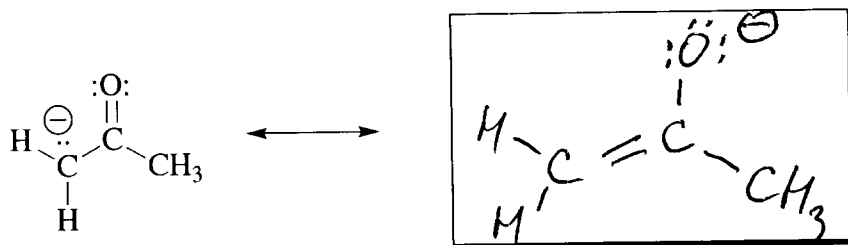
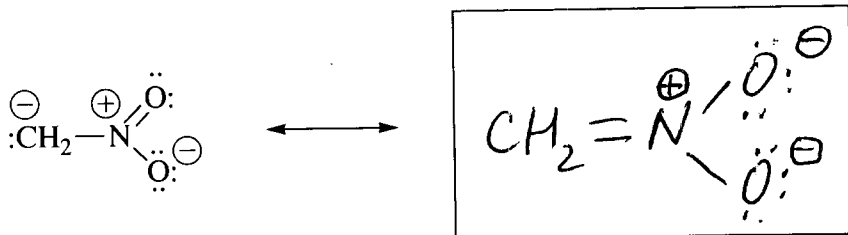
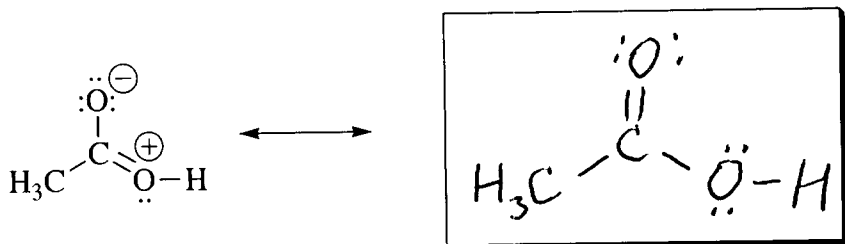


Printed Name (Last, First)

Key

1. (12; 4 pts each) In the provided boxes, draw **one**, the most important **resonance contributor** for each of the following species. (Make sure to show non-bonding electrons and formal charges, when appropriate)



2. (3) What is the approximate C-C-C bond angle in propyne, $\text{CH}_3\text{C}\equiv\text{CH}$

109.5°

180°

120°

90°

60°

160°

140°

3. (4) Circle the structure of the compound that has **dipole moment $\mu = 0$ D**:

HCN

H₂CO

BF₃

CHCl₃

CF₂Br₂

CH₃OCH₃

H₂O

NH₃

4. (3) Circle the structure of the compound that has the functional group of a **ketone**:

CH₃COOH

CH₃CO₂CH₃

CH₃OCH₃

CH₃COCH₃

CH₃OCH₂CHO

CH₃CONH₂

5. (3) Circle the structure of the compound that has the **most polar** covalent bond:

H₂O

HF

CH₃Li

BH₃

CH₃F

NH₃

NF₃

F₂O

F₂