in an anti and syn addition.