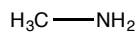
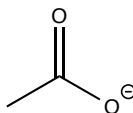
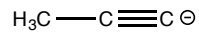
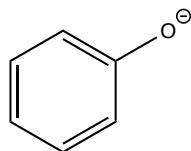
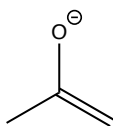
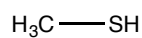
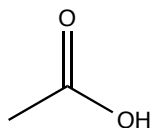
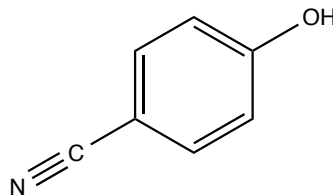
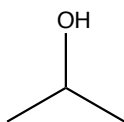
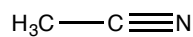
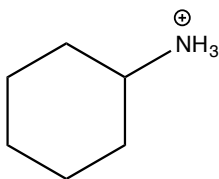


Practice Problems

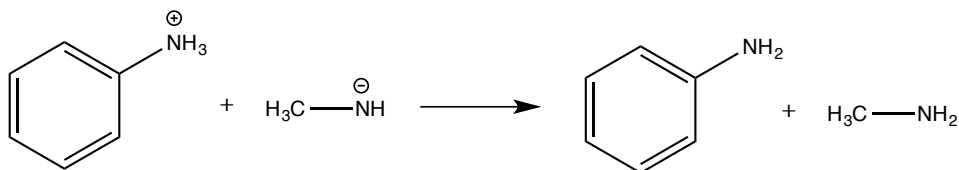
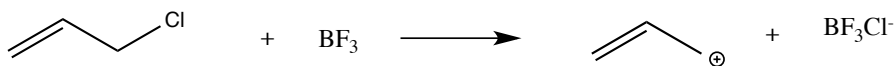
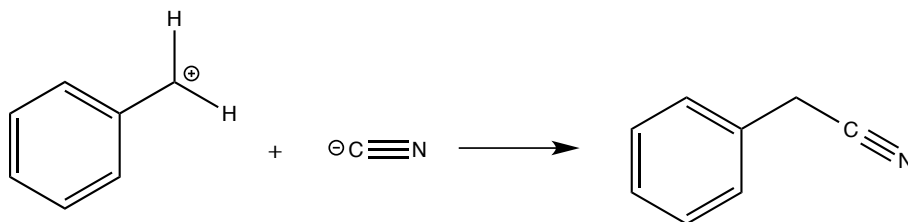
1. Draw the structure of the conjugate acid of each of the following ions or compounds.



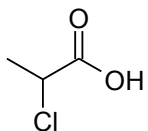
2. Draw the structure of the conjugate base of each of the following ions or compounds.



3. Classify each compound as a Lewis acid or Lewis base in the reactants.

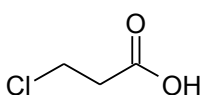


4. Assign the pK_a s to the structures; $pK_a = 3.98$ and 2.83 .



A

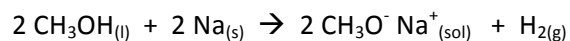
$pK_a = \underline{\hspace{2cm}}$



B

$pK_a = \underline{\hspace{2cm}}$

5. When sodium metal reacts with methanol hydrogen gas evolves from the solution and sodium methoxide is formed according to the following reaction:



Write a similar chemical reaction with NH_3 .

6. The pK_a s of two acids are shown below.

HCOOH $pK_a = 3.75$

$\text{CH}_3(\text{CH}_2)_{14}\text{COOH}$ $pK_a = 6.76$

Will a chemical reaction occur if $\text{CH}_3(\text{CH}_2)_{14}\text{COO}^- \text{Na}^+$ is added to a solution of HCOOH ? Explain.