(12) **Today**

Sections 2.4 - 2.6
Electron Delocalization

Bring Modeling Kits

Sections 2.7 – 2.11
Acids and Bases

Next Class (13)

Sections 2.4 - 2.6
Resonance/Electron Delocalization

Bring Modeling Kits

Sections 2.7 – 2.11
Acids and Bases

(14) **Second Class from Today**

Test 1
Chap 1 and Chap 2.1 - 2.6

Third Class from Today (15)

Sections 2.7 – 2.11
Acids and Bases

Section 2.12
Noncovalent Interactions Between Molecules

Review session on Thursday at 7:30 pm in Wilson 304

Whenever 3 or more p orbitals are in a row, experiments and MO theory say that the electrons are delocalized over all of the p orbitals.

This is a reactive intermediate ... the C is ⊕ and has only 6 v e⁻'s

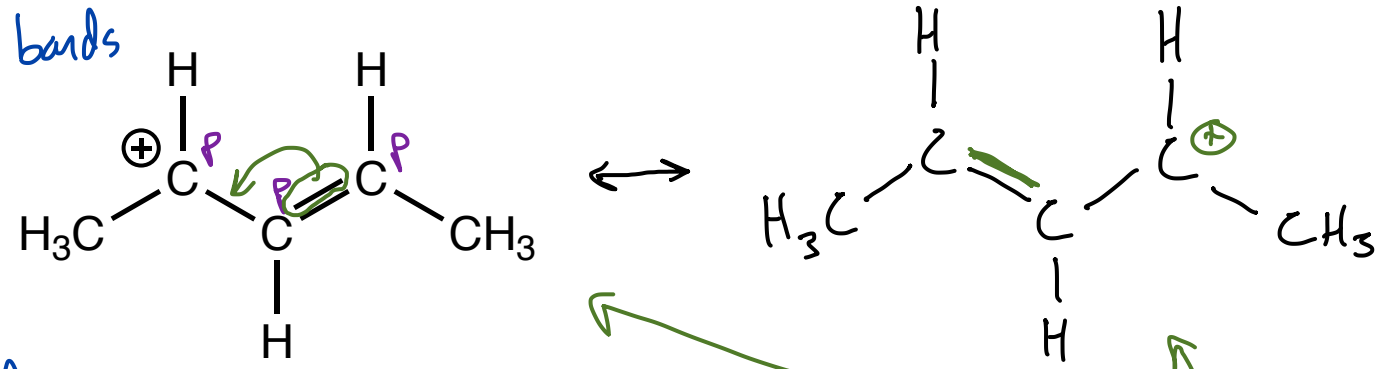
there are 3 σ bonds
need 3 HO's

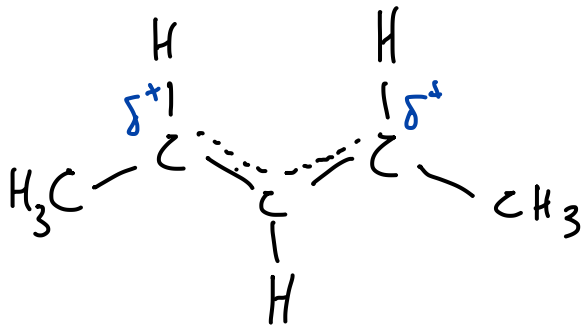
2s + 2p + 2p

⇓

sp^2 hybridization

one unhybridized p orbital
+ it is empty



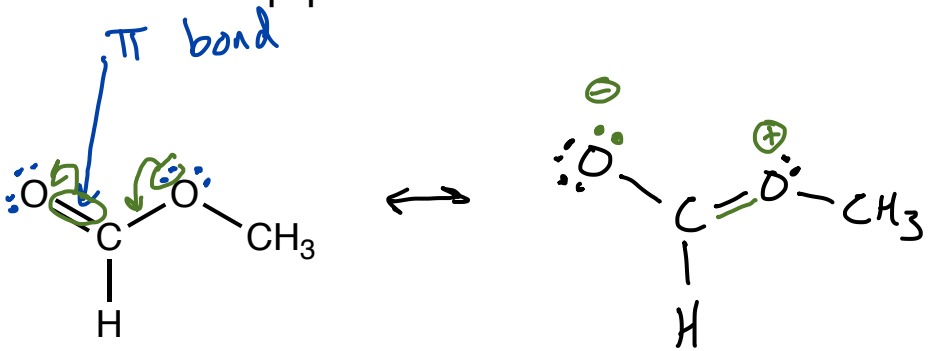


equal weight in the average

equal importance in understanding our molecule

Rules for drawing Resonance Contributors

1. **atoms don't move**, only electrons
2. **don't move σ bonds**, only π bonds, lone pair e–'s, or unpaired e–'s (radicals)
3. the total number of electrons must stay the same, **don't change the net charge**
4. p orbitals must be able to line up parallel to each other

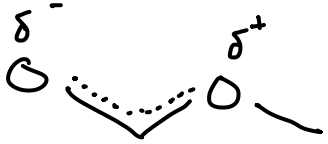


charge separation

⊖ charge on an O

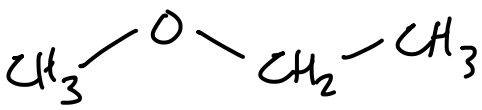
so this contributor with 2 issues is higher in E than the other one

any contributor with 3 issues does not help us understand the molecule so don't draw it



and this resonance hybrid

therefor, the molecule more strongly resembles the contributor that is lower in E



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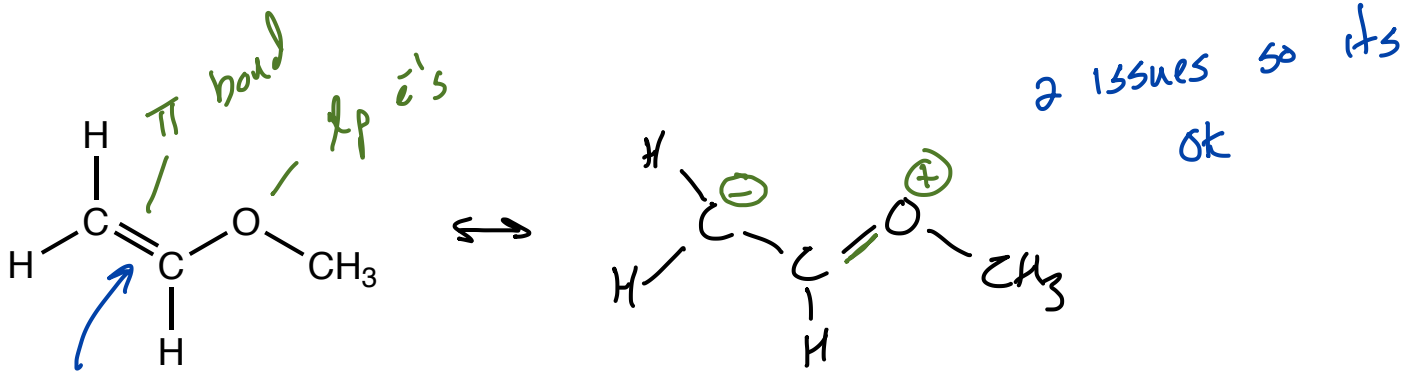

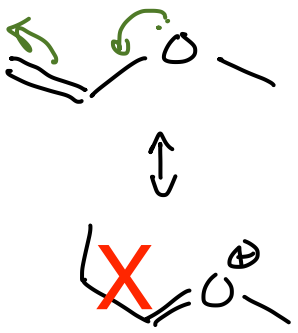

without drawing dots how do I show that the C has a set of lone-pair e's? write the formal charge

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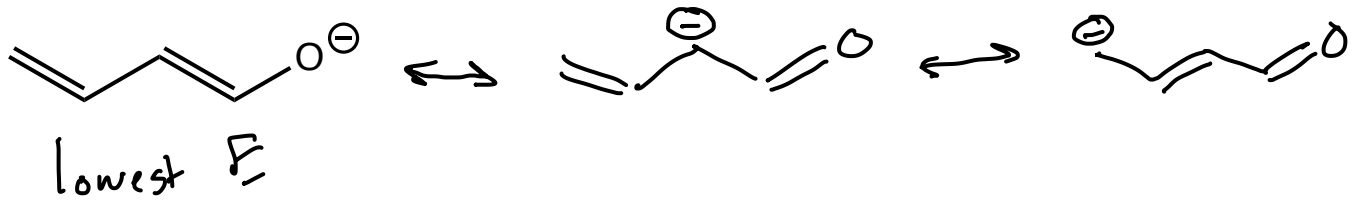

lowest E

a ⊖ on O is lower in E than a ⊖ on C