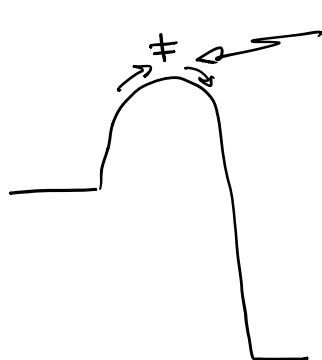


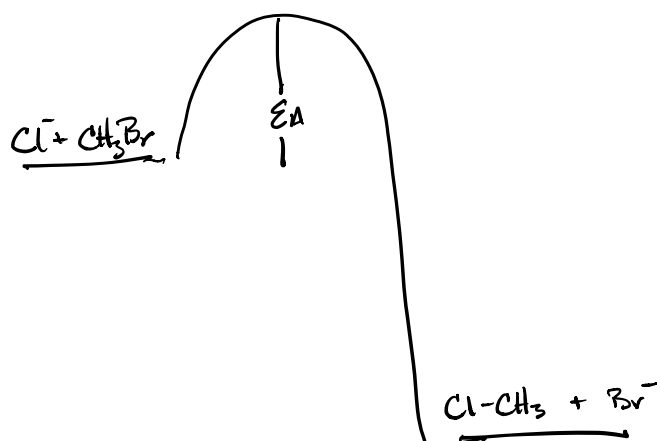
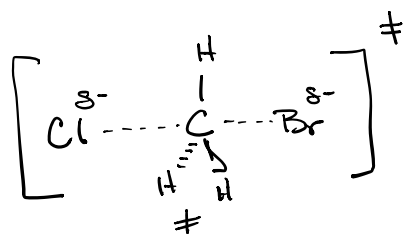
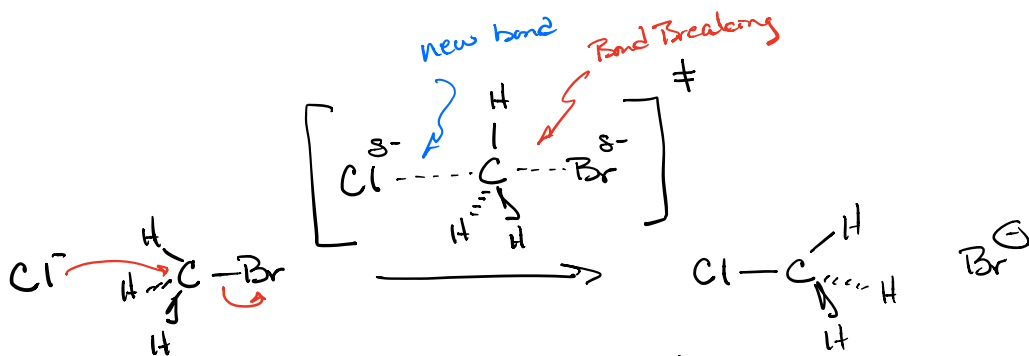
Wednesday April 15th

Transition State \neq



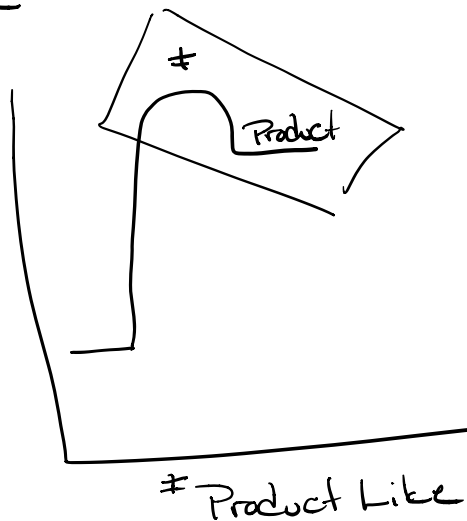
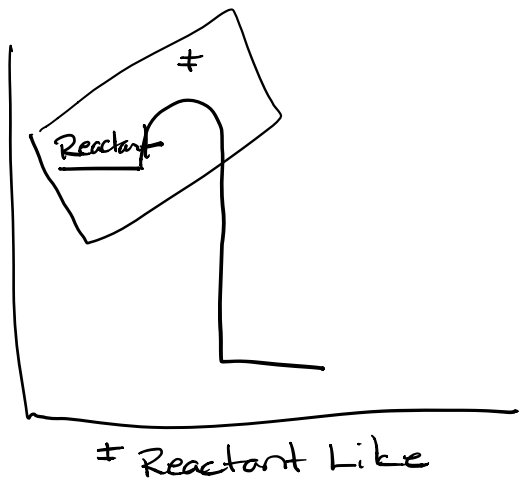
not observable
or
isolateable

Bond making & Bond Breaking
are occurring same time
on order of bond vibration



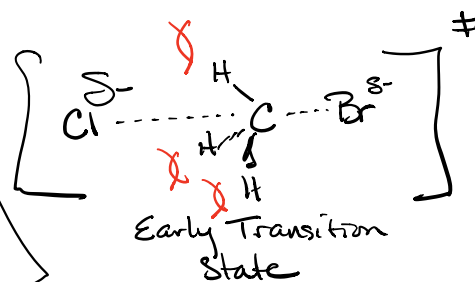
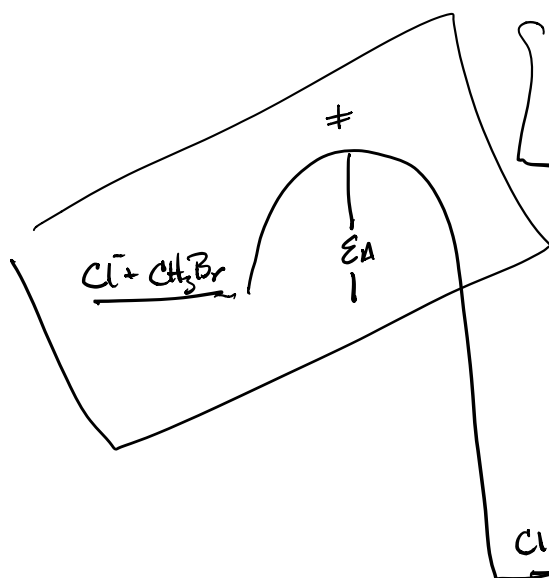
George Hammond Hammond Postulate

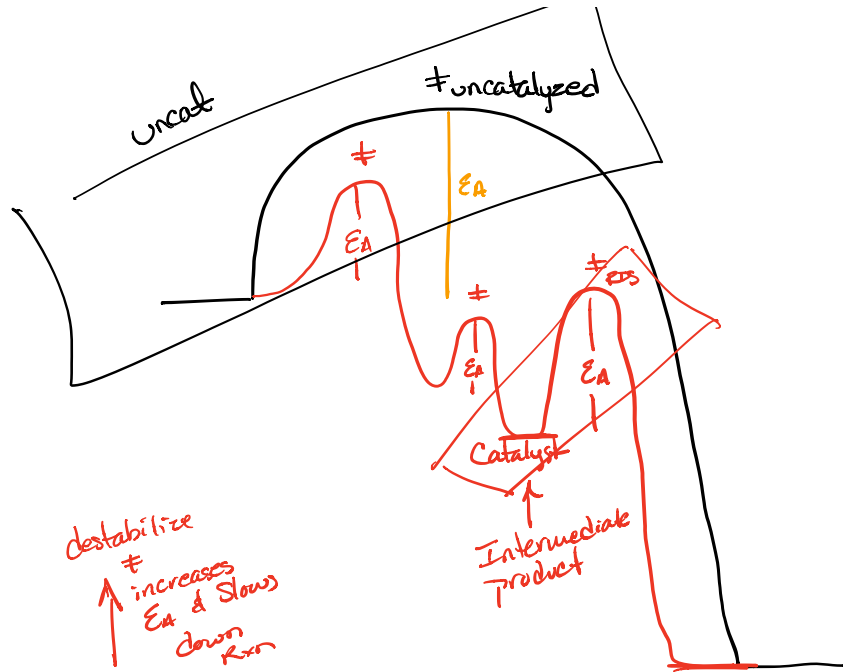
If two states are similar in energy, they are similar in structure



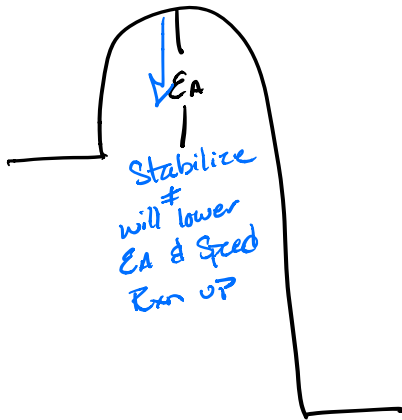
≠ will look like the side it is closest in energy to.

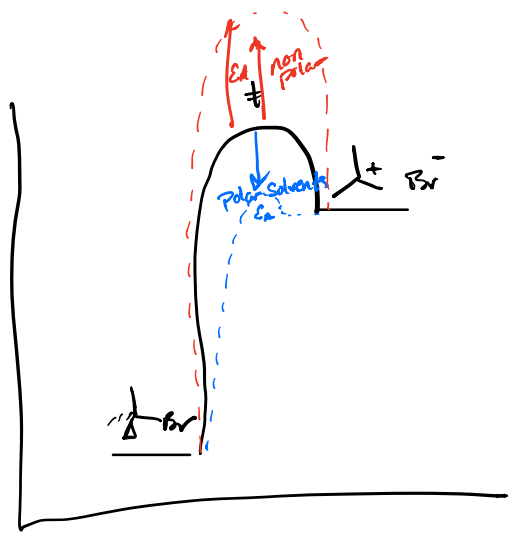
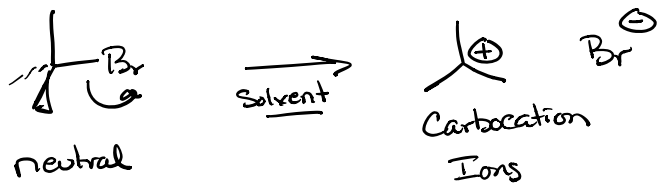
≠ should be reactant like





destabilize \neq
 increases \neq
 EA & Slows
 down K_{eq}



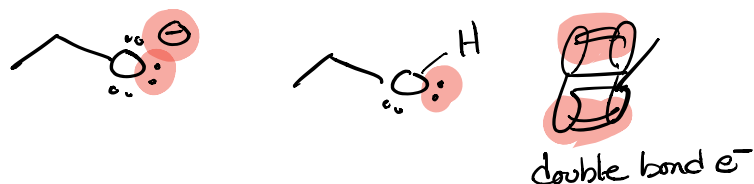


H₂O Highly Polar Solvent
 MeOH } stabilize ion formation
 EtOH }
 PrOH }

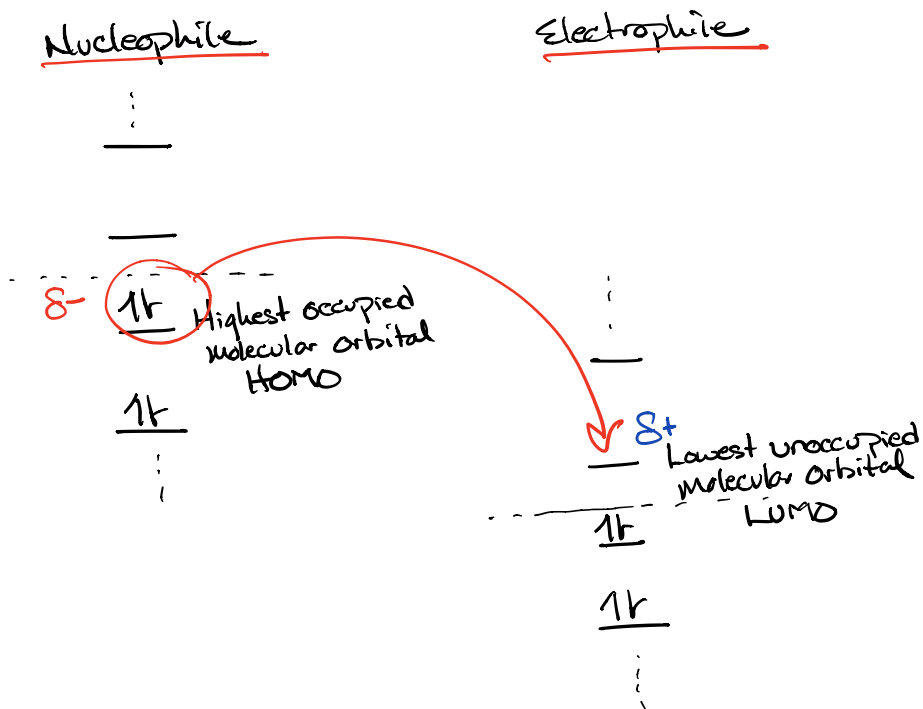
CC(C)CC } do not support ion formation
C1=CC=CC=C1 }
C1=CC=CC=C1 }

Nucleophile & Electrophile

Nucleophile - e^- rich species \Rightarrow looking for $+$ or δ^+ to react with



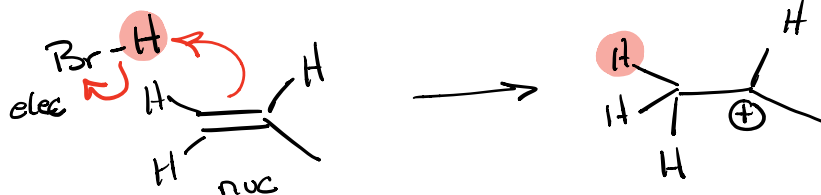
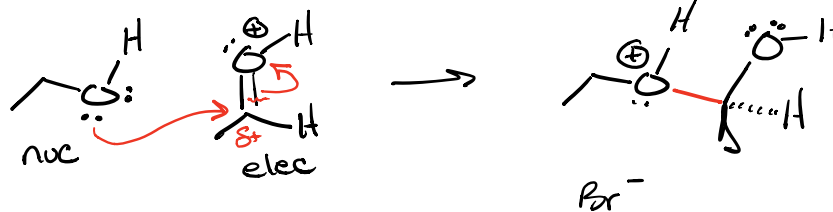
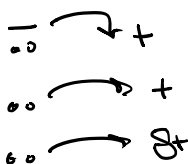
Electrophile - e^- poor species \Rightarrow looking for $-$ or δ^- to react with



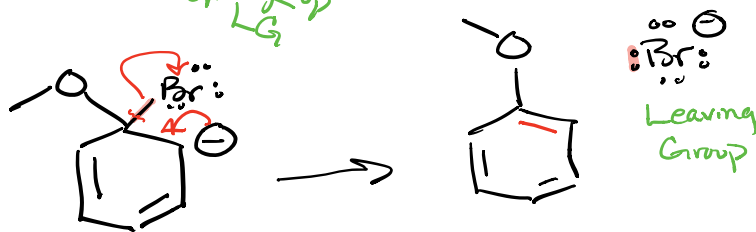
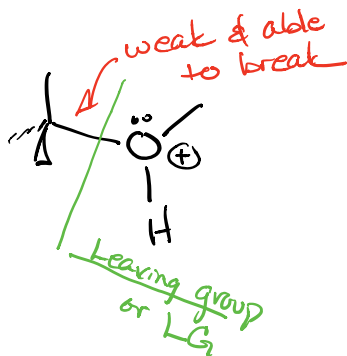
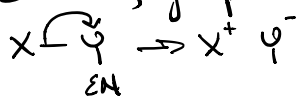
Common Mechanistic Steps (arrow pushing)



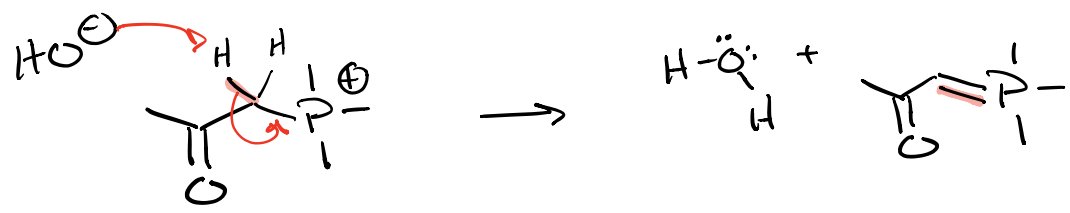
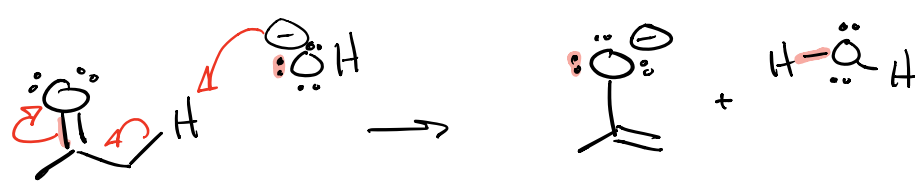
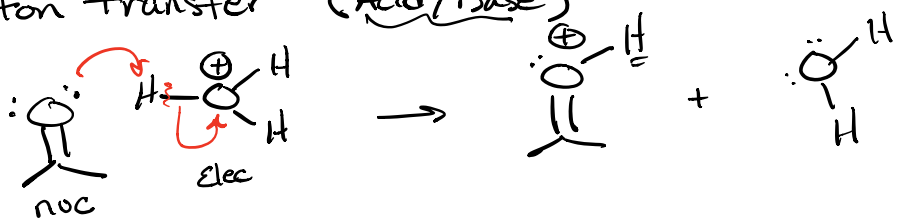
Nucleophilic Attack



Loss of Leaving group

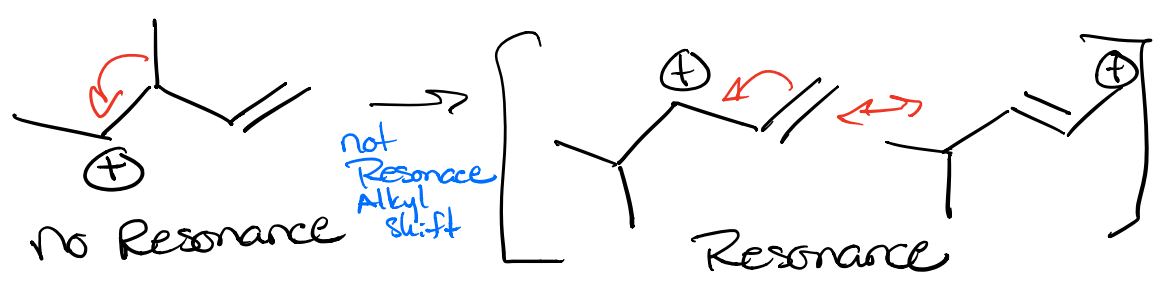
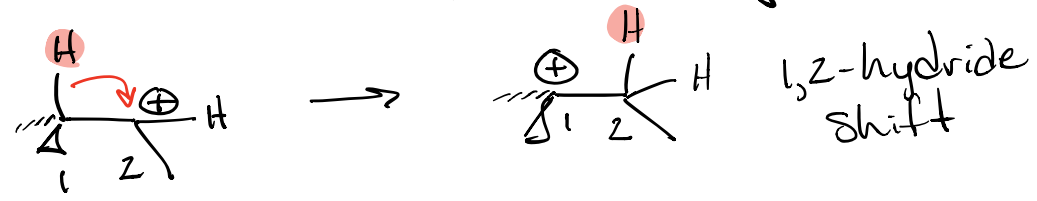


Proton transfer (Acid/Base)



Rearrangements

Changes in Carbon structure
Migration of group to form new
atom connectivity.



1,2-Alkyl Shift

