(34) **Today**

Section 7.6 Stability of Alkenes

Section 7.7 Electrophilic Addition Reactions

Next Class (35)

Section 7.7 - 7.11 Electrophilic Addition Reactions

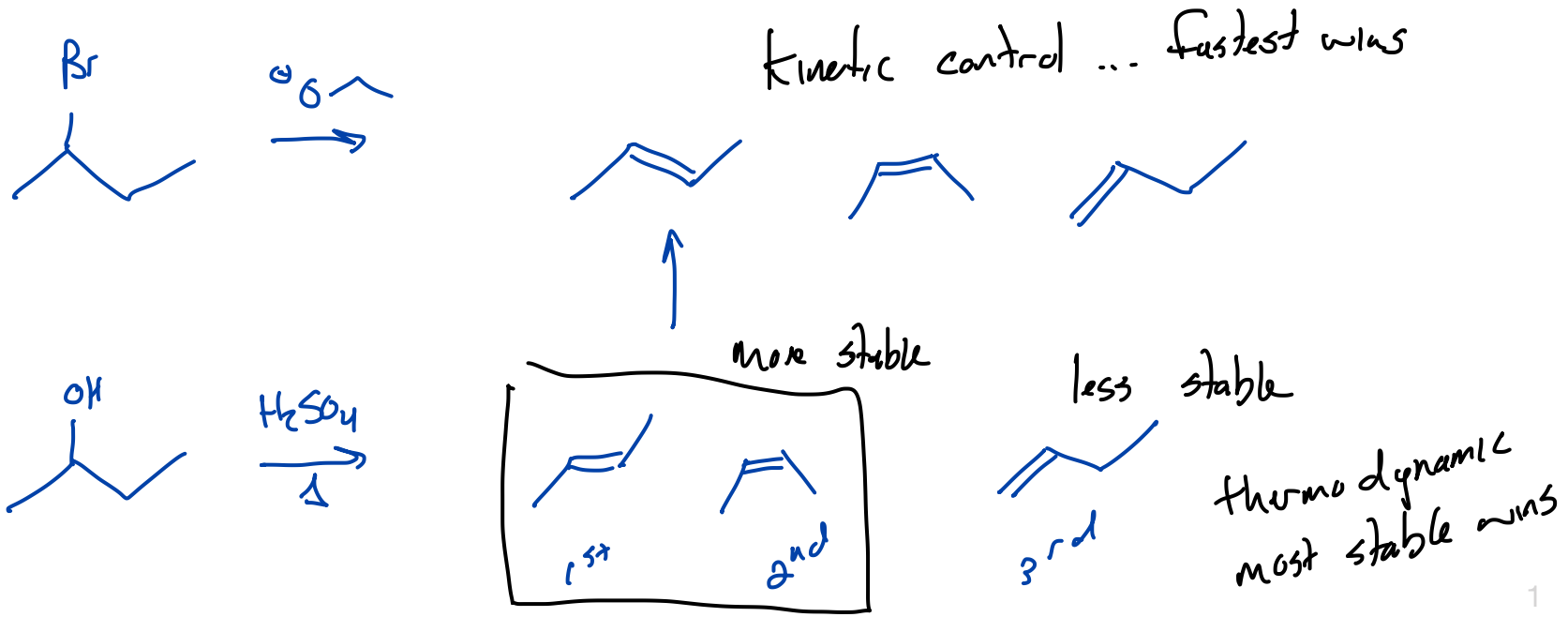
(36) **Second Class from Today**

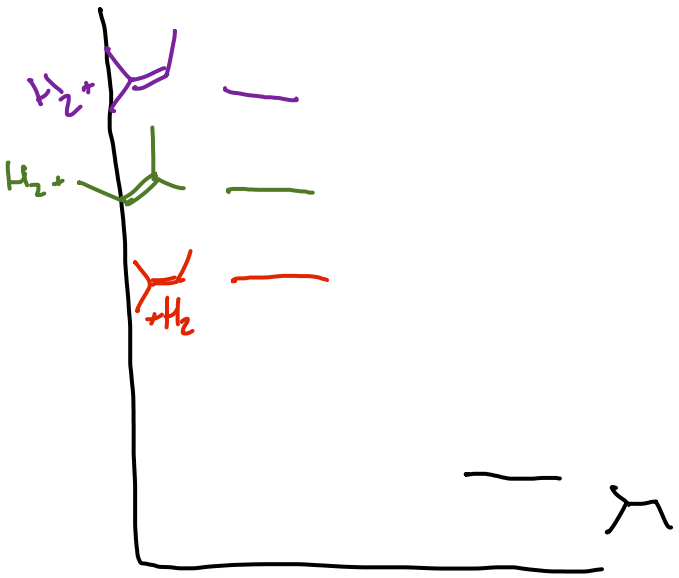
Section 7.7 - 7.11 Electrophilic Addition Reactions

Third Class from Today (37)

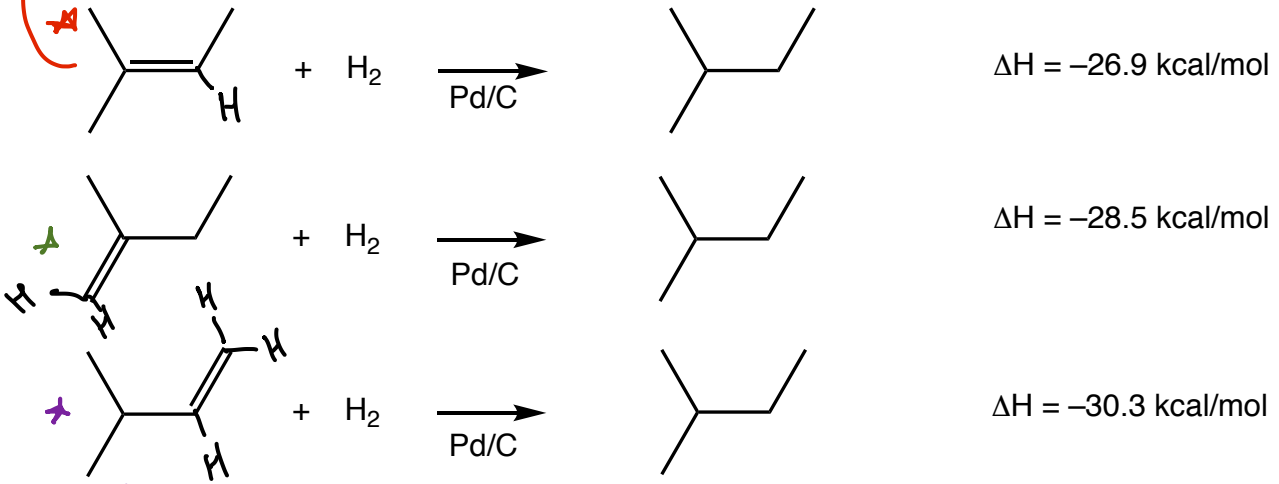
Section 8.2 and 8.3 Halogenation and Halohyrins

Test 3 corrections due Dec 13





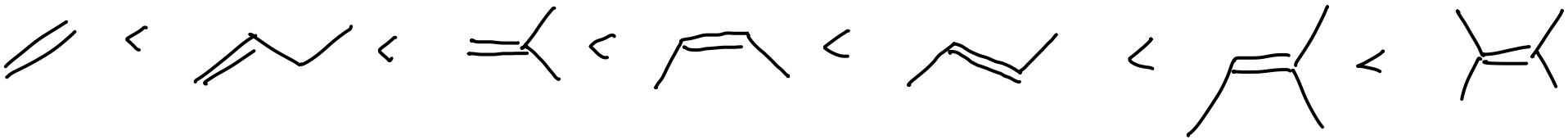
lowest in E



highest in E

more substituted the alkene is the more stable it is

more C atoms at the ends of the db equals more stable/lower energy alkene



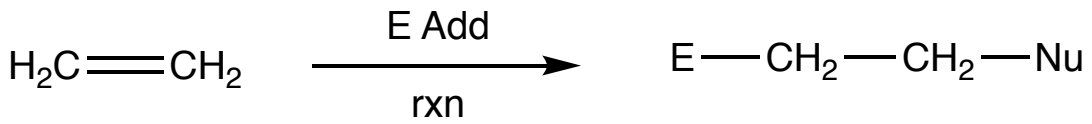
least stable

most stable

reaction won't go without an electrophile

added two molecules together

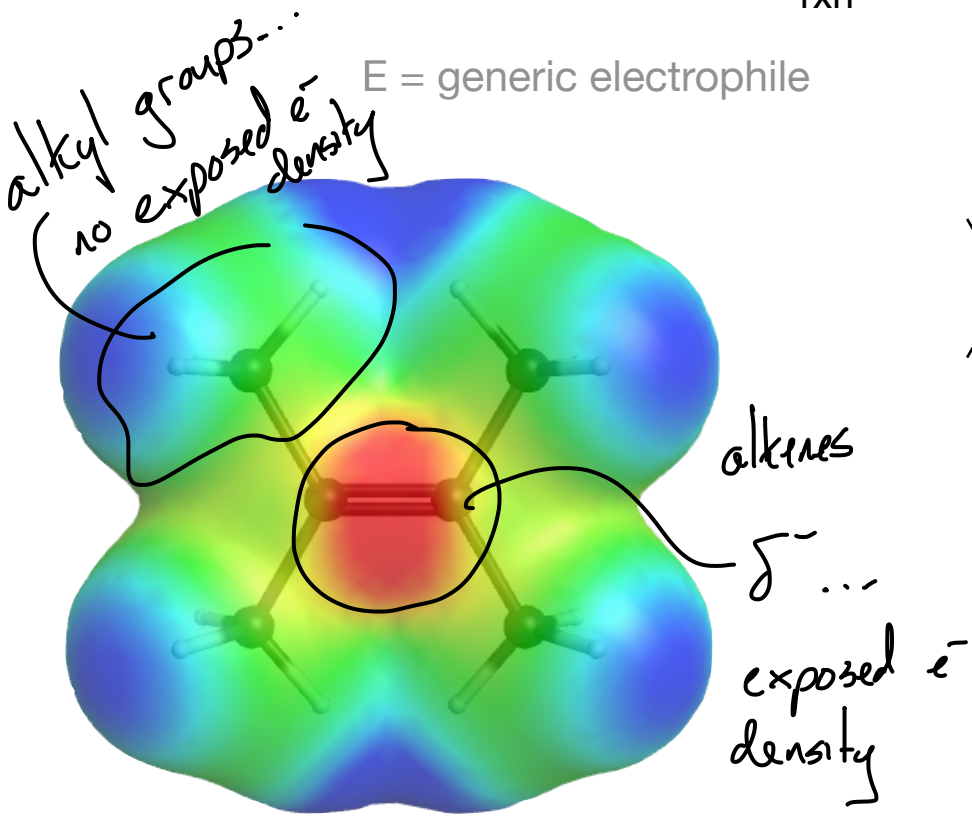
The reactions are called electrophilic additions because the are initiated by an electrophile and two groups/atoms are added across the double bond.



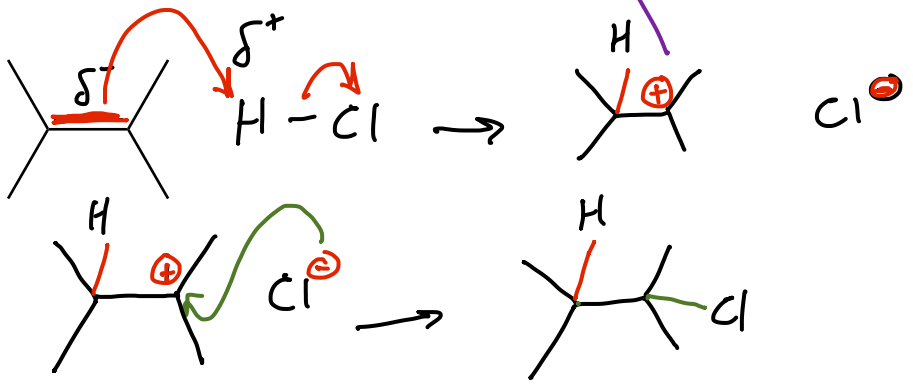
E = generic electrophile

Nu = generic nucleophile

a C^+ is a carbocation



electrostatic potential map



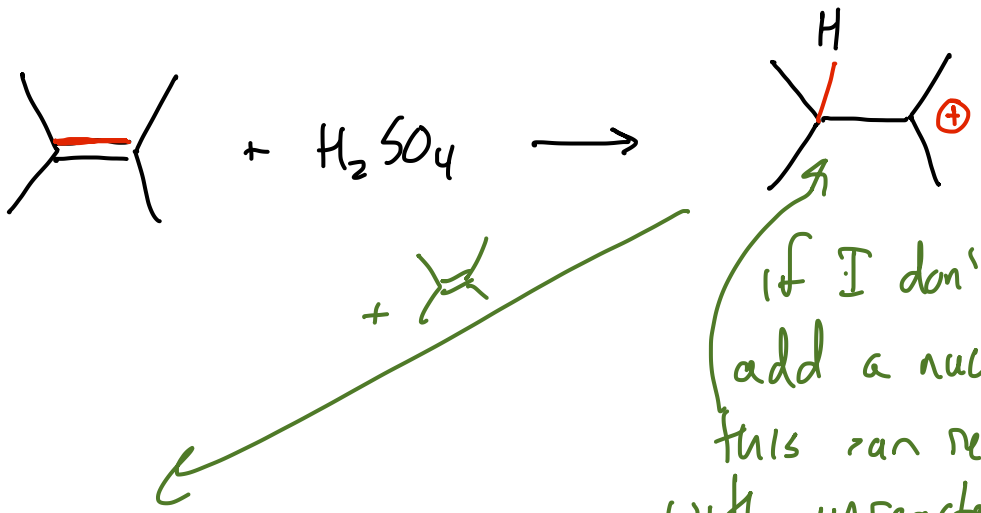
H_2SO_4

electrophiles will be attracted to the alkene's π e⁻

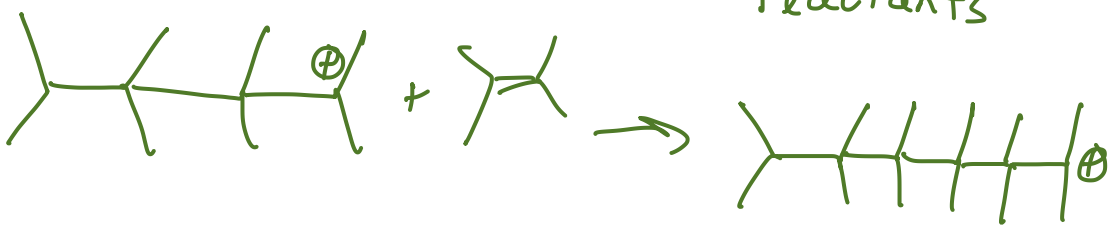
F – F

Cl – Cl electrophile

two eneg atoms attracted to or "easily" source of e⁻ density



if I don't add a nucleophile this can react with unreacted reactants



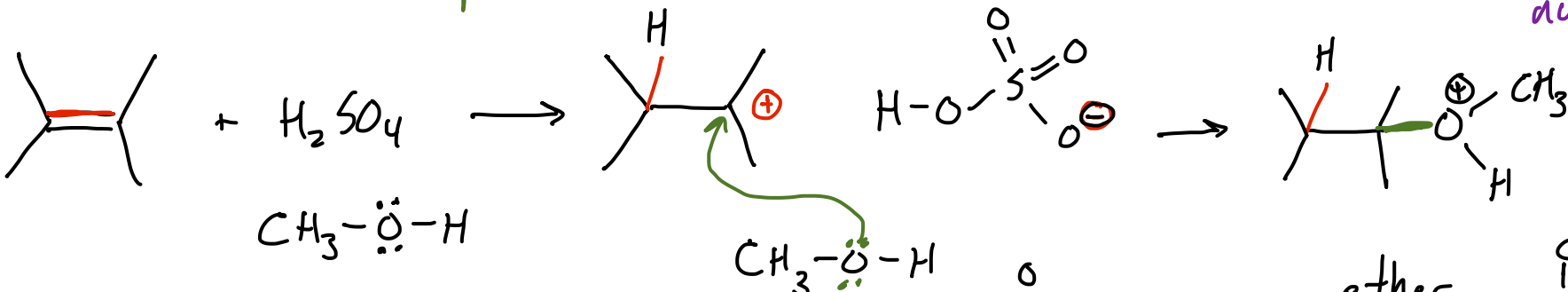
vs

- ⊖ on a single atom more concentrated e⁻ density

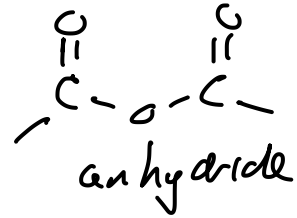
good nucleophile

- ⊖ spread out over 3 O atoms
- less concentrated e⁻ density / not a nucleophile

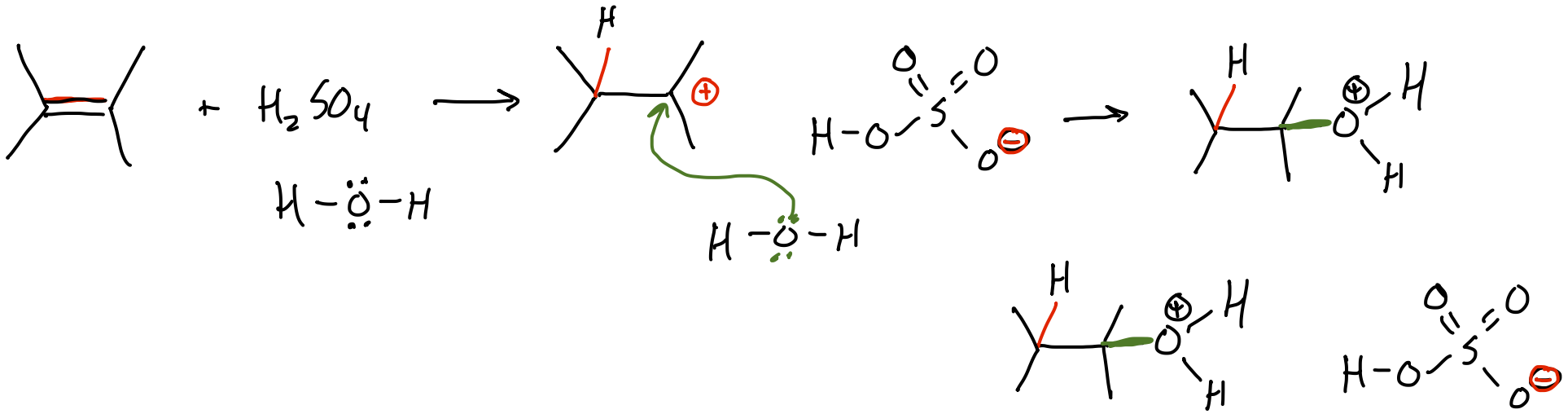
If I add a nucleophile ...

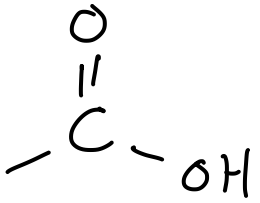


ether



anhydride





+ $NaHCO_3$

$NaHSO_4$

+ CO_2