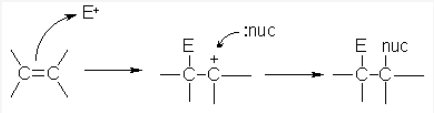
Reactants & Solvents / Catalysts

Br2 (X2)	Halogenation
H2 & Pd/ Pt	Hydrogenation -> alkane
H2SO4, H2O	Acid-catalyzed hydration to form alcohol
HBr (HCl, HI)	Hydrohalogenation -> haloalkane
Peroxides (ROOR)	Form anti-Markovnikov
BH3, H2O2, NaOH	Hydroboration-oxidation; anti-Mark. for specific regiochemistry
Hg(OAc)2, H2O	Mark. with no rearrangement

Basic Reaction



1. PI electrons attack electrophile
2. Carbocation formation
3. Nucleophilic attack

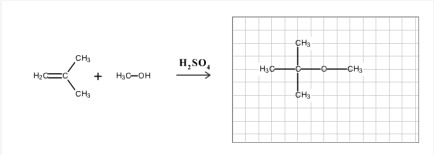
Catalytic Hydrogenation (Reduction)

Addition of H2 across double bond in presence of metal catalyst (ex. Pt)

syn addition

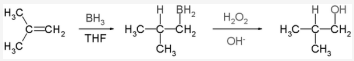
Dihydroxylation

Acid-Catalyzed hydration



- Electrophilic addition
- Creates an ether or alcohol (in water)

Hydroboration-oxidation

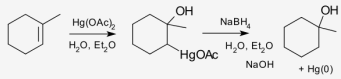


- Anti-Markovnikov product
- 2-step, *syn addition*

HBr + Peroxides

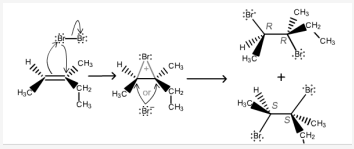
anti markovnikov addition

Oxymercuration-Demurcuration (Hydration)



Markov. Product without rearrangement. (No carbocation)
- If in water, Alcohol forms
- If in methanol, ether forms
- anti - arrangement

Halogenation



- Halogens added to the carbons of double bond

anti addition