CHEM 302

Organic Chemistry I

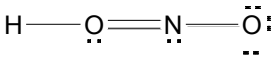
Problem Set I

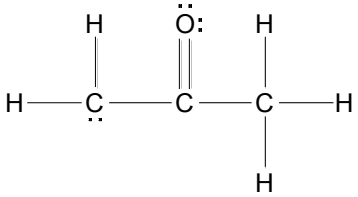
Chapter 1

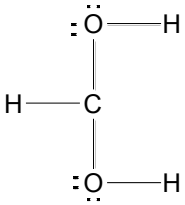
Introduction: Here are some extra problems on which you can work to give you more practice. These will not be graded, but you should still work on them seriously. Answers will result soon.

1) Add charges to the atoms in the following structures. Then use the arrow formalism to convert each completed Lewis structure into another resonance form.

a)

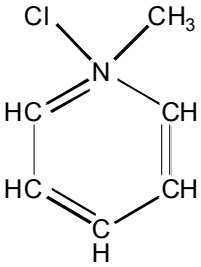
b) 

c) 

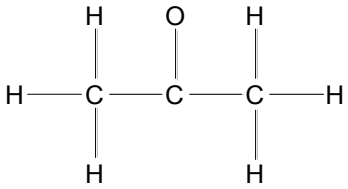
d) 

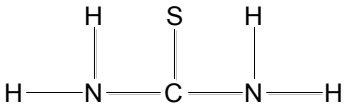
2) Use the "up" and "down" arrows to indicate electron spins and write the electron configuration for each of the atoms in KF and $MgBr_2$.

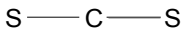
3) The following is not an acceptable Lewis structure. Why not?

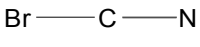


4) Draw acceptable Lewis structures of the following compounds by adding all the necessary nonbonding electrons and multiple bonds.

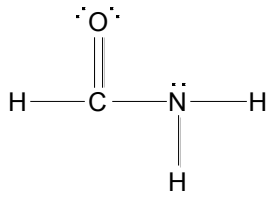
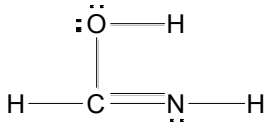
a) 

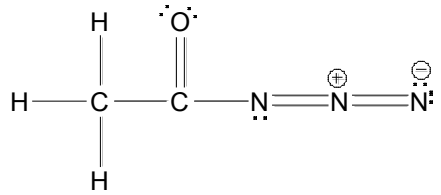
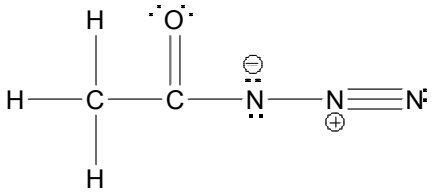
b) 

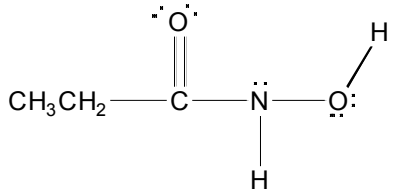
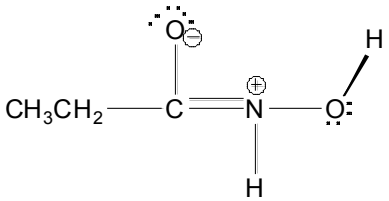
c) 

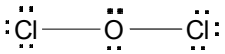
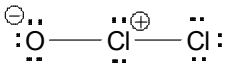
d) 

5)Which of the following pairs are *not* resonance structures? Explain.

a)  and 

b)  and 

c)  and 

d)  and 

6) Consider only the 2*p* electrons and construct the molecular orbital diagram for a positively charged oxygen molecule, O_2^+. (The molecular orbitals that involve the 2*s* electrons do not contribute to the overall bonding.)