



Course Name: CHEM 3013: Organic Chemistry Professor/Teacher: Dr. Bolliger

Title of Homework: Homework 5

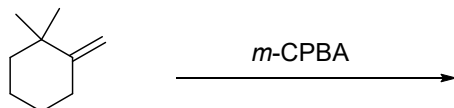
Name: _____ English Name: _____

SWJTU ID: _____ OSU ID: _____ Date: Tuesday, 01 June 2021

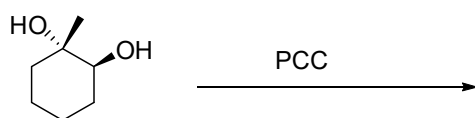
Question 1 (3 points)

What are the major products of these reactions? Pay attention to stereochemistry.

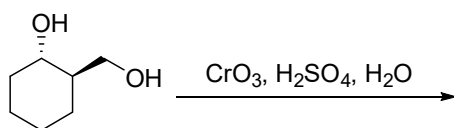
a)



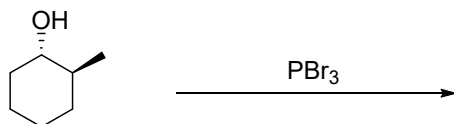
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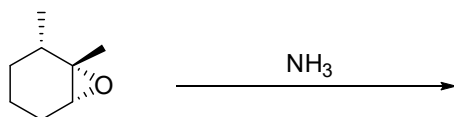
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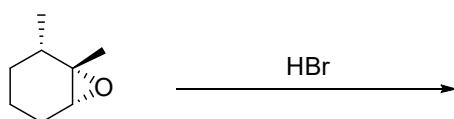
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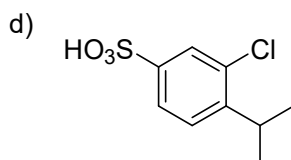
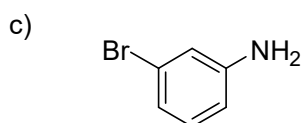
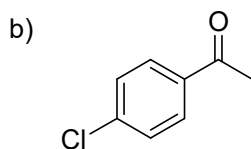
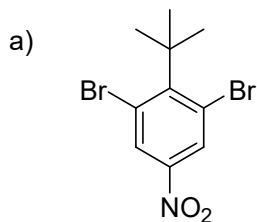
f)





Question 2 (4 points)

How would you synthesize the following molecules starting from benzene?

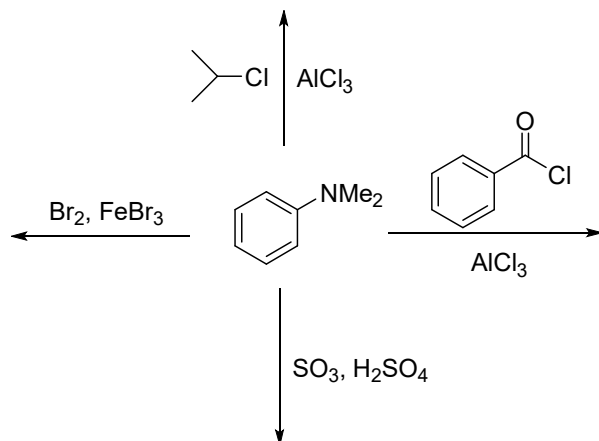




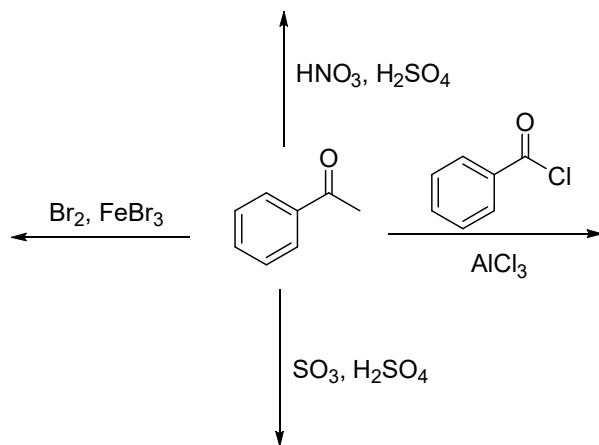
Question 3 (4 points)

Draw the products of these reactions.

a)



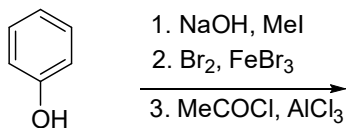
b)





Question 4 (4 points)

a) What is the final product of this reaction sequence? Assume that only monosubstitution takes place in steps 2 and 3 at the most reactive positions.



Carry out these reactions starting from phenol. Write down the individual steps and show the mechanism using curved arrows.