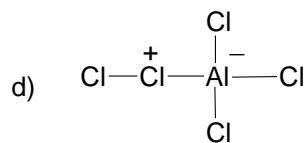
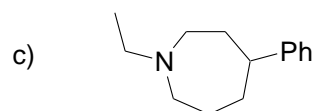
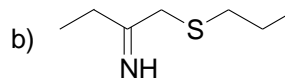
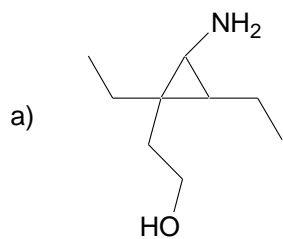


2007 Mechanisms Quiz #1 20 points

NAME: _____

1-4) Draw in all the lone pairs for the following molecules:



5-8) What is the hybridization of:

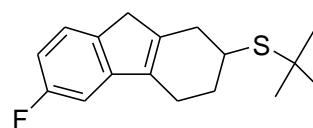
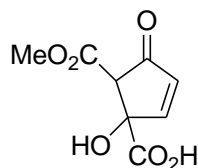
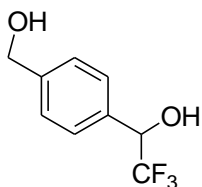
the Nitrogen in (a)

the Nitrogen in (b)

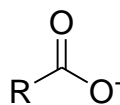
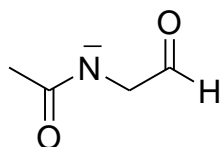
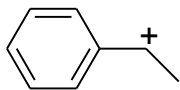
the Nitrogen in (c)

the left hand side Chlorine attached to the positive Chlorine in (d).

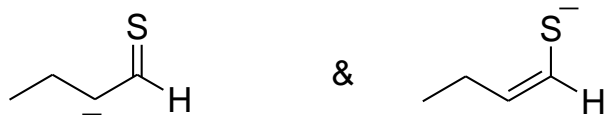
9-11) Circle the most acidic hydrogen in each of these molecules.



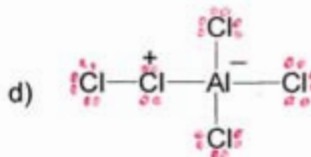
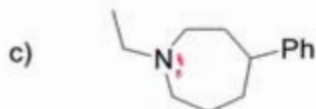
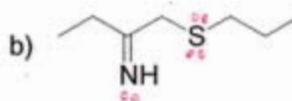
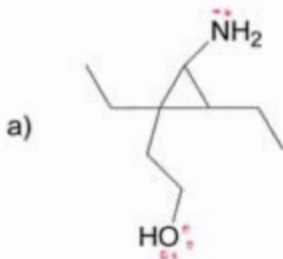
12-17) Draw all the resonance structures for the following species, and draw curly arrows to show the electron reorganization.



18-20) Indicate whether the pairs shown are **tautomers** or **resonance structures**.



1-4) Draw in all the lone pairs for the following molecules:



5-8) What is the hybridization of:

the Nitrogen in (a)

sp^3

the Nitrogen in (b)

sp^2

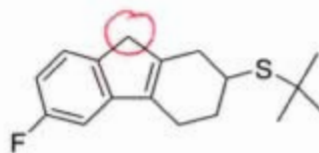
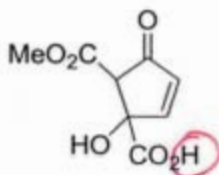
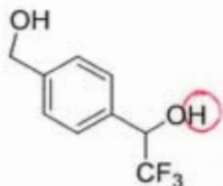
the Nitrogen in (c)

sp^3

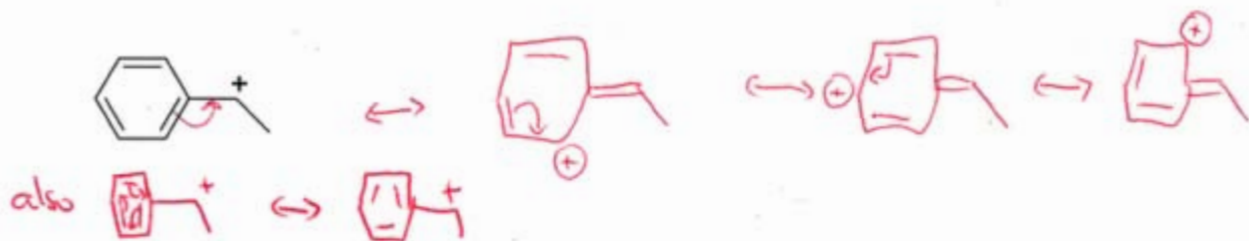
the left hand side Chlorine attached to the positive Chlorine in (d).

sp^3

9-11) Circle the most acidic hydrogen in each of these molecules.



12-17) Draw all the resonance structures for the following species, and draw curly arrows to show the electron reorganization.



18-20) Indicate whether the pairs shown are **tautomers** or **resonance structures**.

