

Today

Sections 2.6 - 2.9

Summarize structure reactivity relationships

Sections 3.1-3.3

Nomenclature of Alkanes and Cycloalkanes

Next Class

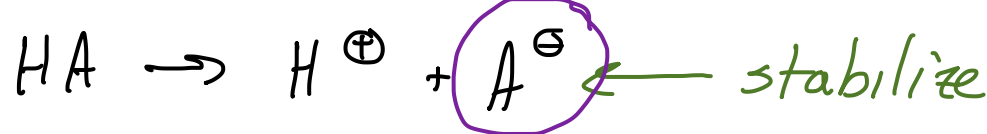
Sections 3.4–3.6

Nomenclature of alkyl halides, ethers, and alcohols

Sections 3.8 – 3.11

Structures and properties of organic molecules

Stabilization of a Base or Conjugate Base Summary

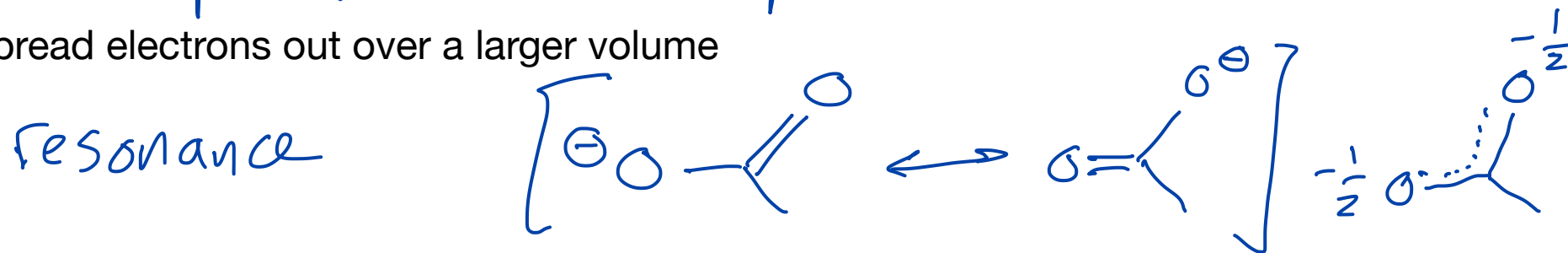


Get electrons near a positive charge

The higher the \oplus charge on the nucleus the better
the more stable

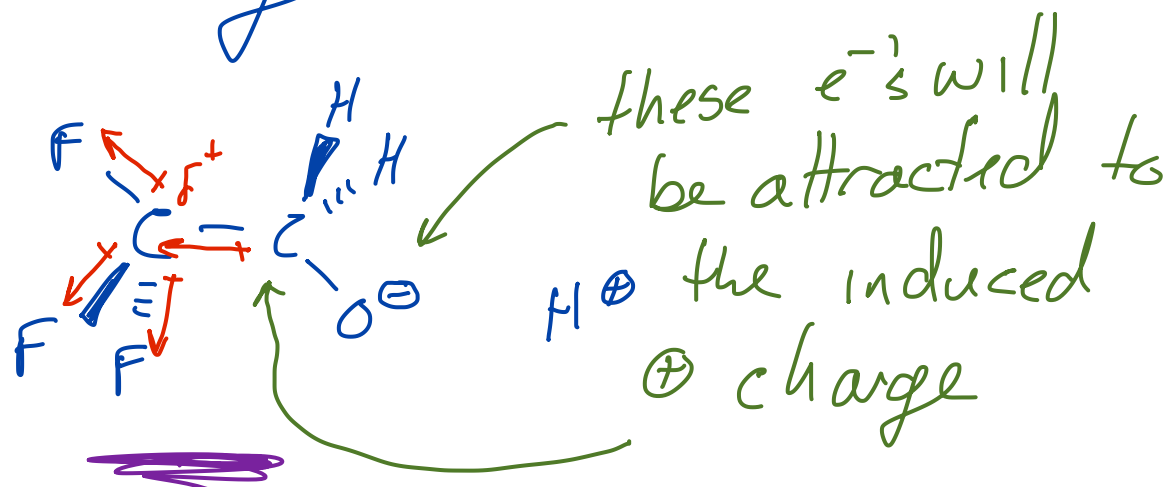
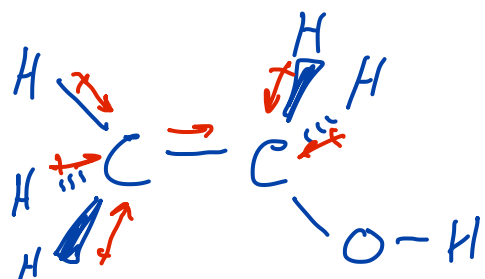
Get e^{-} 's close to the nucleus sp better than
 sp^2 better than sp^3

Spread electrons out over a larger volume

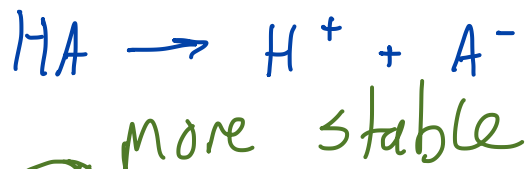


negative charge on a large atom

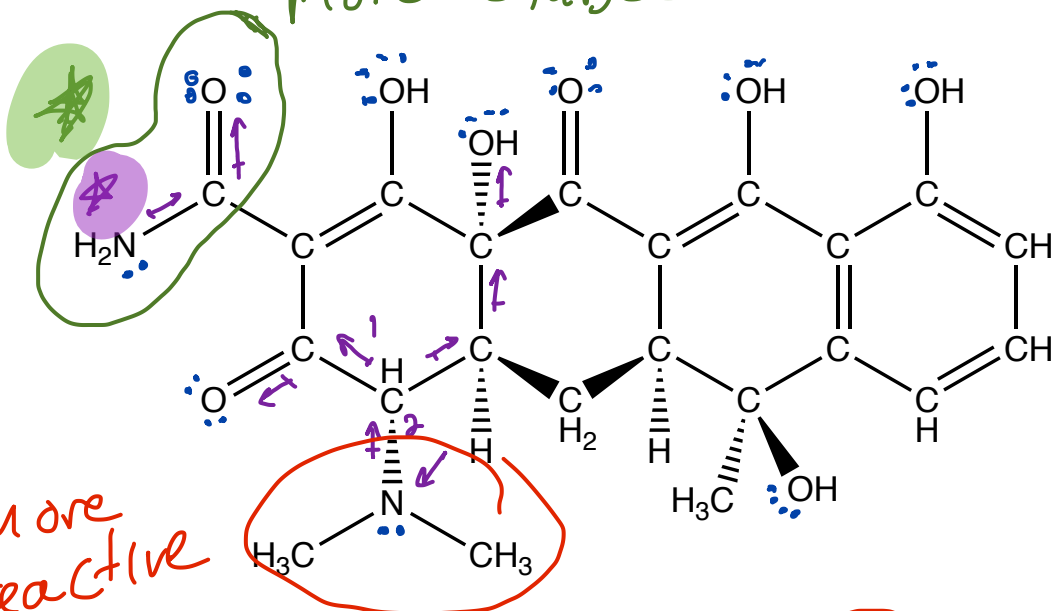
inductive effect



Stabilization of a Base or Conjugate Base Summary



To be a good H^+ donor
your conjugate base needs
to be low in E .



more reactive

more attractive... lp e^- on **N** or **O**?
 more reactive
 less stable

7+ nucleus
 e^- less stable

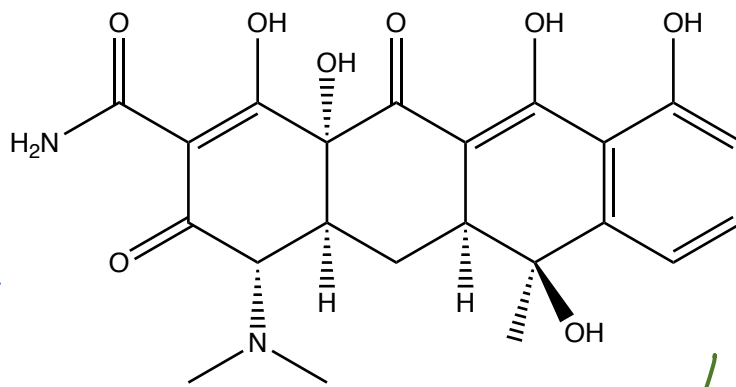
8+ nucleus
 e^- more stable

Which N?


Inductive effect is stabilizing
 lp e^- here *****

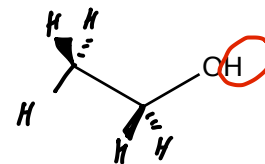
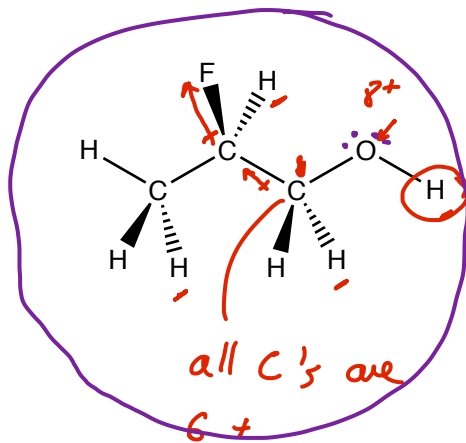
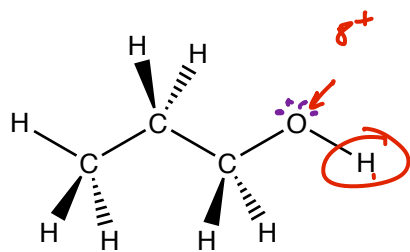
lp e^- adjacent to π bond... resonance!
 also stabilizing e^- here *****

To be a good base
 the e^- 's need to be
 more attractive,
 more reactive,
 less stable

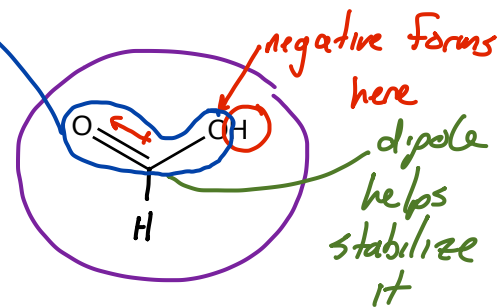


Practice

Which proton is the most acidic proton? 

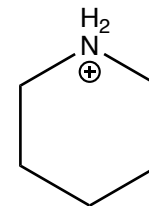
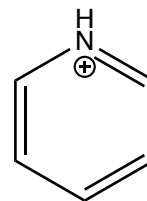
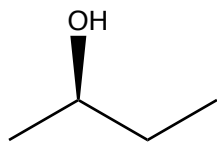
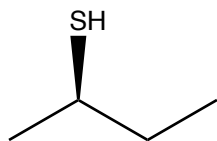


Resonance with π bond will stabilize e^- 's too



same atom bears \ominus after H^+ leaves

same size O, same charge O nucleus, same hybridization, no resonance



Which acid is the stronger acid? 