## FATTY ACID ESTERIFICATION AND LIPID HYDROLYSIS WORKSHEET

- 1. Complete the following esterification reaction.
- 2. Write the names of the reactants under the structures (look up fatty acid names on handout).
- 3. Write the name of the classification of lipid in each of the following.

- 1. Circle the amide bond (label with a AM), anhydride bond (label with an A) and/or the ester bond (label with an E) in each of the following reactant molecules.
- 2. Draw the structures of the products for each of the following reactions.
- 3. Write the name of the fatty acid products.

$$N(CH_3)_3^+$$
 $O_2C$ 
 $O_2$ 
 $O_2$ 
 $O_2$ 

HO CH CH=CH(CH<sub>2</sub>)<sub>12</sub>CH<sub>3</sub>

$$O = P - O - CH2$$

$$O = P - O - CH2$$

$$O = CH2 + 3NaOH$$

$$O = CH2CH2N(CH3)3$$

$$\begin{array}{c|c} CH_2 & CH_2 & CH_3 \\ CH_2 & CH_2 & CH_3 \\ CH_2 & CH_2 & CH_3 \\ \end{array} \qquad \begin{array}{c|c} HCI/\Delta \\ \end{array}$$

$$O$$
  
 $\parallel$   
 $CH_3(CH_2)_{29}OC(CH_2)_{14}CH_3$  + NaOH  $\longrightarrow$