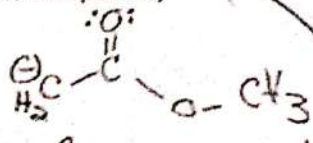
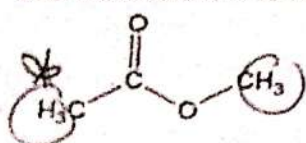


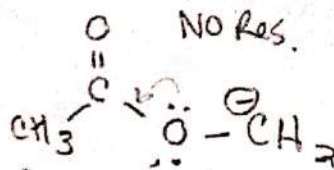
Organic Chemistry - Acid/Base Practice Problems

#1

1. Which is most acidic group of protons on methyl acetate? Explain why. (This is a flammable liquid with a smell reminiscent of some glues and nail polish.)

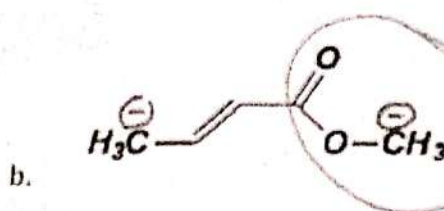
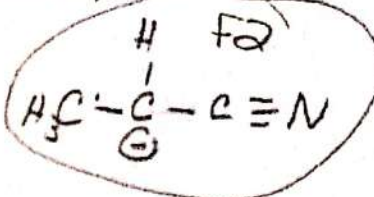
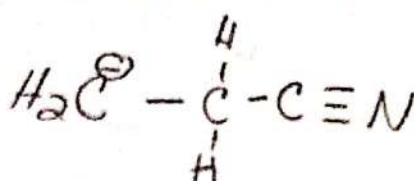
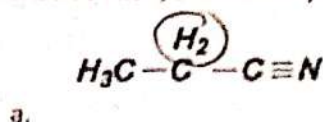


Resonance + induction

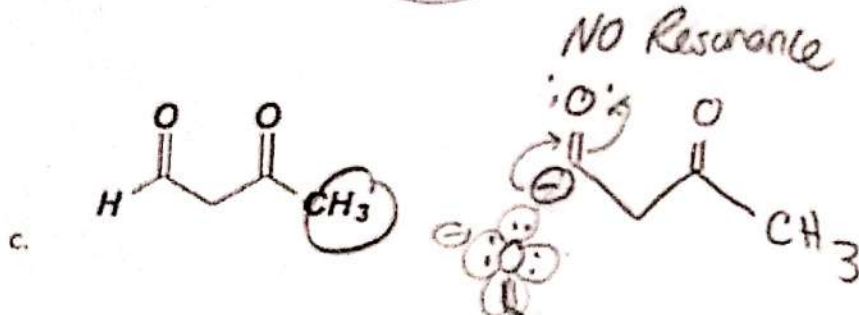


No Res.

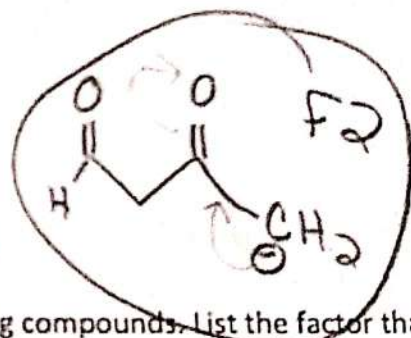
2. Draw the structures of the different conjugate bases that could result from the explicit hydrogens that are shown. Then, circle the hydrogen that would be the most acidic and explain why.



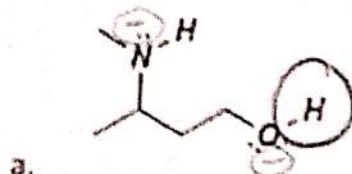
Resonance is better w/ O's



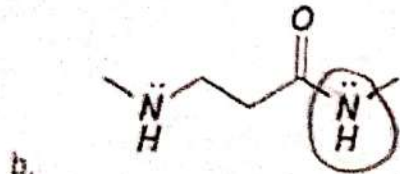
No Resonance



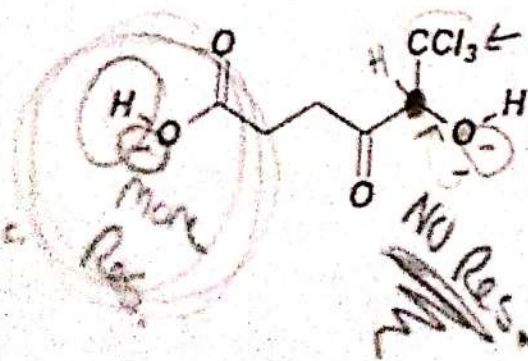
3. Circle the proton that would be the most acidic in each the following compounds. List the factor that would determine why.



Factor(s): F1 (The atom O⁻ = more stable than N⁻)



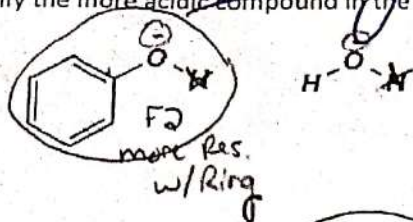
Factor(s): F2 (the R N⁻ will have Res, w/ the O)



Factor(s): F2 (more R w/ 2 O's on the L side)

4. Identify the more acidic compound in the following pairs. Explain why it is more acidic.

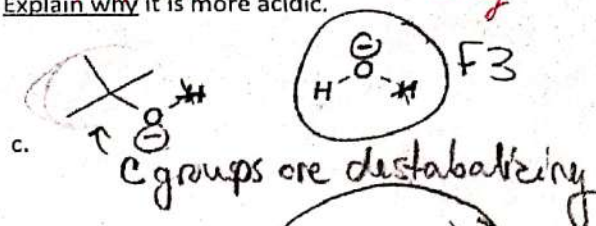
a.



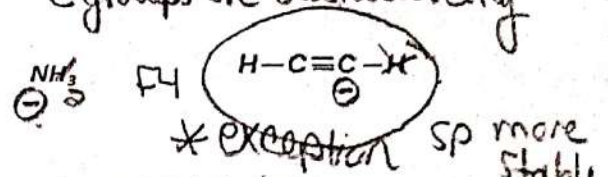
b.



c.

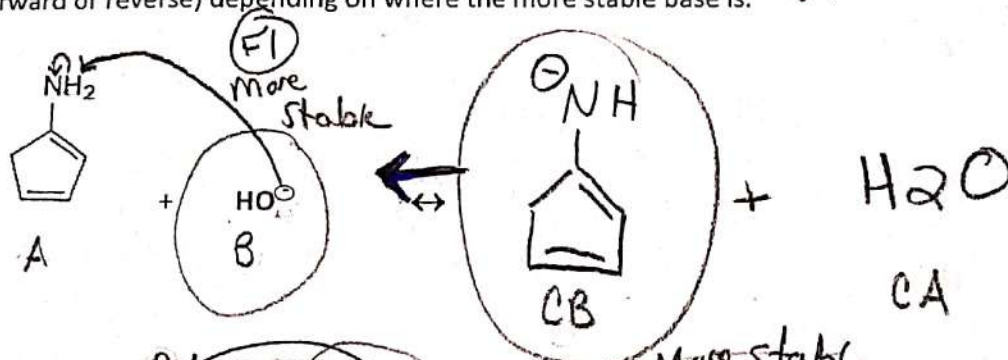


d.

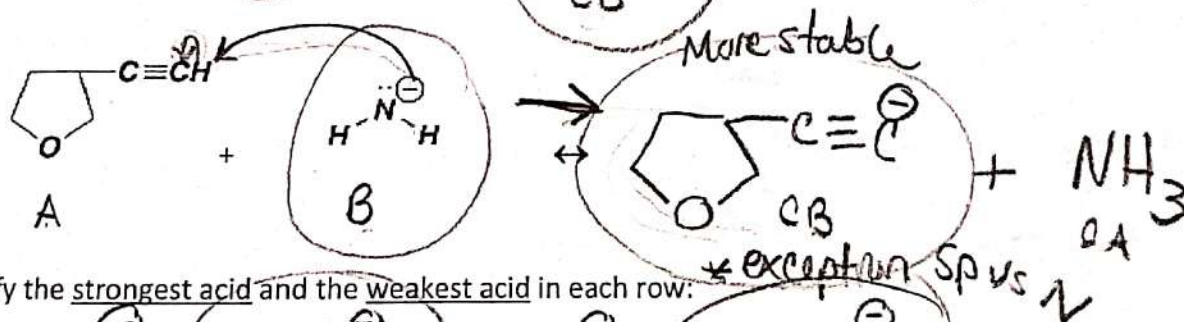


5. Draw the mechanism and predict the products for the following reactants. Label the acid, base, conjugate acid, and conjugate base (A, B, CA, CB). Make sure to include the direction that the equilibrium would shift to (forward or reverse) depending on where the more stable base is.

a.

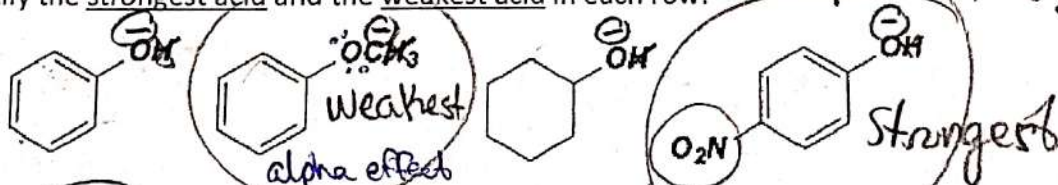


b.

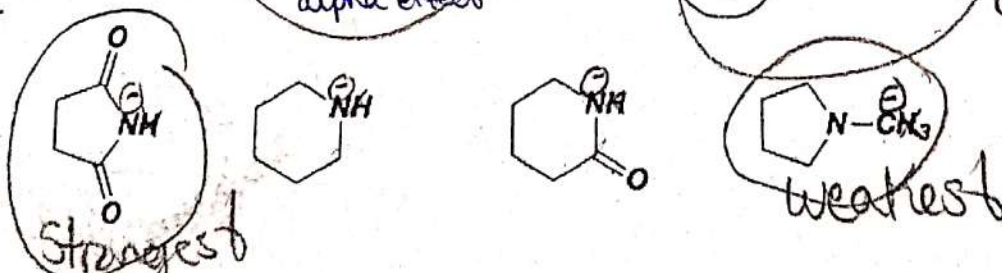


6. Identify the strongest acid and the weakest acid in each row:

a.



b.



7. Show the structures of X and Y in the following reaction. Label the A, B, CA, CB and predict the direction of the reaction.

