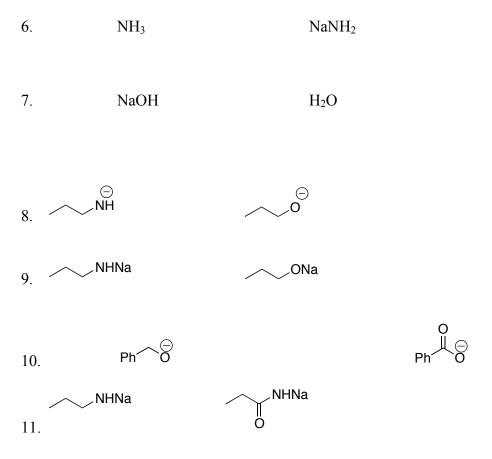
## A. Identify each chemical as either an "acid" or a "base" in the following reactions, and identify "conjugate" relationships.

-You should have one acid and one base on each side

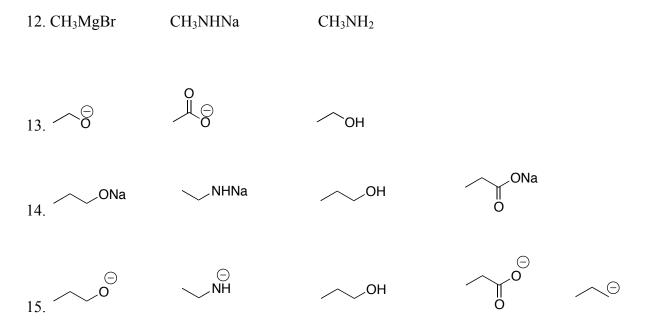
-You should have two conjugate pairs

1. 
$$CH_3CH_2OH + NaOH \longrightarrow CH_3CH_2ONa + H_2O$$
  
2.  $CH_3CH_2NHLi + CH_3OH \longrightarrow CH_3CH_2NH_2 + CH_3OLi$   
3.  $CH_3CH_2CO_2H + CH_3MgBr \longrightarrow CH_3CH_2CO_2MgBr + CH_4$   
4.  $CH_3OH + H_3O^+ \longrightarrow H_2O + CH_3OH_2^+$   
5.  $CH_3CH_2NH_3^+ + CH_3OH \longrightarrow CH_3CH_2NH_2 + CH_3OH_2^+$ 

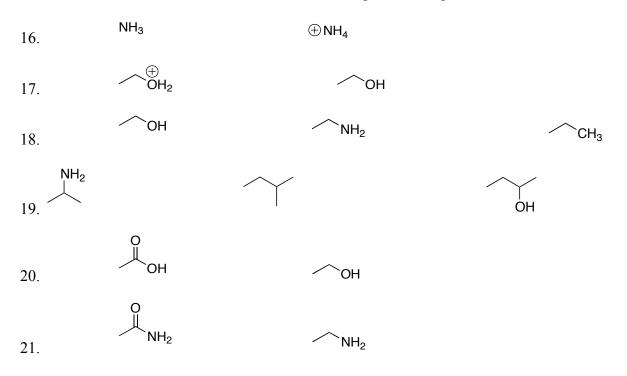
B. Choose the More Basic for Each of the Following Pairs (Single Variable). You can use stability to decide.



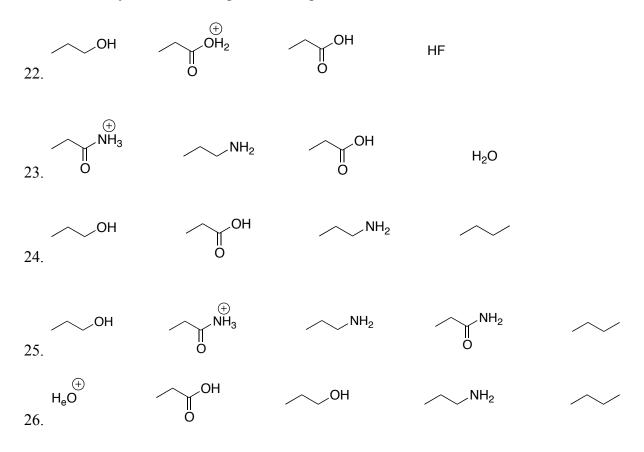
## C. Rank the basicity of the following sets: Multiple Variable Problems



D. Choose the More Acidic for Each of the Following Pairs: Single Variable Problems



## E. Rank the acidity of the following sets: Multiple Variable Problems



F. Draw arrow to show whether equilibrium favors products or reactants. (Why?)



- G. For the following acid-base reaction,
  - a. put a box around the weakest base in the reaction
  - b. put a circle around the weakest acid
  - c. draw an arrow to show whether the equilibrium goes to the right or left. (4pt)

29. OH	+	NHNa	ONa +	<u>NH</u> 2
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