

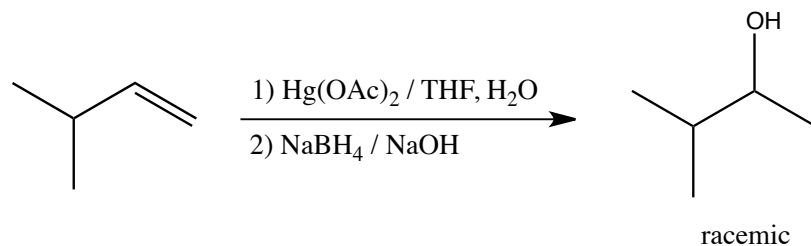
## Chem 343 – Organic Reactions

### Chapter 5 & 7

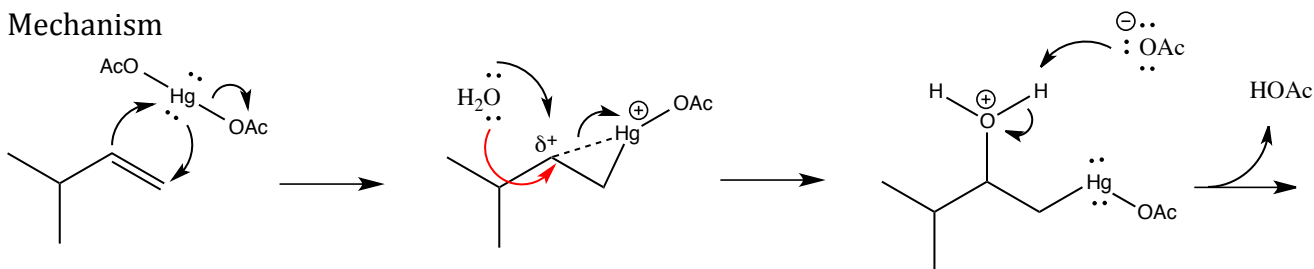
Prepared by José Laboy, MS

<http://www.chem.wisc.edu/areas/clc> (Resource page)

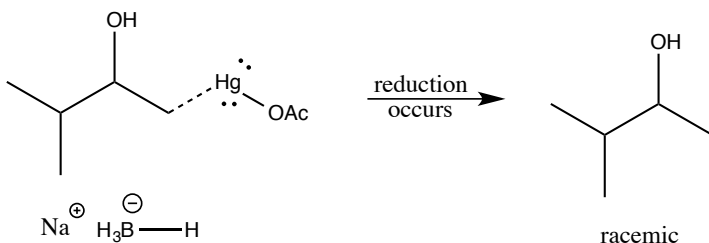
### Alkene Reactions #6: Oxymercuration-Reduction



#### Mechanism



The water molecule can attack either side of the more substituted carbon atom.



The cyclic mercurinium ion has a greater positive charge on the most substituted carbon of the three-membered ring intermediate. Water as the nucleophile in the reaction will then attack and displace the Hg-atom. In the reduction phase of the reaction ( $\text{NaBH}_4$ ) 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.