

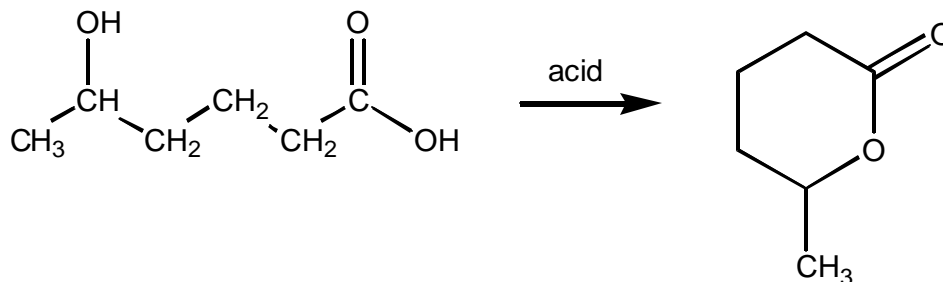
CHEMISTRY 353

G. S. Kriz

PROBLEM SOLVING SESSION #8

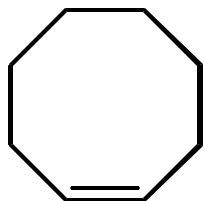
May 25, 2006

1. Propose a mechanism for the following reaction.



2. Complete the following reaction sequences. Show the substances formed at each step.

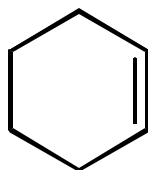
a)



- 1) O_3 followed by Zn in acetic acid
- 2) $LiAlH_4$
- 3) TsCl
- 4) NaCN in DMSO
- 5) H^+ , H_2O , heat



b)

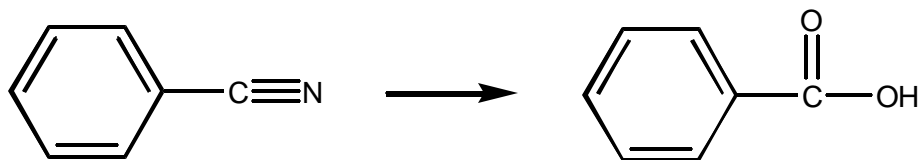


- 1) O_3 followed by Zn/HOAc
- 2) CrO_3 and sulfuric acid
- 3) CH_3OH , H^+
- 4) $LiAlH_4$
- 5) $SOCl_2$
- 6) CH_3NH_2

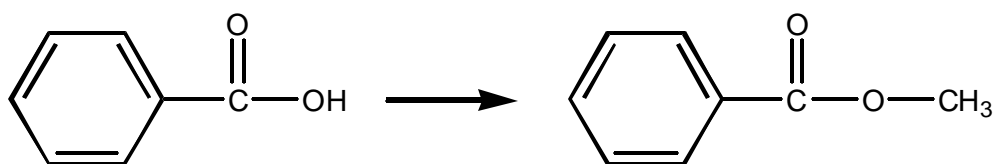


3. Show how you would convert the starting materials to the indicated products.

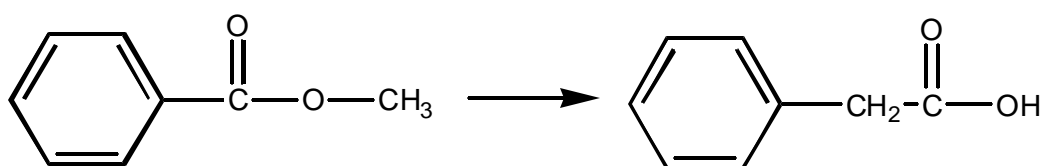
a)



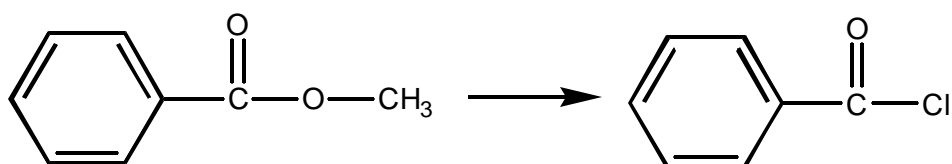
b)



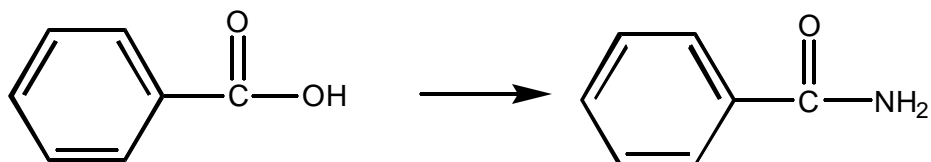
c)



d)

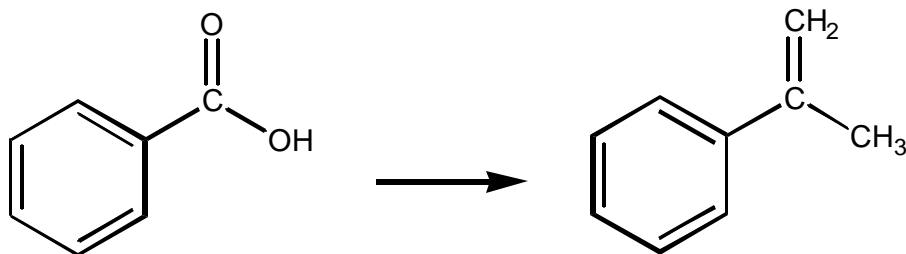


e)

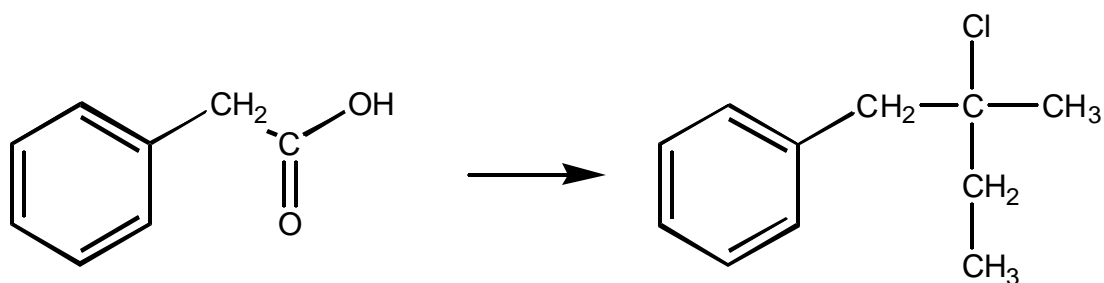


4. Show syntheses of the following compounds, using the indicated starting materials.

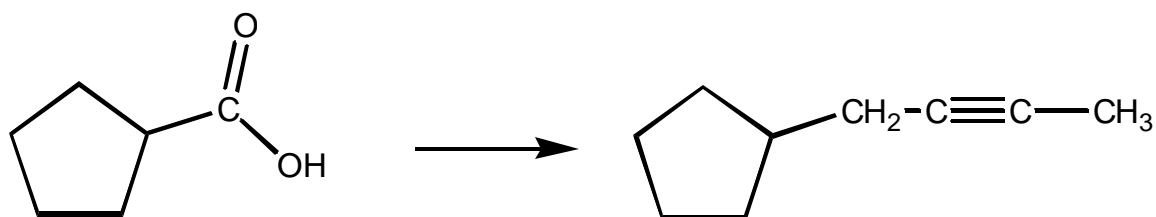
a)



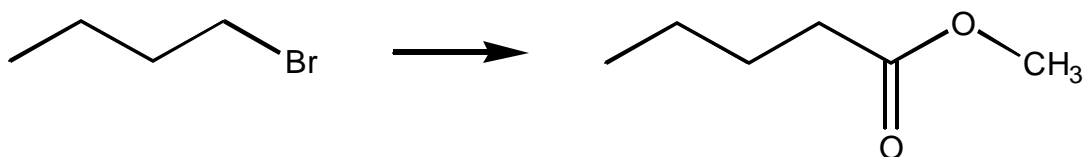
b)



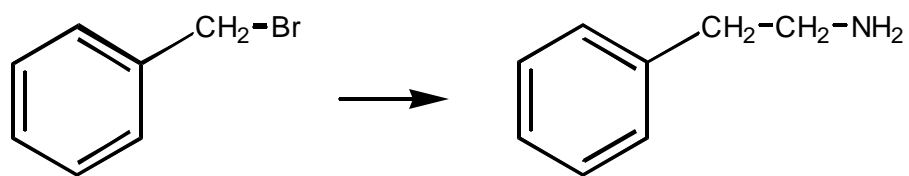
c)



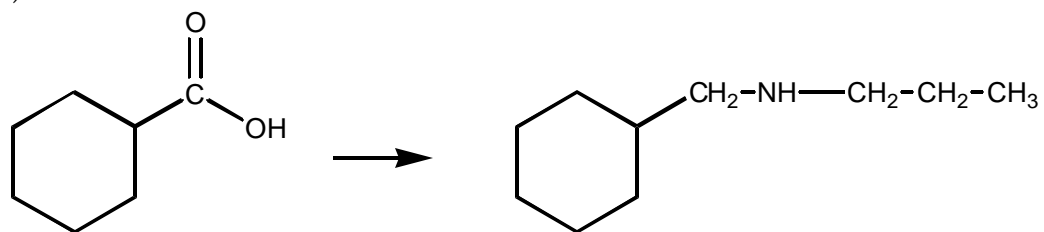
d)



e)



f)



5. Explain why one of these compounds forms a lactone when heated and the other does not. Show the structure of the lactone.

