CHM 3150 Organic Chemistry II
Dr. Laurie S. Starkey, Cal Poly Pomona
Chapter 20 Carboxylic Acids & Derivatives Part 2 – Practice Problems

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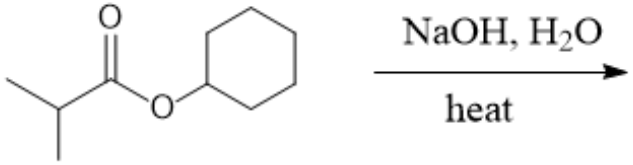
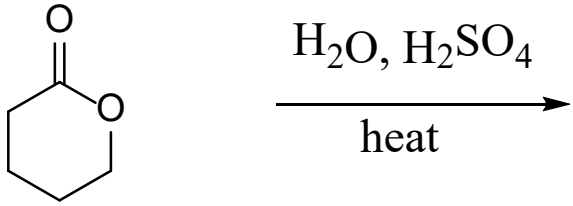
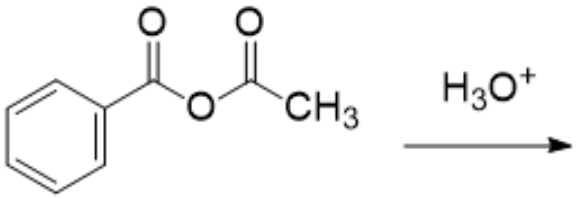
1 Predict the major product and draw the mechanism.



2 **3**

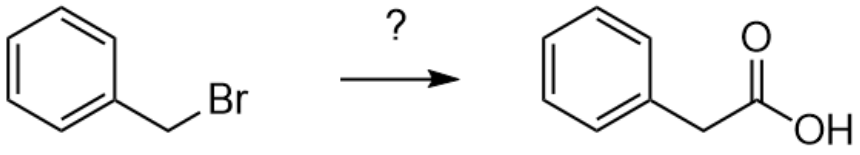


4



5

Which of the following sets of reagents would accompli the given transformation?



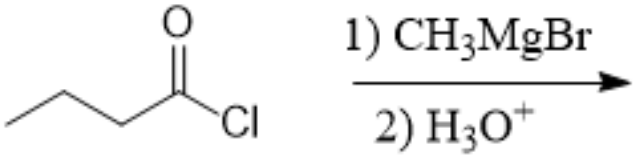
I. 1) Mg; 2) CO_2; 3) H_3O^+

II. 1) NaCN; 2) H_3O^+, heat

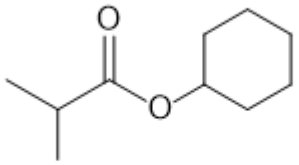
III. 1) Mg; 2) $H_2C{=}O$
3) H_3O^+; 4) CrO_3, H_2SO_4

6

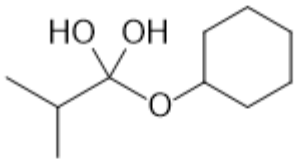
Predict the major product.

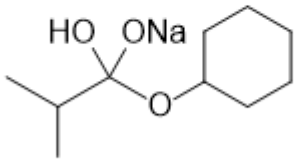


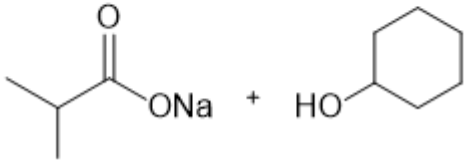
1 Predict the major product(s).

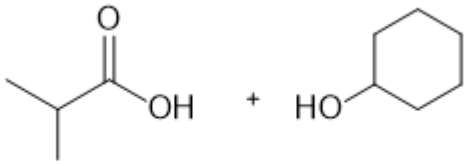


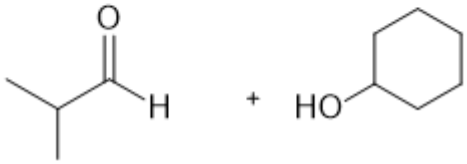
$\xrightarrow[\text{heat}]{\text{NaOH, } H_2O}$

A)


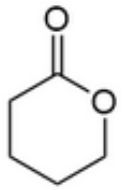
B)


C)


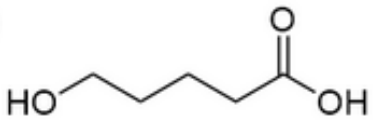
D)


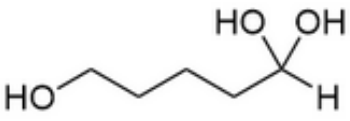
E)


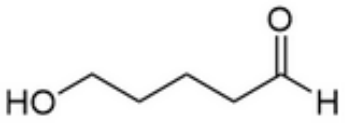
2 Predict the major product.

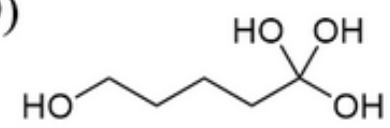


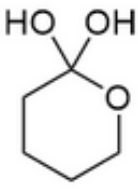
$\xrightarrow[\text{heat}]{H_2O,\ H_2SO_4}$

A)


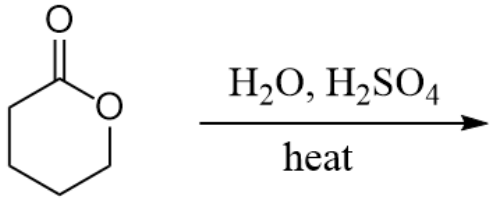
B)


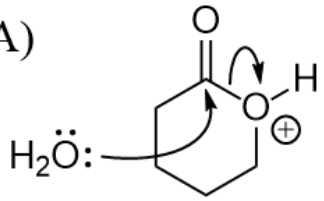
C)


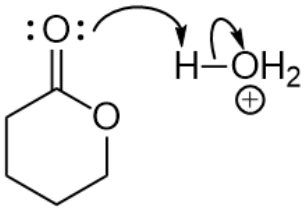
D)


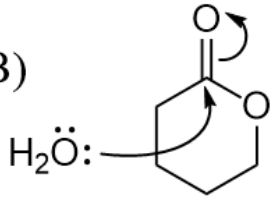
E)


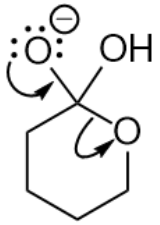
3 Which of the following is a likely step in the mechanism of the given reaction?



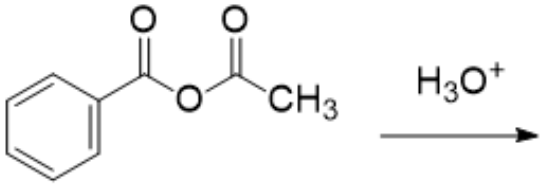
A)


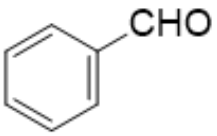
C)


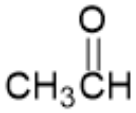
B)


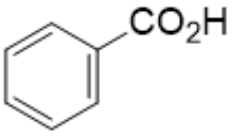
D)


Which of the following are the major products of the reaction shown?*

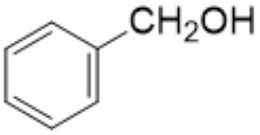
4


A) 

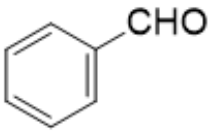
+ 

B) 

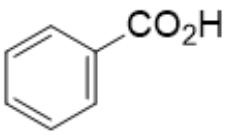
+ CH_3CH_2OH

C) 

+ CH_3CH_2OH

D) 

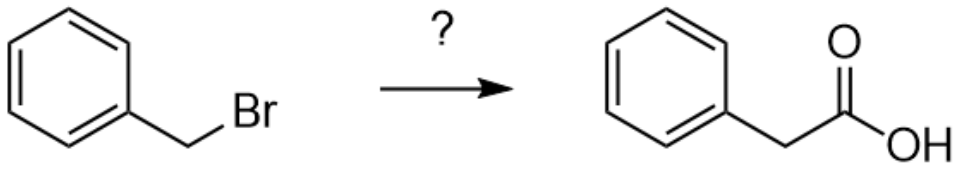
+ CH_3CO_2H

E) 

+ CH_3CO_2H

*Chemistry GRE Practice test

5 Which of the following sets of reagents would accomplish the given transformation?



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II. 1) NaCN; 2) H_3O^+, heat

III. 1) Mg; 2) $H_2C{=}O$
3) H_3O^+; 4) CrO_3, H_2SO_4

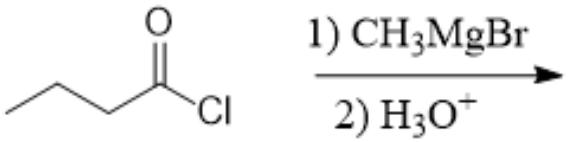
A) I and II only

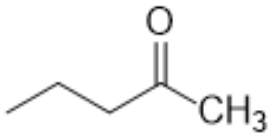
B) II and III only

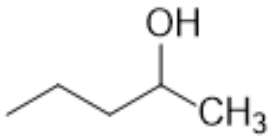
C) I and III only

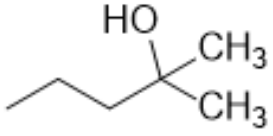
D) I, II and III

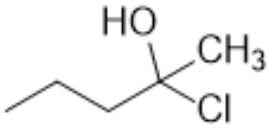
6 Predict the major product.



A) 

B) 

C) 

D) 

E)