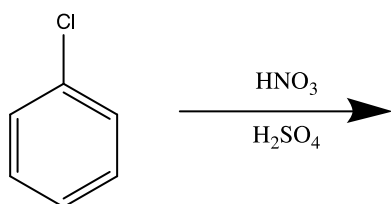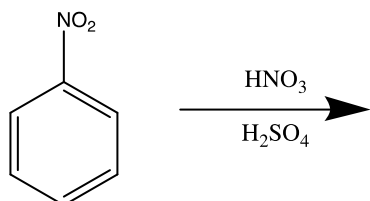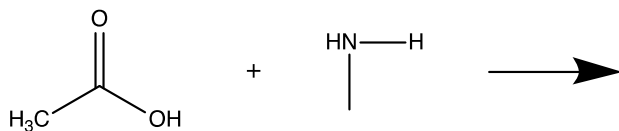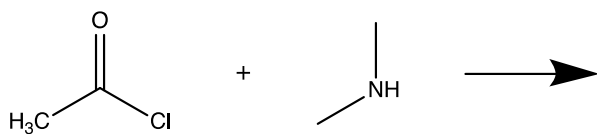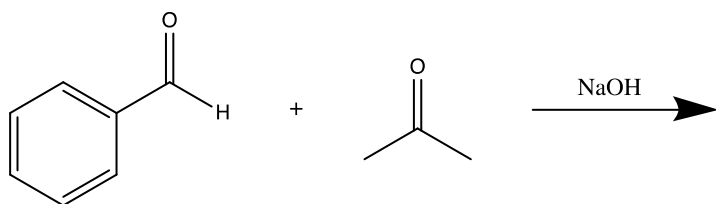# Lab Quiz 2

Name:

Section:

1. Predict the major products of these nitration reactions. If there are 2 major products then show both for full credit. (20 points)
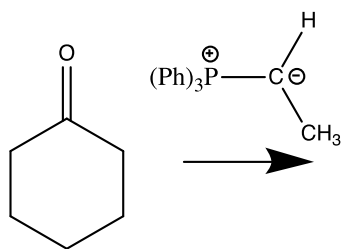

2. For these amide reactions, determine the correct products and byproducts. (20 points)

3. Show the mechanism of this aldol condensation with all byproducts and counter
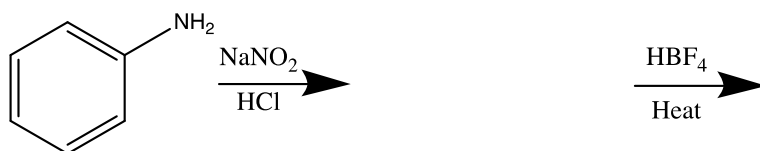   ions included. STOP at benzalacetone. (20 points)

4. Answer the following questions based on your knowledge of the Wittig reaction.
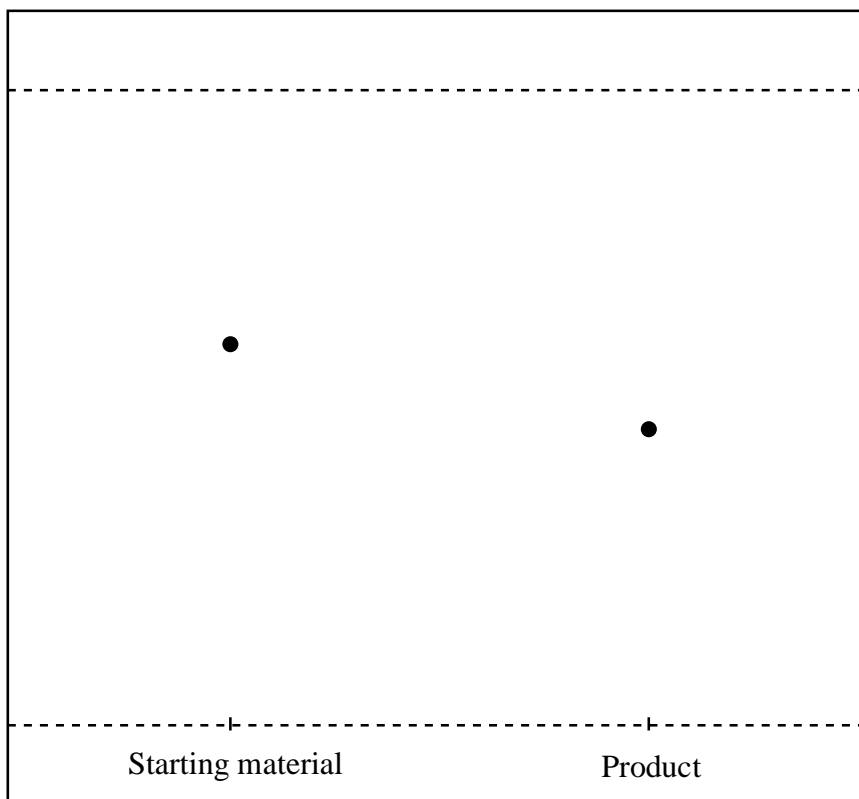   a. Determine the product. (10 points)

    b. If Jordan started out this reaction with 5.00 grams of the starting material, cyclohexanone (MW = 98 g/mol), and ended up with 3.15 grams of the product, (MW = 110 g/mol), what was his percent yield? Show your calculations with labels included for full credit. (10 points)

5. Louise learned in class that she could use arenediazomonium salts as an intermediate to add a variety of functional groups directly onto an aromatic ring. She decided to utilize this intermediate, and tried adding a fluorine atom by using the following reaction.
    a. Determine the intermediate and final product. (10 points)

b. Louise later characterized her product using TLC. Calculate the Rf value for her product. Show calculations for full credit. (5 points)

Starting material   Product

c. Circle the more polar compound on the TLC plate. (5 points)

6. ***Bonus question*** If you are characterizing the product from question 5 using ^{1}H NMR, how many signals should you expect? (Think about how many different proton environments there are.) (5 points)