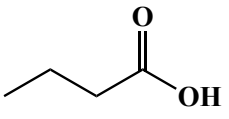
NAME (Print): _____

SIGNATURE: _____

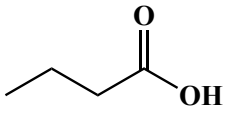
Chemistry 320N
Dr. Brent Iverson
Spring Break Homework
March 7, 2024

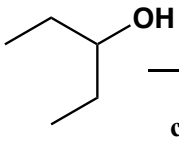
Please print the first three letters of your last name in the three boxes

Write the predominant **carbon containing** product or products that will occur for each transformation. **If there are two carbon containing products, WRITE THEM BOTH. If a new chiral center is created and a racemic mixture is formed, label the chiral center with an asterisk (*) and write racemic. No need for wedges and dashes. Also, do not worry about balancing these equations, you just need to show us the major carbon-containing products of these transformations.**

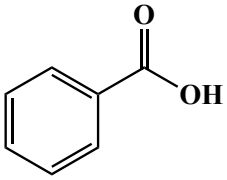


1) $LiAlH_4$
2) H_2O

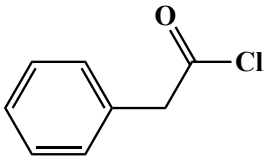


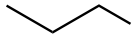


H_2SO_4
catalytic

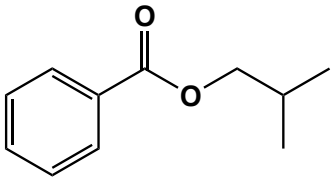


$SOCl_2$



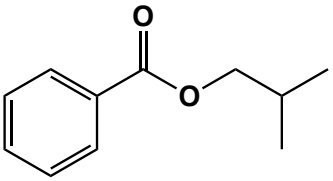


2.0 eq.



1 eq. NaOH

Draw all the organic products made from the ester starting material

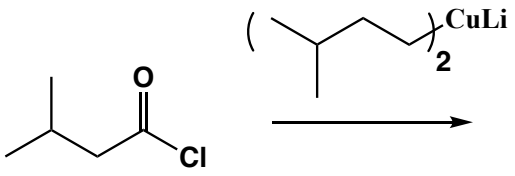


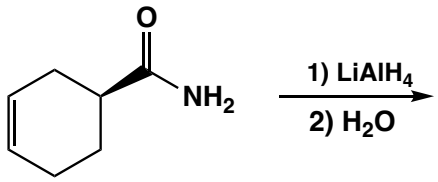
excess H_2O

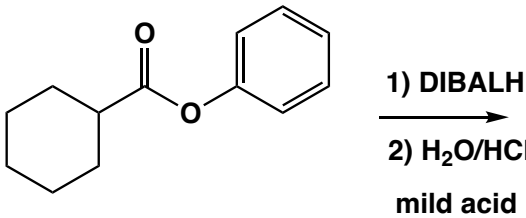
H_2SO_4
catalytic

Draw all the organic products made from the ester starting material

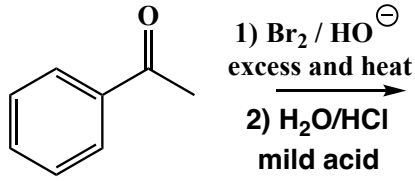
Write the predominant **carbon containing** product or products that will occur for each transformation. **If there are two carbon containing products, WRITE THEM BOTH. If a new chiral center is created and a racemic mixture is formed, label the chiral center with an asterisk (*) and write racemic. No need for wedges and dashes. Also, do not worry about balancing these equations, you just need to show us the major organic products of these transformations.**







Draw all the carbon containing products made from the ester starting material



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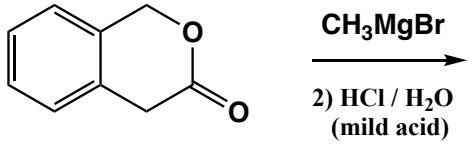
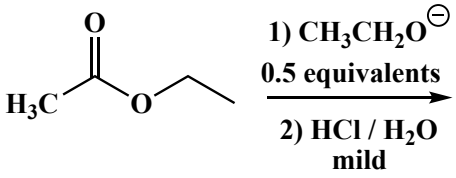
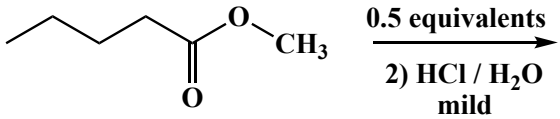


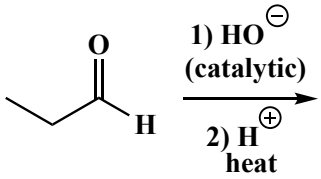
Draw all the carbon containing products made from the ester starting material

Write the predominant product that will occur for each transformation. If a new chiral center is created and a racemic mixture is formed, you must draw both enantiomers and write "racemic" under the structure. Use wedges (◀) and dashes (⋯) to indicate stereochemistry. For these, you do not have to worry about metal salts in the products.





Assume this dehydrates

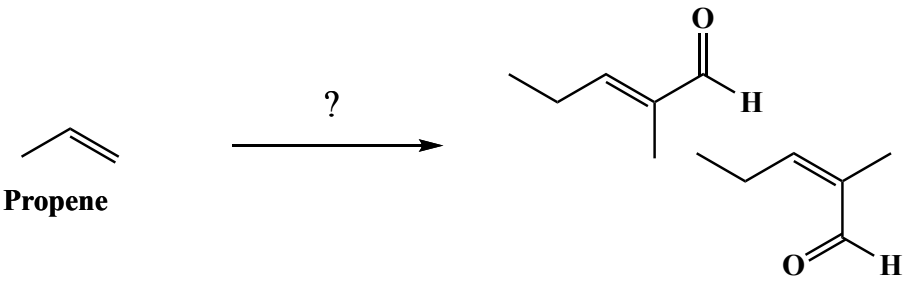


Using any reagents turn the starting material into the indicated product. All carbon atoms inthe product must come from the starting material. Draw all molecules synthesized along the way. When in doubt, draw the molecule! Label all chiral centers with an asterisk (*) and make sure to right "Racemic" where appropriate. You will notice a theme in these problems in that you will be starting with very simple structures and making more complex products.

Remember, all of the carbons of the product must come from the given starting material.

(10 pts)

A)



Propene