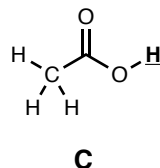
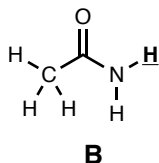
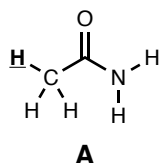


Problem Set Chapter 3

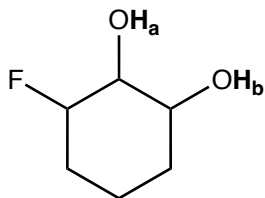
Name _____

DUE: Friday October 27 @ 8am

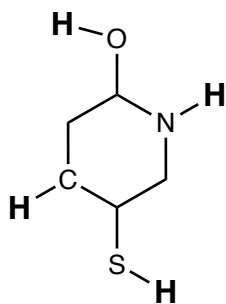
1. Rank the bold hydrogen atoms according to their acidity (most acidic >> least): (HINT: draw the conjugate base formed from each)



2. Which of the two protons is expected to be most acidic, H_a or H_b? Explain (HINT: draw the conjugate bases formed by removal of each).

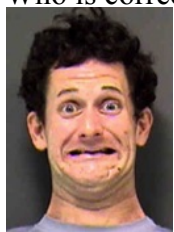


3. pK_a's for each of the bold hydrogen atoms below are provided. Assign them to the proper hydrogen atom in the molecule.

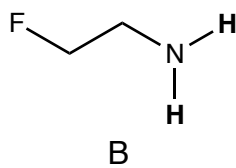
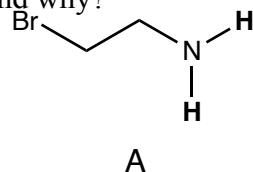


pK_a values = 35, 16, 54, 11

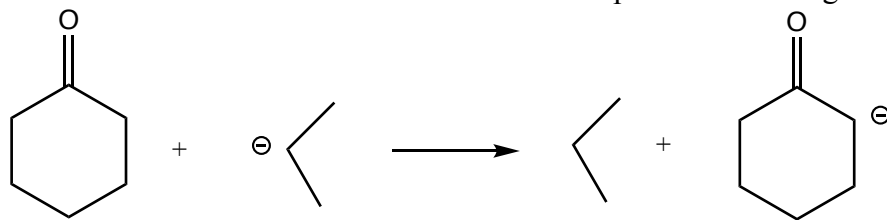
4. Jimmy said that the NH protons on compound A will be more acidic than those on compound B because of the 'atom effect' that Breton "*blabbered on about in class*". Sally, however, disagreed and said that compound B will be more acidic due to the 'inductive effect' that Breton "*eloquently discussed in class*". Who is correct and why?



Jimmy



5. The pKa's of relevant compounds are provided below. Fill in any missing lone pairs and draw the curved arrows that describe this acid-base reaction. Does the reaction proceed to the right or to the left as drawn? Explain.



pKa

20

60