



low energy resonance contributors (structures) contribute more to the resonance hybrid (our understanding of the molecule) than high energy structures (contributors)

Things that cause Lewis structures to be considered

high in energy

incomplete octets

charge separation

"wrong" charges

putting  $\oplus$  on electr atoms

putting  $\ominus$  on an electropositive atom less electr atom

1 problem is ok

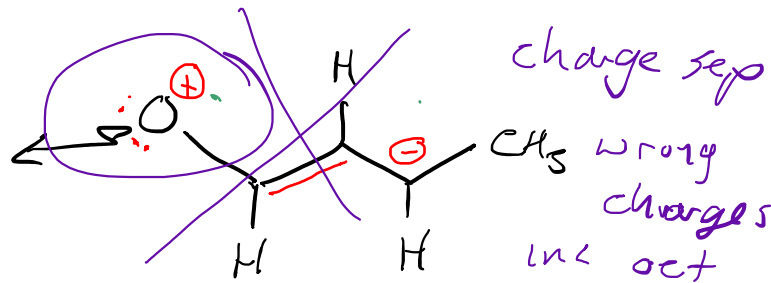
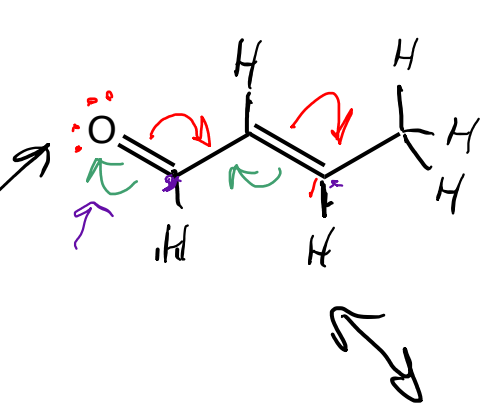
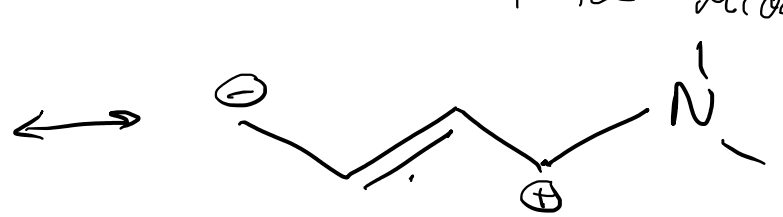
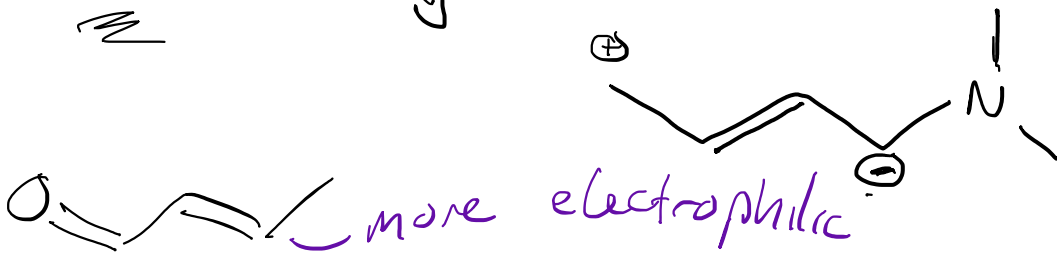
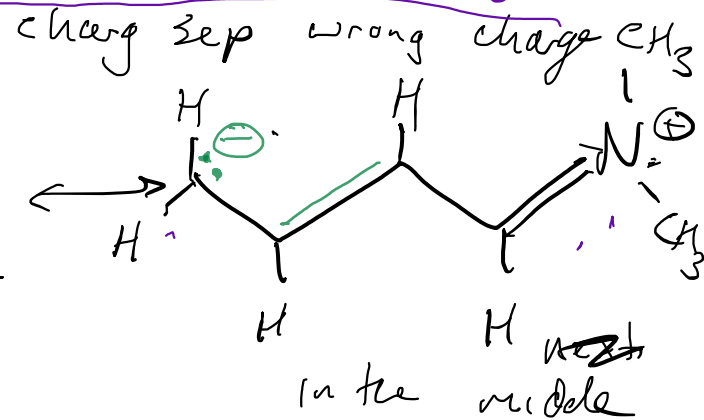
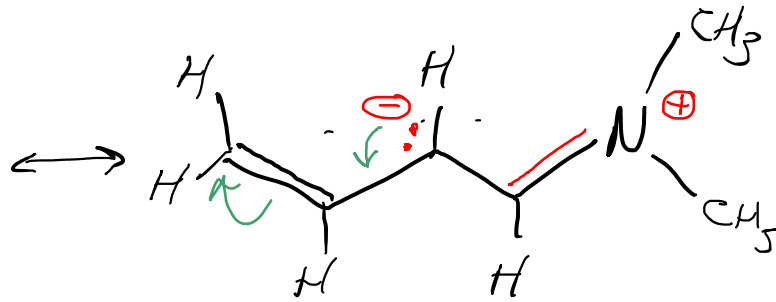
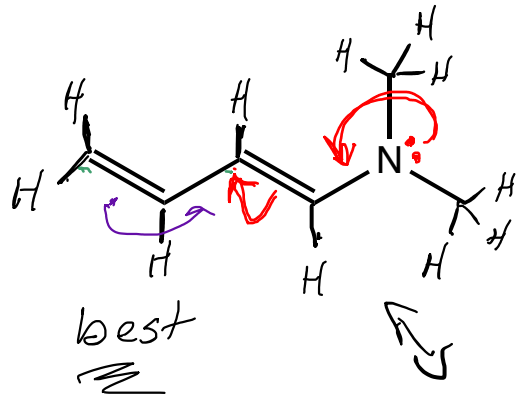
2 is alright

3 don't draw

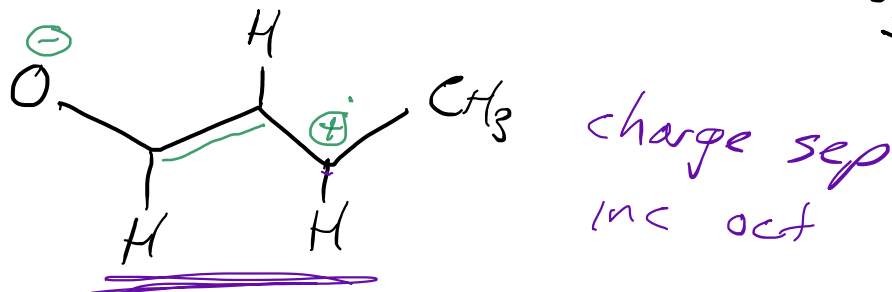
insignificant contributor

move lp e<sup>-</sup>'s towards  $\pi$  bonds, move  $\pi$  bonds towards empty p orbitals,

Weighted Averages: The good, the bad, and the ugly move  $\pi$  bonds towards  $\pi$  bonds Section 8.5 & 8.6



charge sep highest E  
inc oct

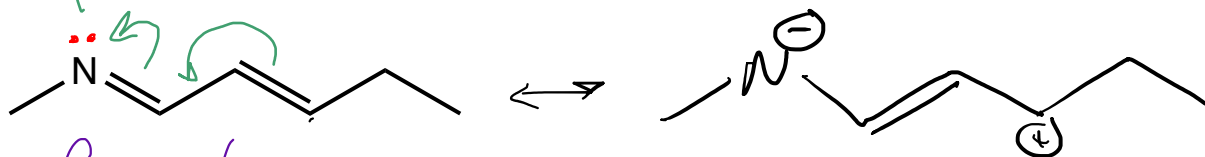


cannot use these lp e<sup>-</sup>'s. These are in sp<sup>2</sup> hybrids that are  $\perp$  to the  $\pi$  system

Practice Energies of Resonance Contributors

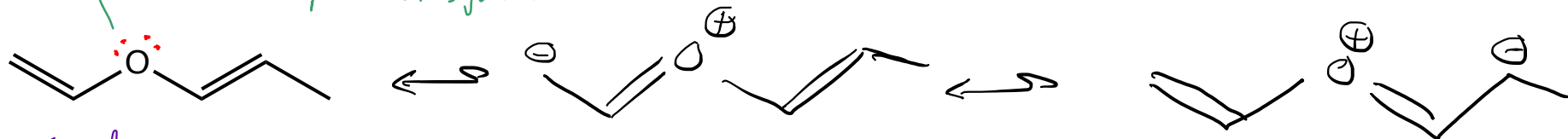
Section 8.5 & 8.6

lone-pair  $e^-$ 's in  $sp^2$  hybrid  $\perp$  to  $\pi$  system... don't use



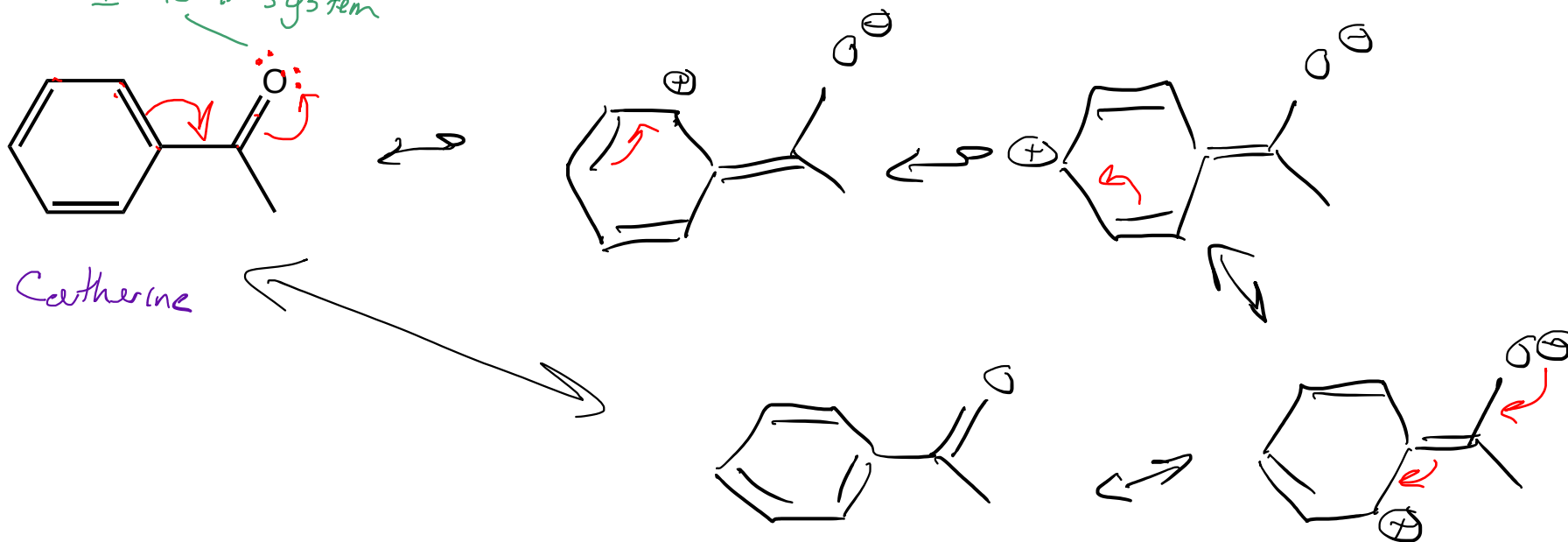
Raguel

lone-pair  $e^-$ 's free to line up with  $\pi$  system



Syed + Cable

lone-pair  $e^-$ 's in  $sp^2$  hybrids  $\perp$  to  $\pi$  system



Catherine