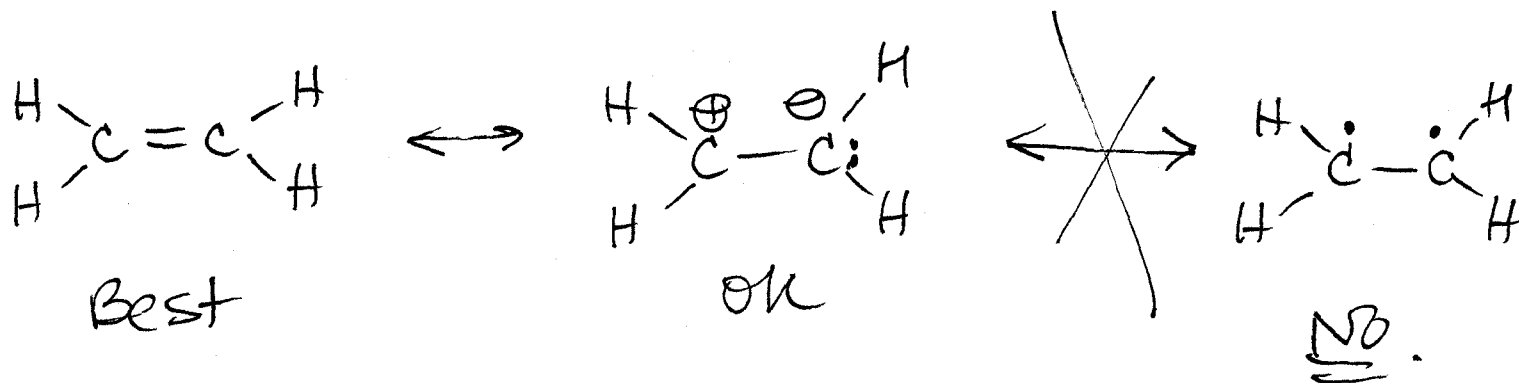
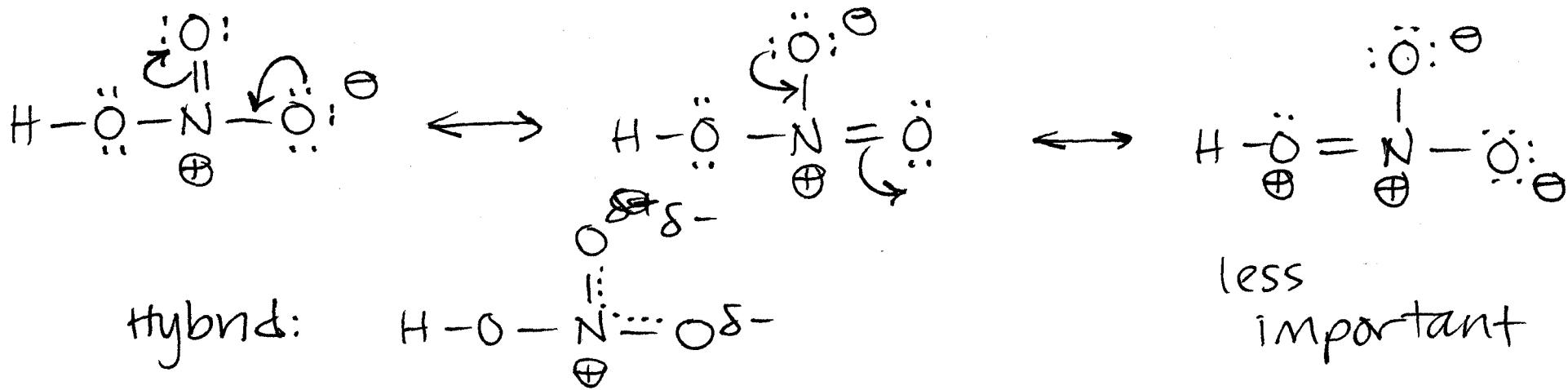
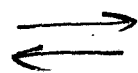


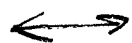
1. Resonance structures only exist on paper! Reality is a hybrid. The more stable a Lewis structure is in and of itself, the greater its contribution to that reality.
2. You can't move the atoms, only the electrons. (Corollary - only move electrons in multiple bonds or lone pairs, leave the single bonds alone.)
3. Don't violate the octet rule! All resonance structures must be proper Lewis structures.
4. A few comments on stability:
 - a. The more covalent bonds a structure has, the more stable it is.
 - b. Structures with complete octets are more stable than structures that do not have complete octets on all atoms.
 - c. When there is more than one possible structure that satisfies the octet rule, the "best" Lewis structure (and hence the one that contributes most to the overall "real" picture of the molecule or ion) is the one that has the smallest separation of oppositely charged atoms. Charge separation destabilizes molecules.
 - d. Given a choice, the "best" Lewis structure is that one where the negative charge is on the more electronegative atom (and the positive charge is on the less electronegative atom).
5. Each contributing Lewis structure must have the same number of electrons and the same overall charge (although formal charges can vary).
6. Each structure must have the same number of unpaired electrons.
7. Electron delocalization stabilizes a molecule. The true picture of the molecule is a combination of all "good" Lewis structures for that molecule, and the energy of that molecule is lower than might be predicted for the individual resonance structures.



ANSWERS.



equilibrium



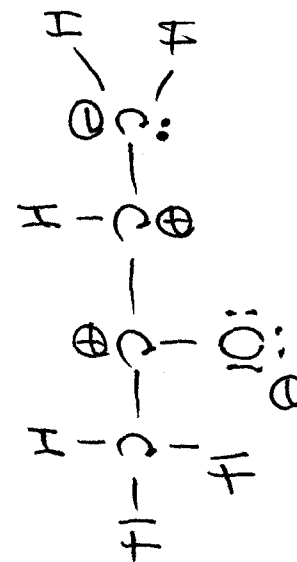
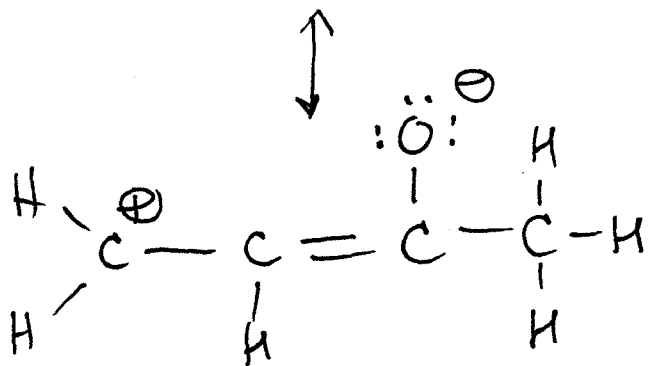
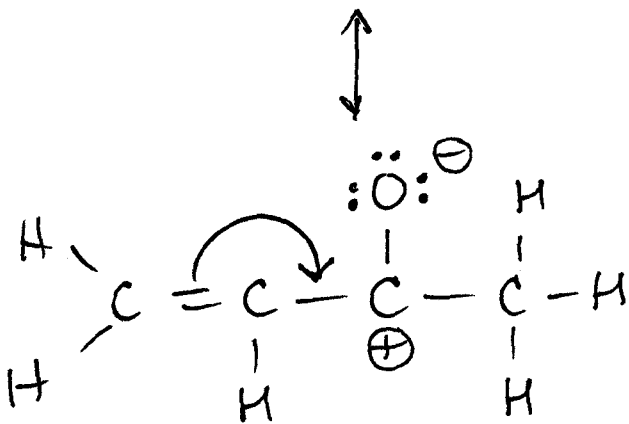
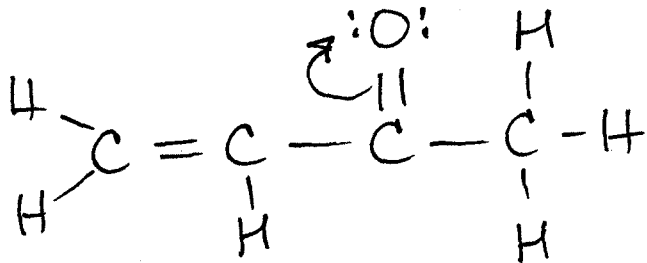
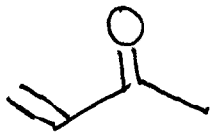
resonance



show the movement of pairs of e's.



shows the movement of a single e!



HYBRID:

