## **Carbon Structures and Functional Groups**

For problems 1-4, refer to these compounds

H<sub>3</sub>C 
$$\stackrel{\text{H}_2}{\sim}$$
 C  $\stackrel{\text{H}_2}{\sim}$  CH<sub>3</sub>

$$H_3C$$
  $C^2$   $C^2$ 

1. Convert each of the following condensed structures to a skeletal structure. Remember that lone pairs should always be shown.

2. Name each of the compounds.

3. Draw one isomer of each compound from problem 1. State whether it is a structural or stereoisomer.

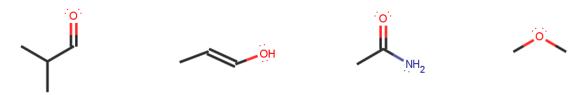
4. Which compound is will have the highest solubility in water? Explain your answer.

5. Draw the skeletal structure of a four carbon compound that contains each functional group.

Alcohol Amine Amide Ether

Carboxylic Acid Ester Aldehyde Ketone

Refer to these compounds for the remaining questions:



6. Convert each of these structures to a condensed Lewis structure. Remember that lone pairs should always be shown.

- 7. Identify the common functional group present on each compound.
- 8. Draw one isomer of each compound. If the type of functional group changes, determine what the new group is.