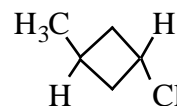
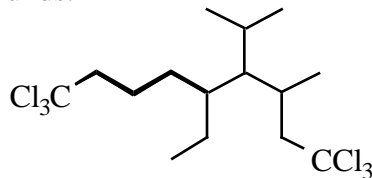
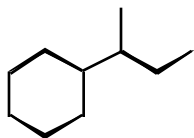


## Test #1

(6 pts) 1. Name the following compounds.



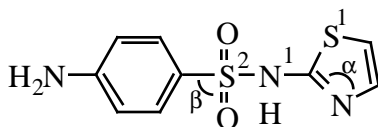
(6 pts) 2. Draw a skeletal structure for the following compounds.

1,1-dicyclobutylethane

$\text{CH}_3\text{CH}_2\text{CHCHCHO}$

*tert*-butylchloride

(15 pts) 3. Indicate the hybridization of the atoms and bond angles as indicated below.



sulfathiazole  
(a sulfa drug)

hybridization of:  $\text{S}^1$  \_\_\_\_\_

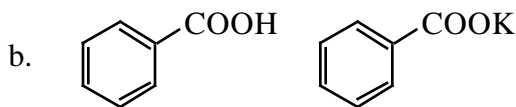
$\text{S}^2$  \_\_\_\_\_

$\text{N}^1$  \_\_\_\_\_

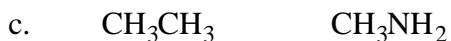
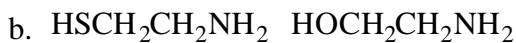
bond angles of :  $\text{CN}^\alpha\text{C}$  \_\_\_\_\_

$\text{CS}^\beta\text{O}$  \_\_\_\_\_

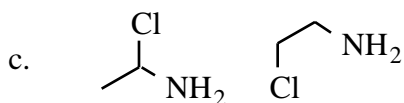
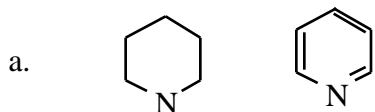
(9 pts) 4. Circle the more volatile compound in each group below. Explain your prediction.



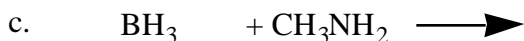
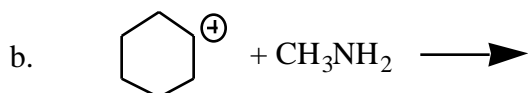
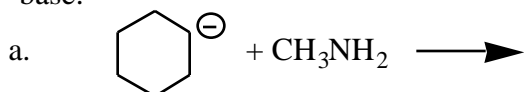
(9 pts) 5. Circle the stronger acid in each pair. Explain your prediction.



(9 pts) 6. Circle the stronger base in each pair. Explain your prediction.

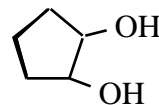
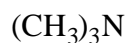


(9 pts) 7. Predict the product(s) for the following reactions and label each reagent as a Lewis acid or Lewis base.

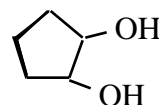
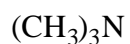


(16 pts) 8. Draw all the isomers of  $\text{C}_4\text{H}_8\text{Cl}_2$  (I got 9)

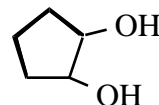
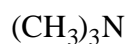
(15 pts) 9. a. Circle the compounds you expect to be soluble in water.



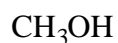
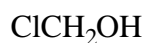
b. Circle the compounds you expect to be soluble in diethylether.



c. Circle the compounds you expect to be soluble in pentane.



(6 pts) 10. a. Which of the following is more acidic? Explain



b. Which of the following is more basic? Explain

