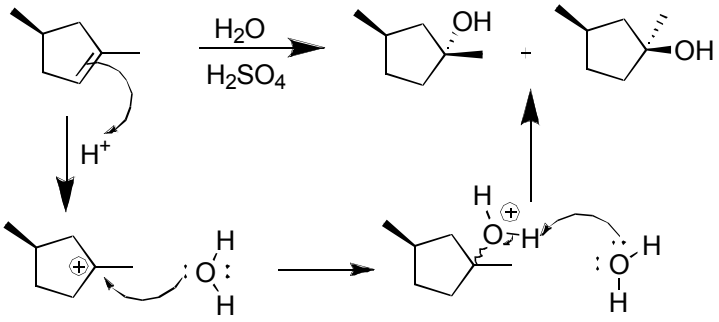
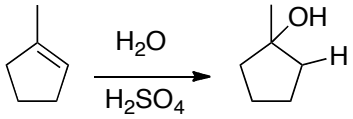
Addition reactions:

[Nucleophile] with catalysis by [H_2SO_4]

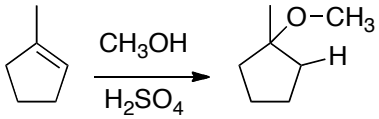
Eg. 1



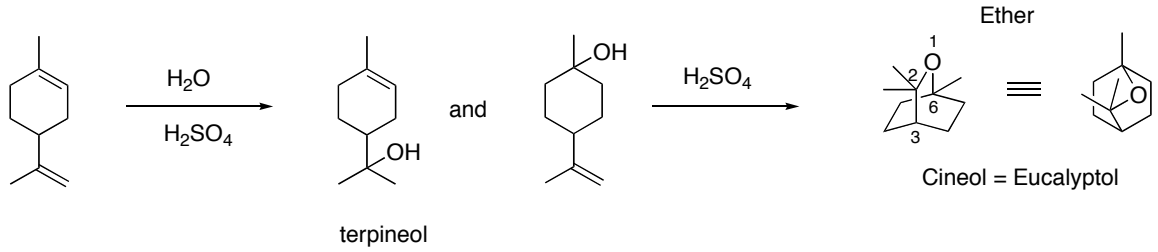
Eg. 2

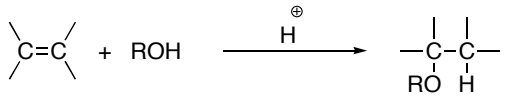


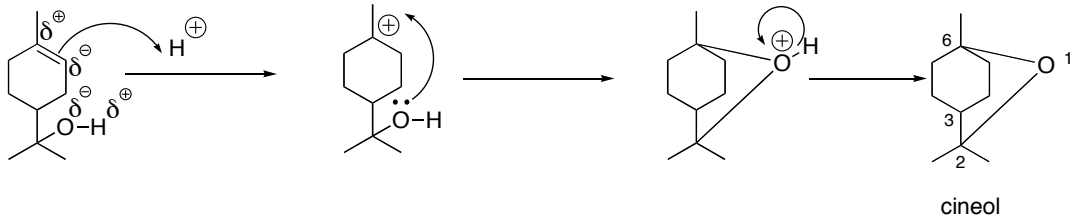
Eg. 3



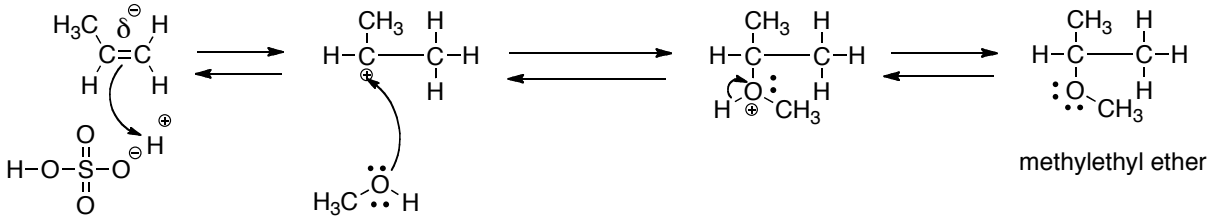
Eg 4. Intramolecular:







Review of Markovnikov Addition:

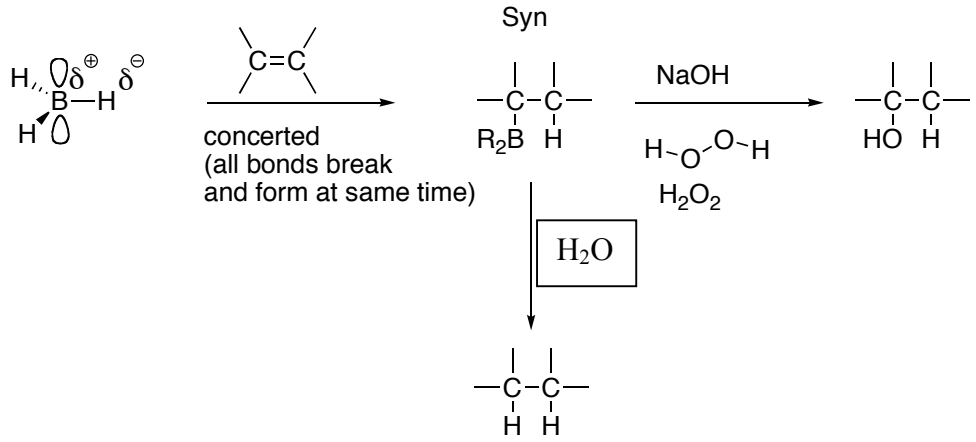


- The reverse reaction is called an elimination

Anti-Markovikov Addition:

- **Hydroboration** → Protonation (alkane)
  → Oxidation (alcohol)

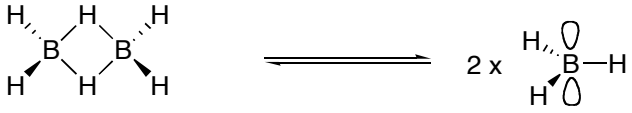
General scheme:



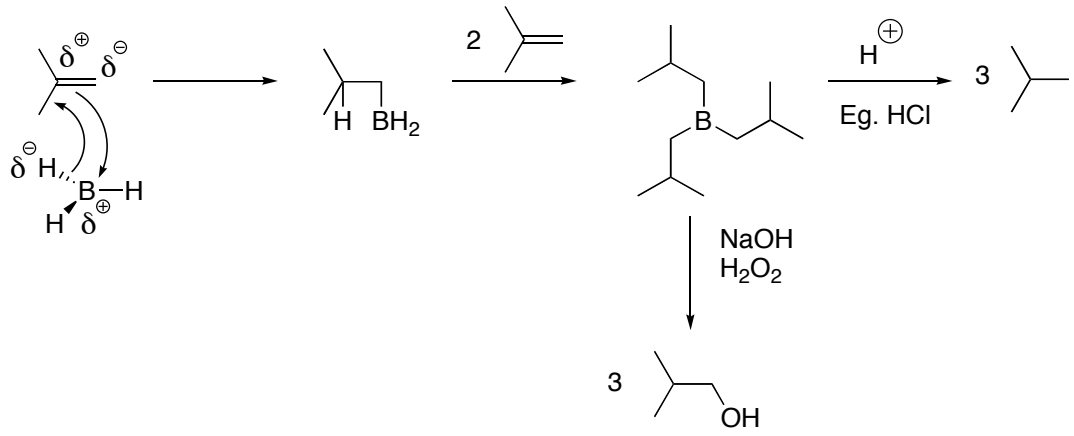
- Formally Anti-Markovnikov

  Addition of H-OH in opposite sense.

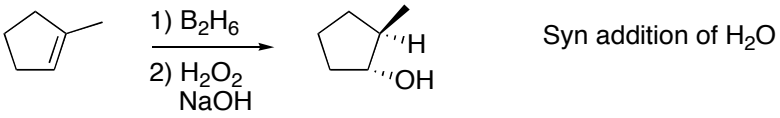
B_2H_6 – diborane behaves like BH_3



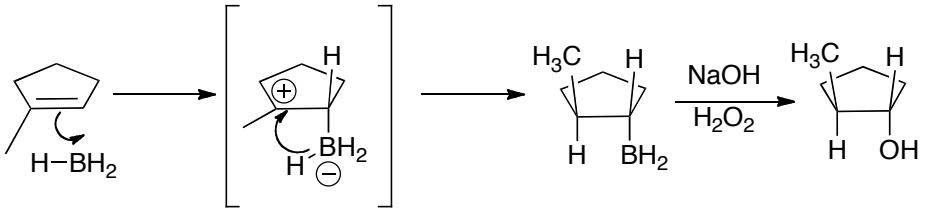
Eg 1.



Eg 2.

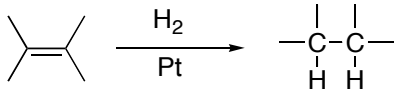


Overall Anti-Markovnikov addition of water:



Reduction: process that adds electrons

Eg.



Oxidation: process that removes electrons

Ozonolysis: cleavage of alkenes by ozone (O_3)

General reaction: