

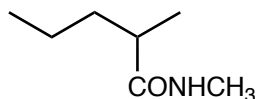
Problem Set Chapter 21

Organic Chemistry for
Life Sciences: CHM 224

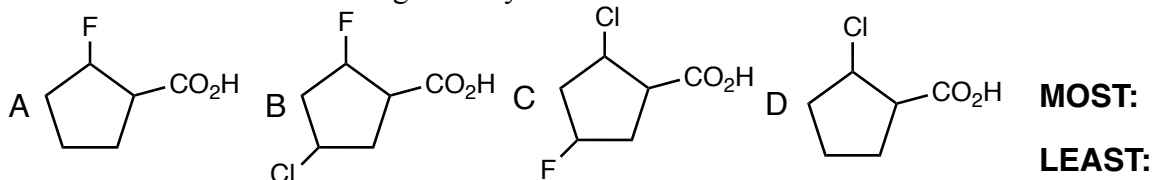
Name _____

DUE: Monday April 1 in class

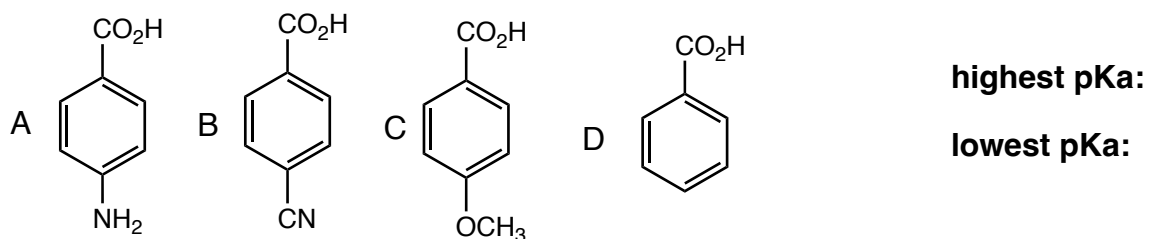
1. What is the IUPAC name of the following compound?



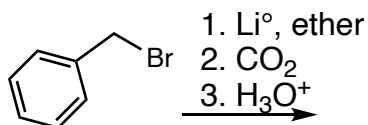
2. Which one of the following carboxylic acids is MOST acidic and which is LEAST acidic?



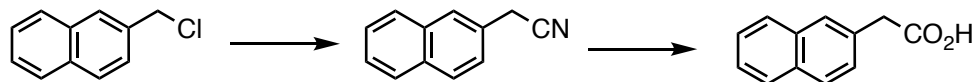
3. Which one of the following compounds will have the highest pK_a and the lowest pK_a?



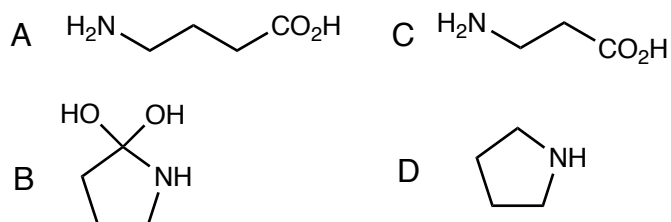
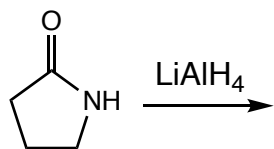
4. What is the expected product for each of the following reaction steps (keep track of the number of carbons!):



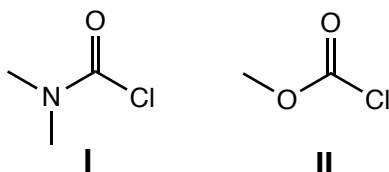
5. What reagents are required to complete the following synthesis?



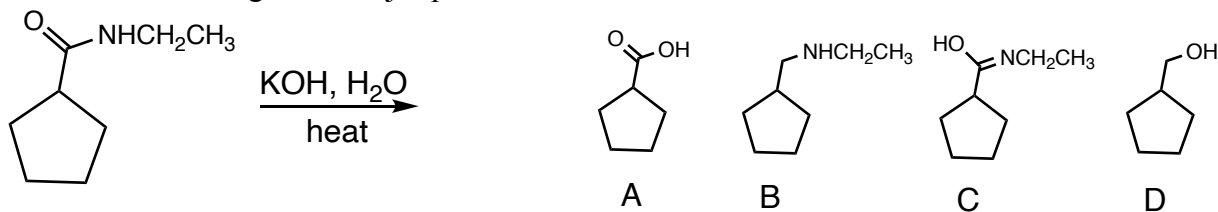
6. Which of the following is the product expected from the reaction below:



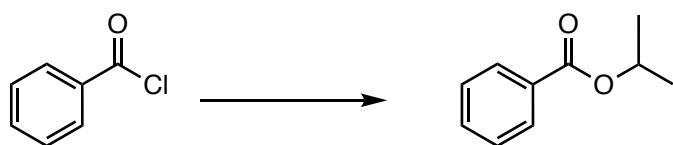
7. Which of the following compounds is expected to react faster with a nucleophile? Briefly explain.



8. Which of the following is the major product of the reaction below?



9. What reagent(s) is required to complete the following reaction?



10. Despite having similar δ^+ on the carbonyl groups, compound II was found to undergo reaction with nucleophiles at a much faster rate than compound I. Briefly explain this observation (HINT: try drawing the two molecules as space filling models using the ChemMagic program):

