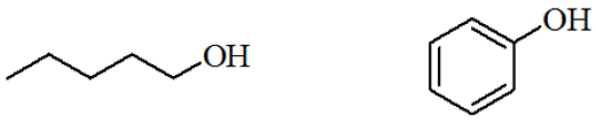
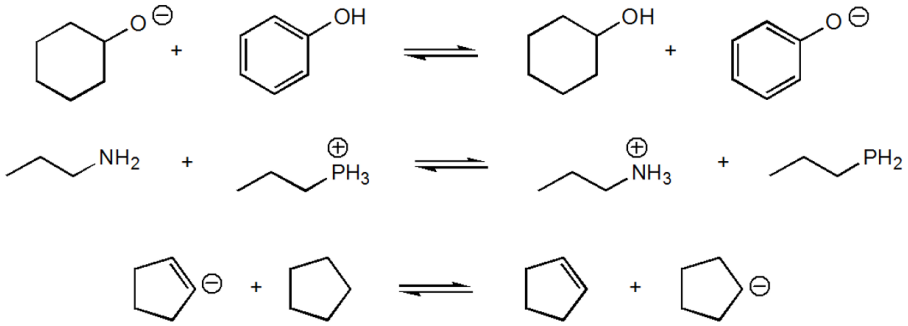
Acid Strength

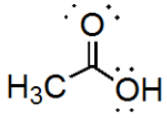
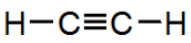
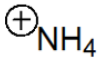
1. For the two molecules below, one is approximately 6 orders magnitude more acidic than the other. Which compound is more acidic? Explain this difference.



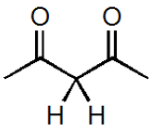
2. For the following reactions, predict on which side the equilibrium should lie. Give a brief explanation for your reasoning.



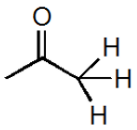
3. Draw the conjugate base for the following acids.

Acid	pKa	Conjugate Base
	4.8	
	25	
	15.7	
	9.2	
	3.2	

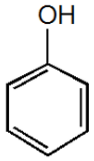
4. For the following compounds, circle the one that is more acidic. Briefly explain why your choice is the more acidic one. Your answer should involve basic principles (not just based on the pKa's given) and you should probably include some pictures.



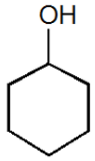
pKa = 10



pKa = 20

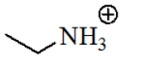


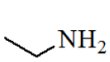
pKa = 10

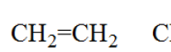


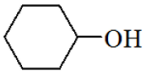
pKa = 16

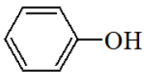
5. Circle the stronger acid in each pair below.



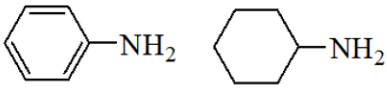


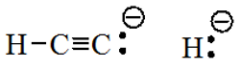


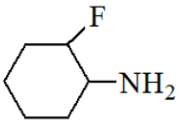


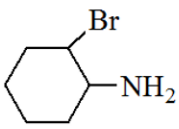


Circle the stronger base in each pair below.

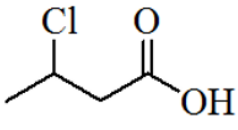


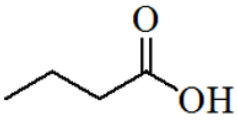






Circle the molecule below with the stronger conjugate base.





6.

Predict the products of the following acid-base reactions.