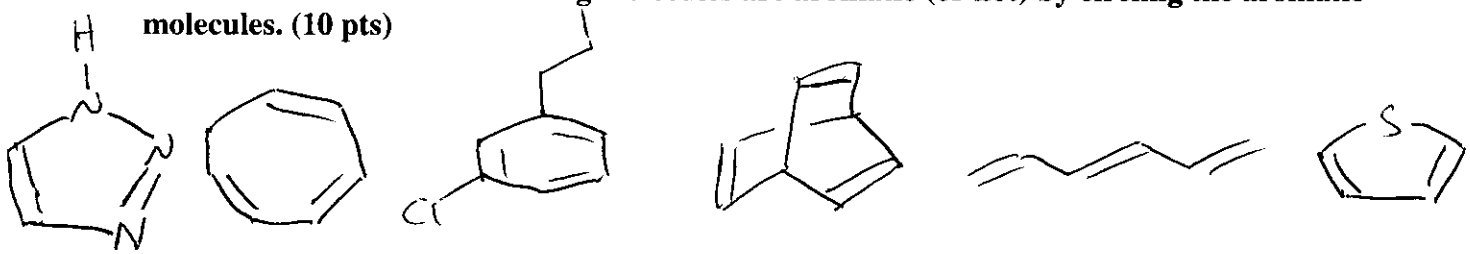
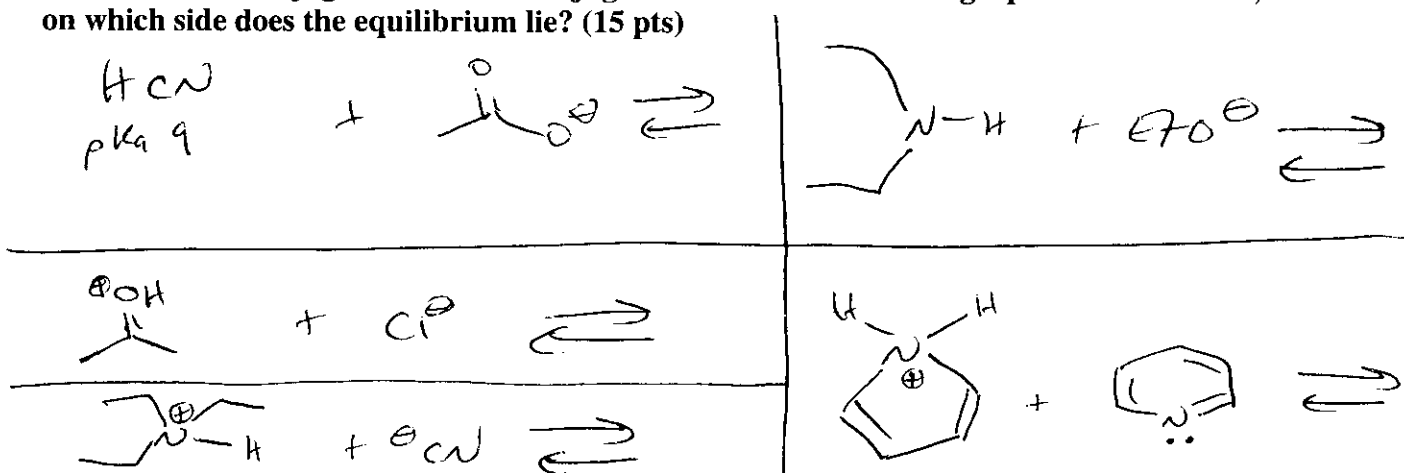
Practice Exam 1 - CHEM 322 - Spring 2005 - Dr. Neal Zondlo

1. Indicate whether the following molecules are aromatic (or not) by circling the aromatic molecules. (10 pts)

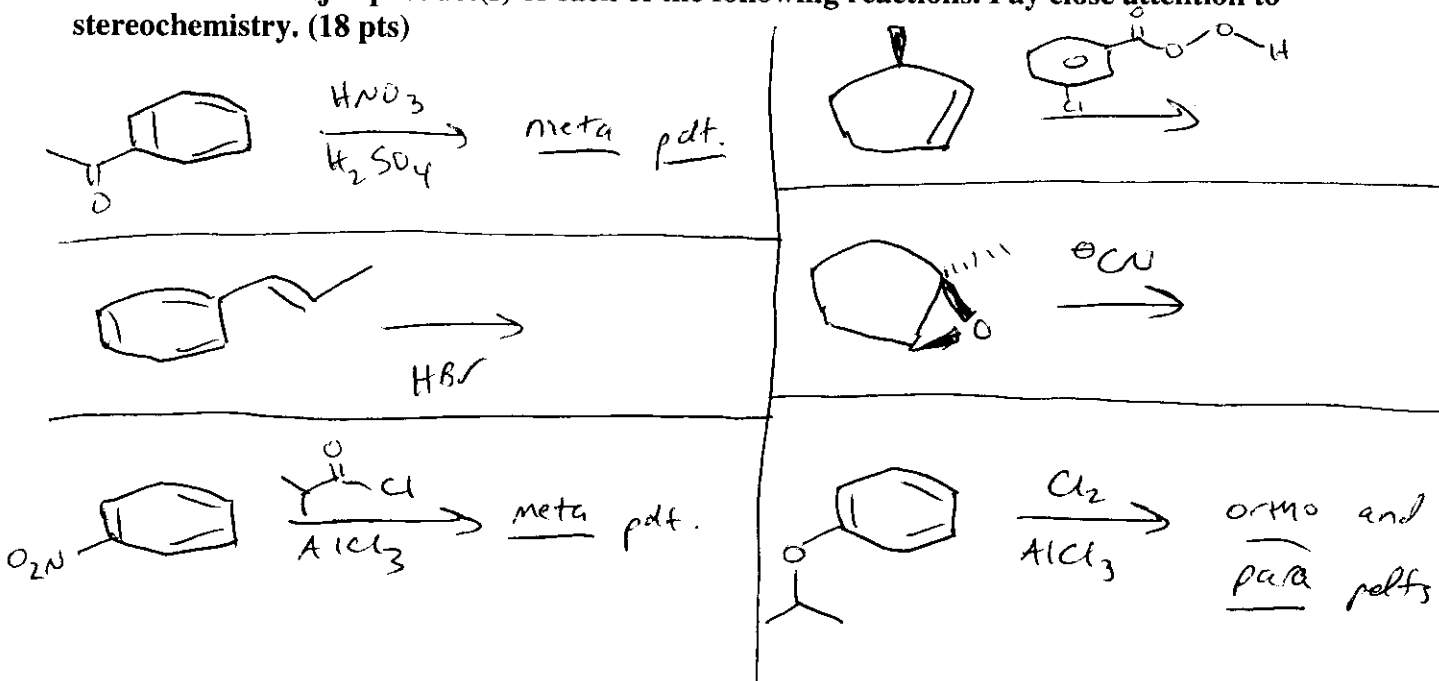


2. Use a Frost circle to indicate whether the following molecule is, or is not, aromatic. Explain you answer. (10 pts)

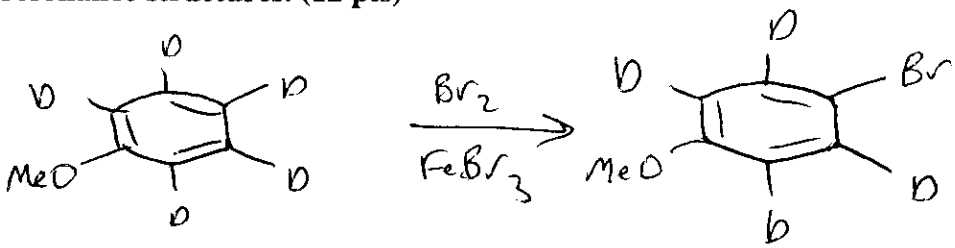
3. Indicate the conjugate acids and conjugate bases for the following equilibria. For each, on which side does the equilibrium lie? (15 pts)



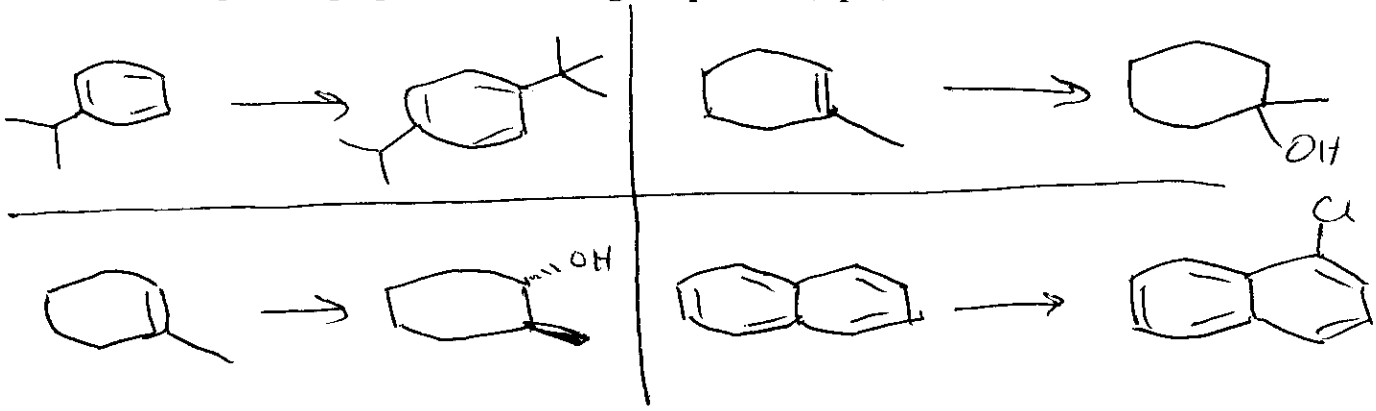
4. Indicate the major product(s) of each of the following reactions. Pay close attention to stereochemistry. (18 pts)



5. Provide a mechanism for the following reaction. For the key intermediate, draw all good resonance structures. (12 pts)



6. Provide reagents to prepare the following compounds. (8 pts)



7. Provide a mechanism for the following reaction. (12 pts)

8. Propose a synthesis for each of the following molecules using benzene, anisole (PhOMe), or an unfunctionalized alkene as the starting material. If you don't know how to complete the synthesis, you are encouraged to submit a partial synthetic scheme for partial credit. (15 pts)