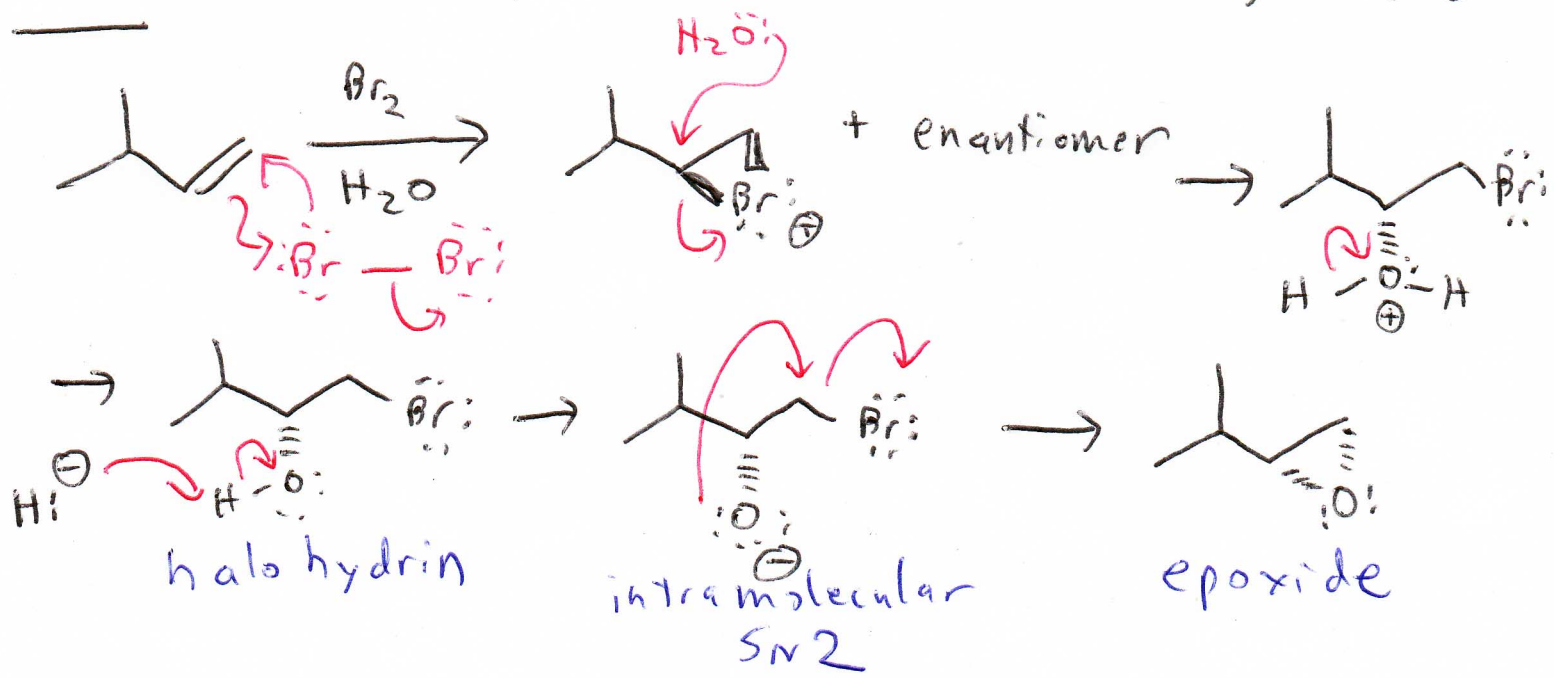
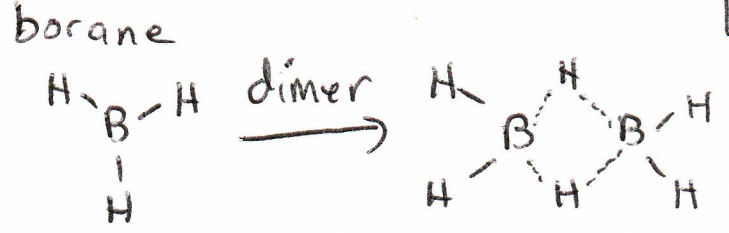
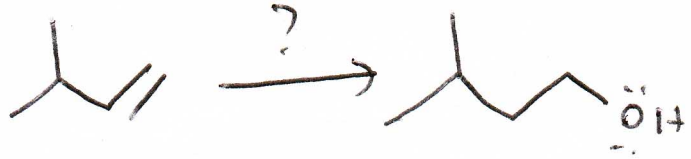
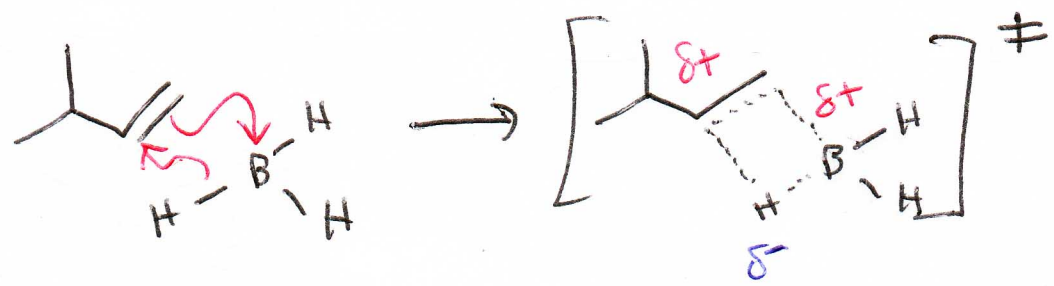
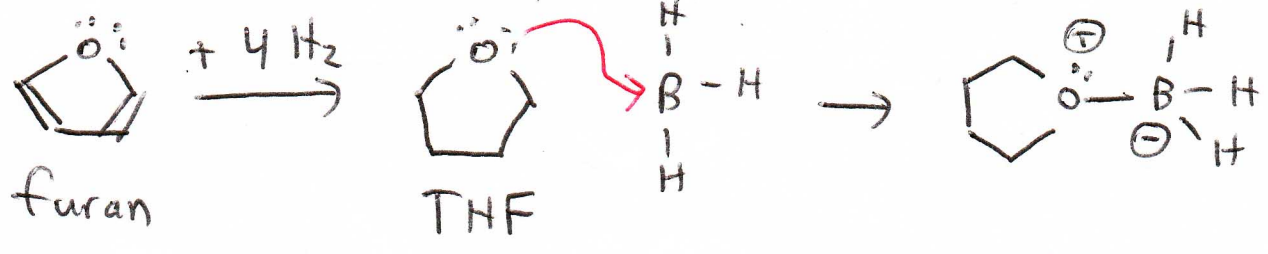


1. utility: alkene → vicinal dihalide
2. reagents: Br₂ or Cl₂
3. conditions: no light
4. mechanism: cationic
5. stereochemistry: anti additions; enantiomers
6. regiochemistry: Markovnikov; no rearrangements

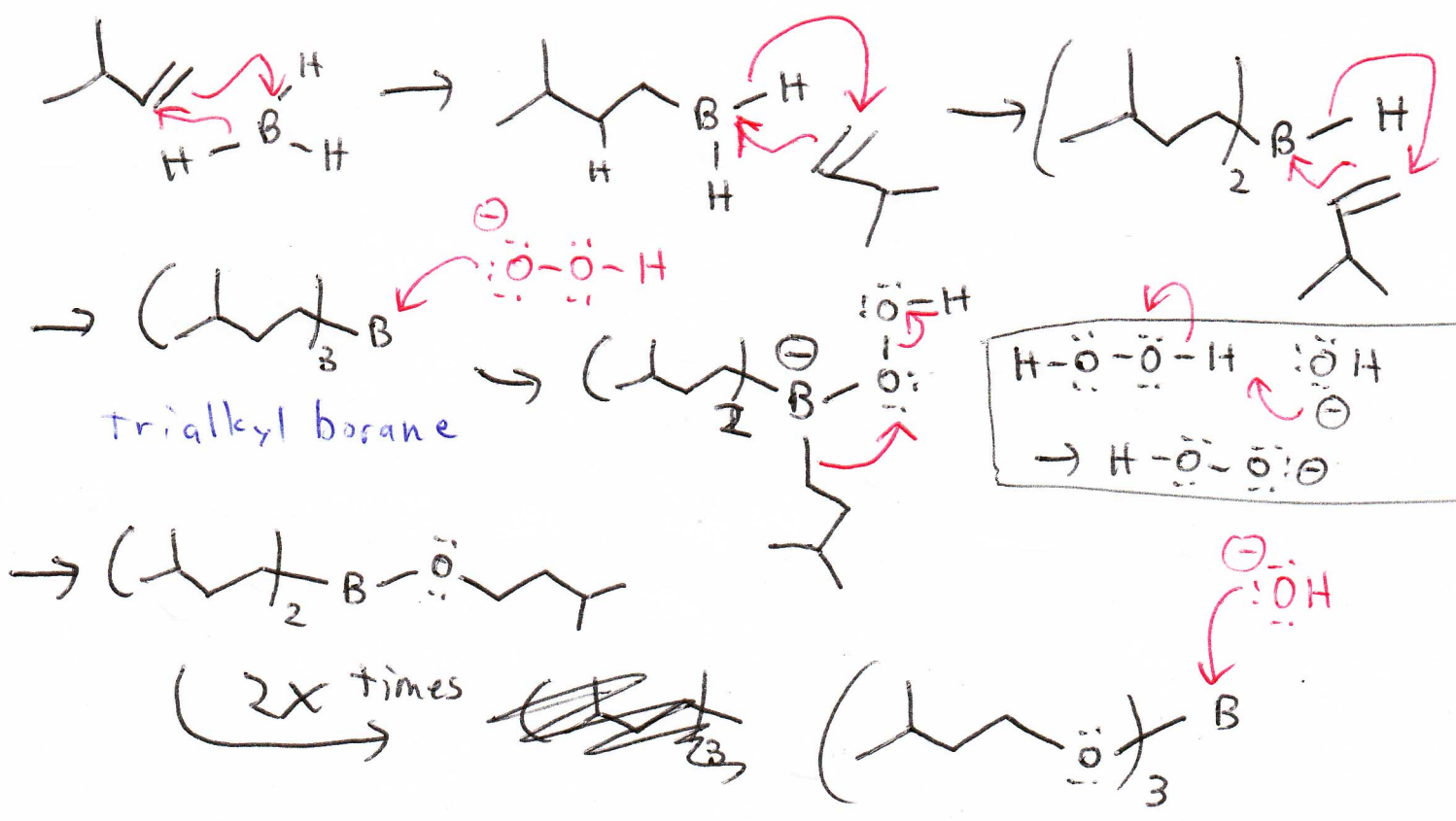


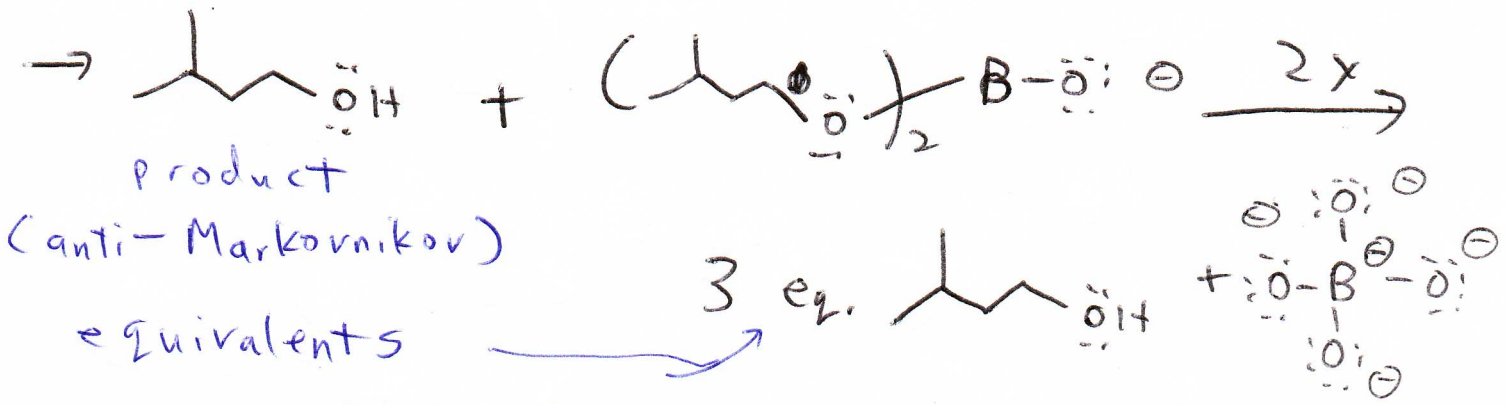
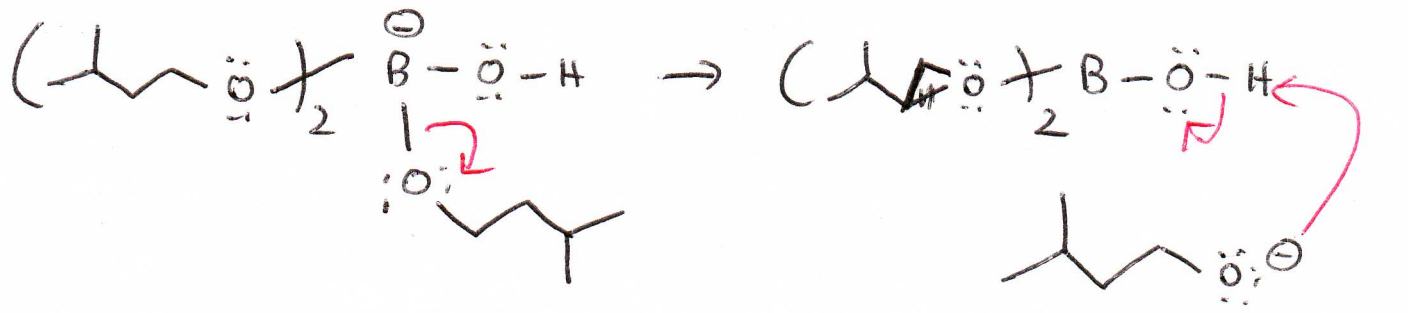


THF- tetrahydrofuran



Because boron is less electronegative than hydrogen, boron (not H) is the electrophile. During the transition state, the hydrogen (which is effectively a nucleophile) adds to the more substituted position because the induced positive charge is more favorable @ the more substituted position.

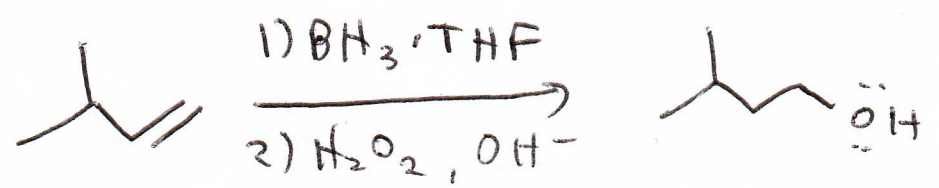




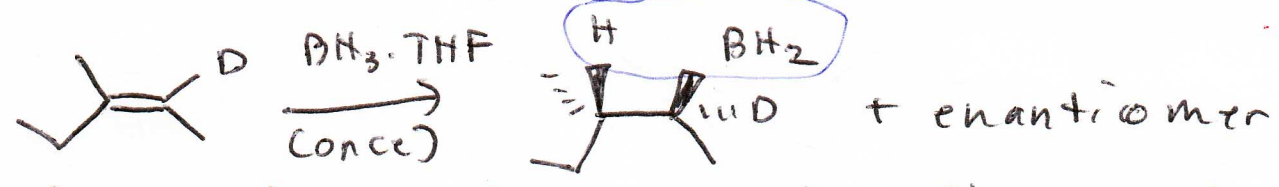
product

(anti-Markovnikov)

equivalents



- 1) utility : alkene \rightarrow alcohol
- 2) reagents : 1) $\text{BH}_3 \cdot \text{THF}$ 2) $\text{H}_2\text{O}_2, \text{OH}^-$
- 3) conditions : no $\text{H}_2\text{O}!!!$
- 4) mechanism : ?
- 5) stereochemistry : syn addition ; enantiomers



6) regiochemistry : anti-Markovnikov, no rearrangements