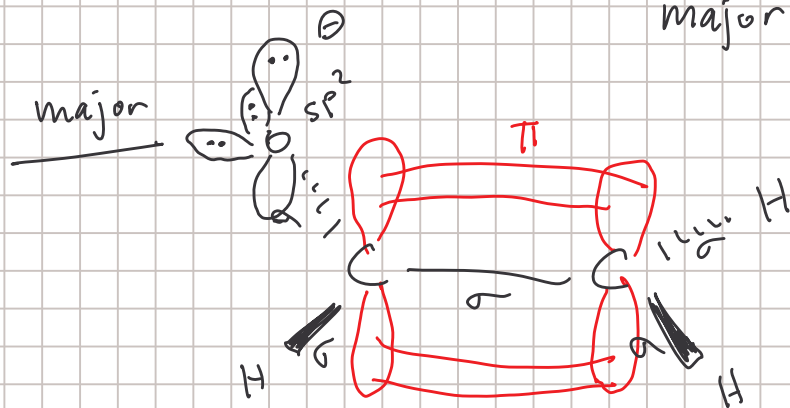
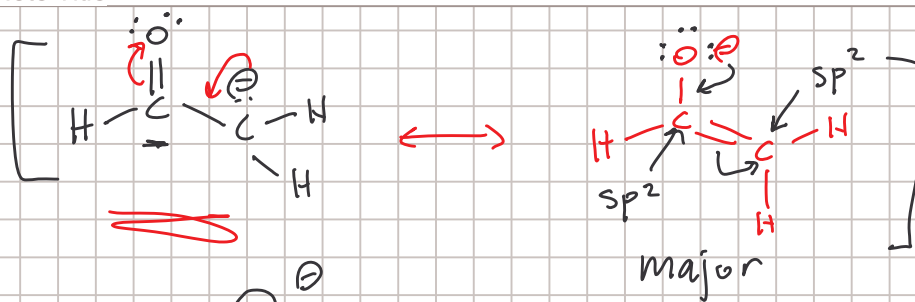


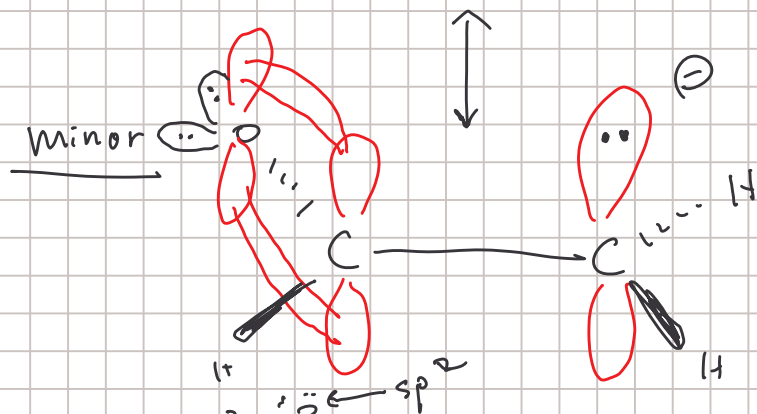
Ch 2

Note Title

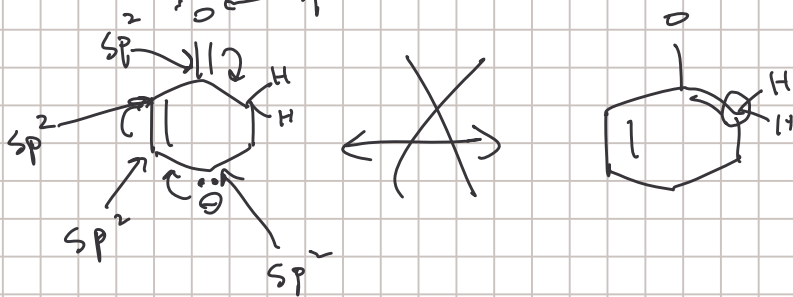
9/7/2005



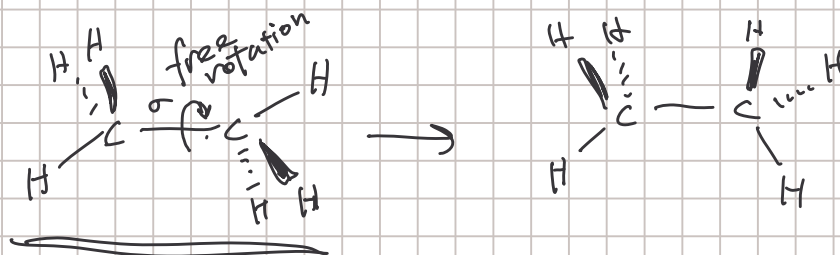
lone pairs can go in unhybridized p orbitals to account for other res. structures

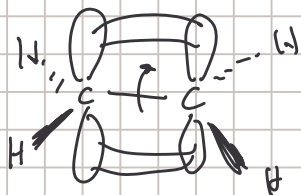


both res str. must have same atomic positions and hybridizations

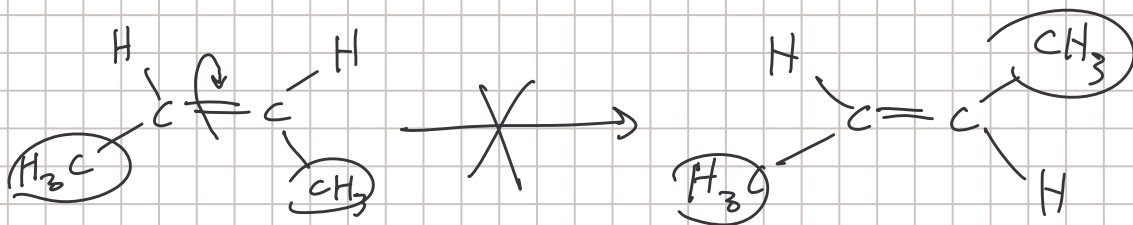


sp^3 hybridized atoms with σ bonds freely rotate



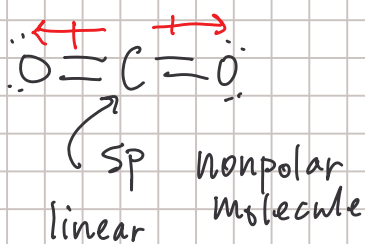
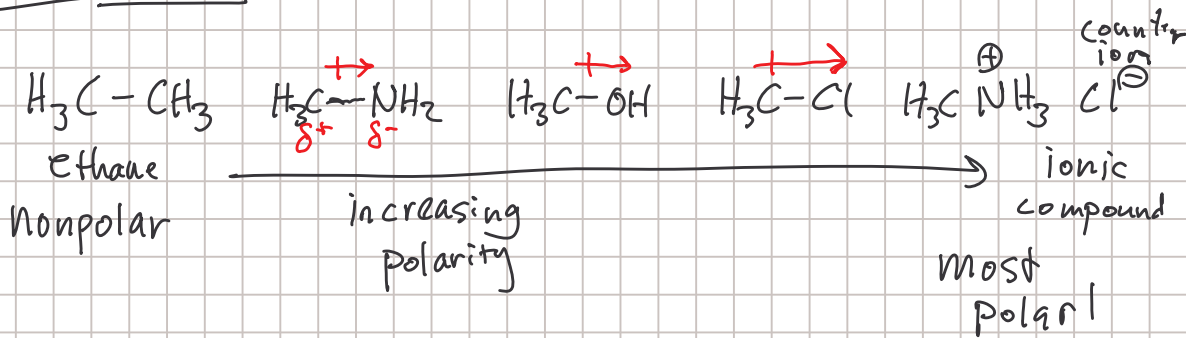


π bonds are rigid

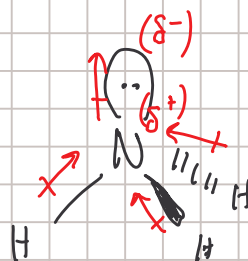


different compounds
cannot convert into each other

2-9 Polarity



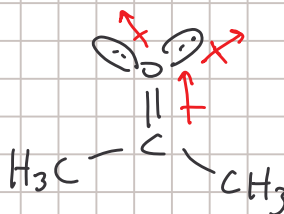
0 molecular dipole moment



any lone pair has \uparrow pointing to electrons

\uparrow molecular dipole moment

μ = numerical value for dipole moment

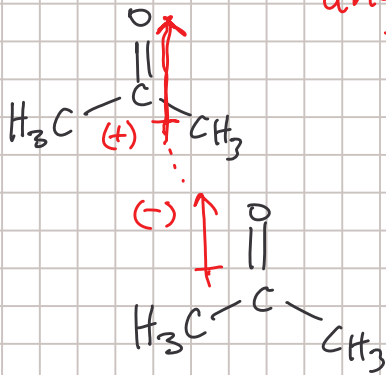


\uparrow molec. dipole moment

Intermolecular forces attractive forces between molecules

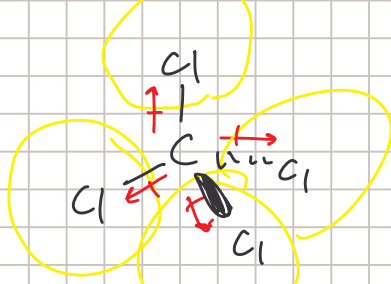
Dipole-dipole forces - att. forces between opposite molecular dipole moments of molecules

any polar molecules!



but....

CCl_4
Carbon tetrachloride



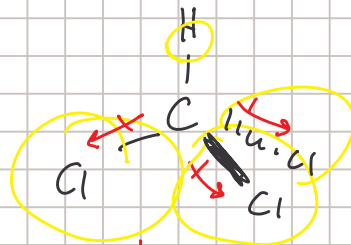
0 molec. dipole moment

nonpolar

boiling point

77.4°C

CHCl_3
chloroform



net molec. dipole moment

polar

62°C

We expect substances w/ strong intermolecular forces to have relatively high boiling points

London dispersion forces temporary induced dipole moments

increase with greater molecular "surface area"

