

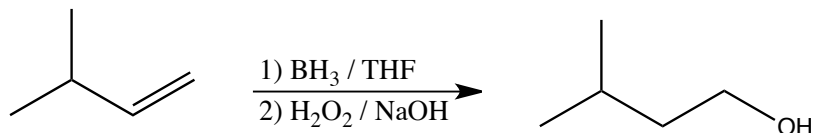
Chem 343 – Organic Reactions

Chapter 5 & 7

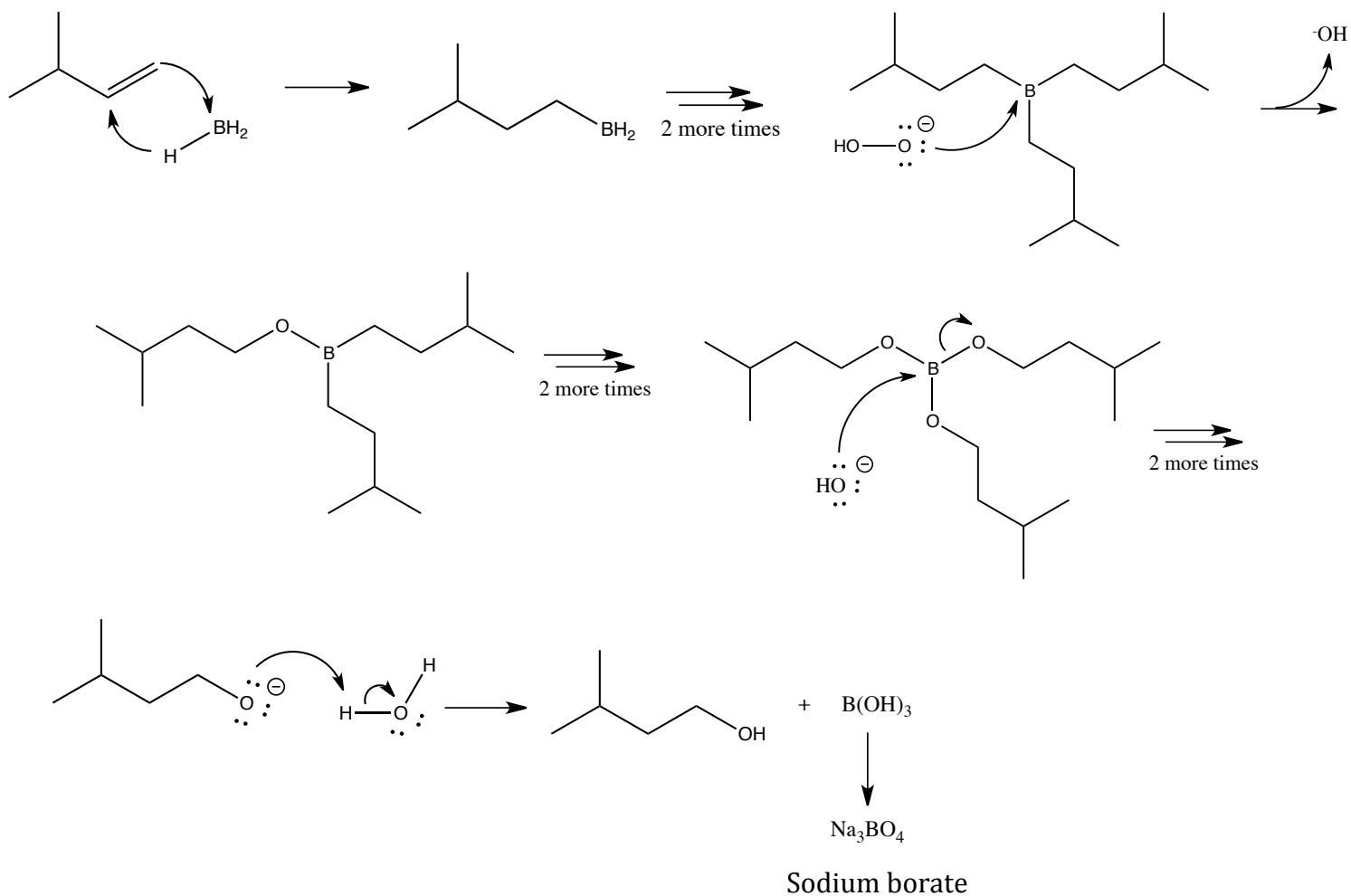
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<http://www.chem.wisc.edu/areas/clc> (Resource page)

Alkene Reactions #8: Hydroboration-Oxidation



Mechanism



The hydrogen atom of borane adds to the most substituted carbon atom of the double bond leaving the boron atom on the least substituted carbon atom. Oxidation of boron occurs with retention of configuration.

The regiochemistry of the reaction is anti-Markovnikov addition. The stereochemistry is a *syn*-addition. (see Example below) The outcome of the reaction is an anti-Markovnikov alcohol.

The reaction is very efficient; one equivalent of borane can produce three equivalents of alcohol product.

