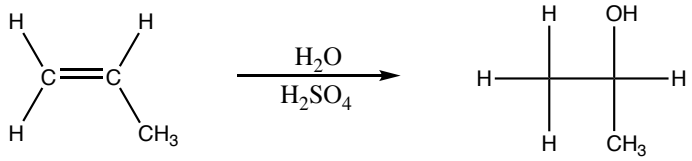
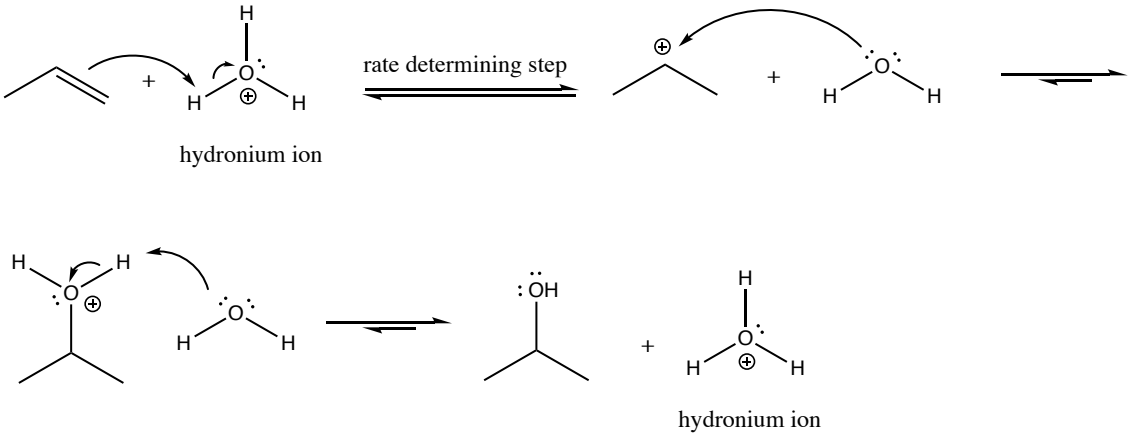
Chem 343 – Organic Reactions
Chapters 4, 5 & 7

Alkene Reactions #3: Hydration of Alkenes



alkene an alcohol

Mechanism



hydronium ion hydronium ion

Alcohols can be produced by addition of water around the double bond in the process called ***hydration***. This is accomplished by using an inorganic acid catalyst such as H_2SO_4. This reaction follows ***Markovnikov's Rule***, that is, the hydrogen atom adds to the carbon atom (in the double bond) that has the most hydrogen atoms, the -OH group adds to the carbon atom that has the least number of hydrogen atoms.

Best to use this reaction when the carbocation formed as the intermediate does not rearrange. There are better ways to prepare alcohols that result in a predicted regiochemistry.

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