

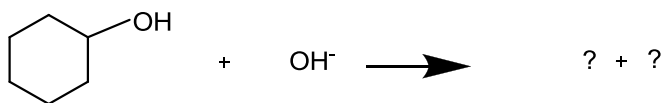
## CHE 240 Unit I Practice

- 1 For the 2 line angle structures below, draw the Lewis molecular structure, name the compounds, which is more volatile?, which has highest BP? Water solubility?

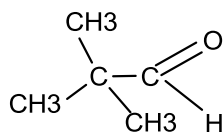


- 2 Consider the following structure  $\text{H}_2\text{C}=\text{O}$   
What is the hybridization of the carbon atom?  
What is the H-C-O bond angle?  
What is the functional group?  
What orbitals overlap in the C-H bonds?

- 3 Draw the products of the acid base reaction of cyclohexanol and hydroxide ion.

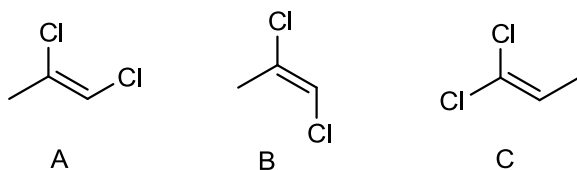


- 4 Draw the condensed structural formula for the Lewis structure below.



- 5 Rank the basicity of the following ions.  
 $\text{OCH}_3^-$   $\text{Cl}^-$   $\text{CH}_3^-$

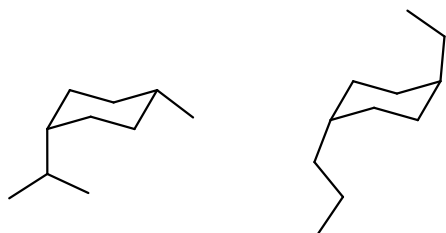
6 Consider the following 3 compounds A, B, and C



Name each compound

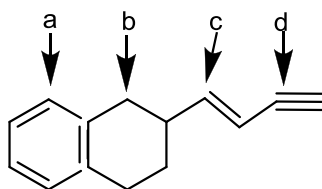
What isomeric relationship exists between A-B? A-C? B-C?

7 Name the following 2 substituted cyclohexanes.



8 Draw Newman projections for, name, and rank in potential energy, the 4 conformations of butane.

9 Consider the structure below:



How many sigma bonds? pi bonds? Single bonds? double bonds? triple bonds?

What is the hybridization of carbons a.b.c.d?