Chemistry Department

University of Alberta

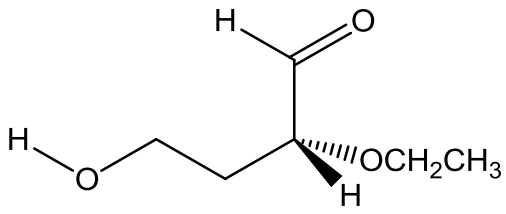
CHEM 263

Exam II

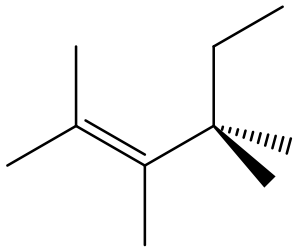
June 10 2011

1. Name the following compound:

   (4 points)

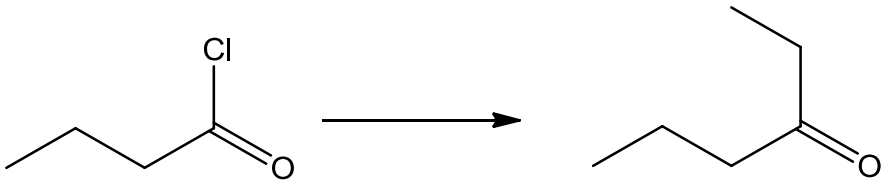


2. Using the following partial structure, draw the structure of (Z,3S)-6-hydroxy-3-methoxy-3-methyl-4-hexen-2-one. (5 points)



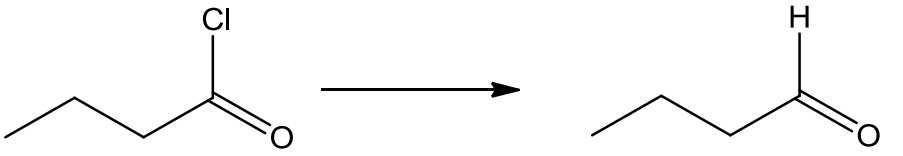
3. What reagents would you use to effect the following conversions? (15 points)

   a.

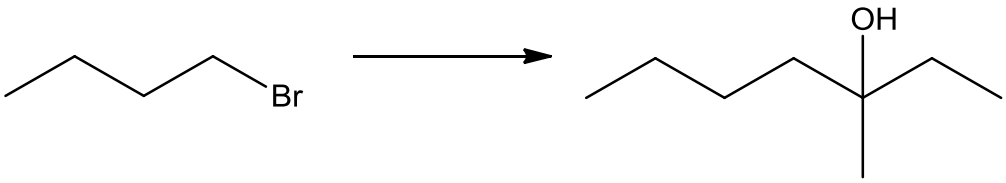


   b.

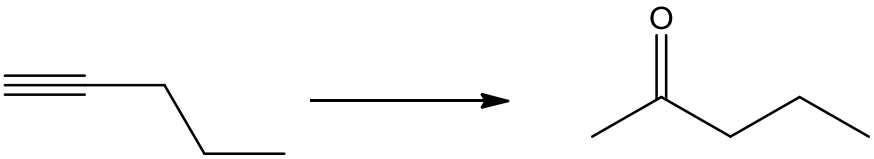
c.

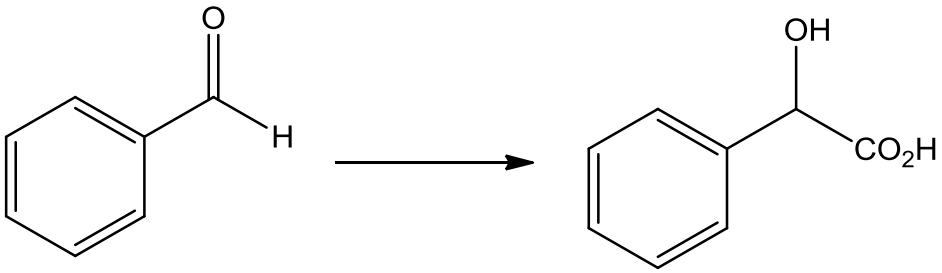


d.



e.

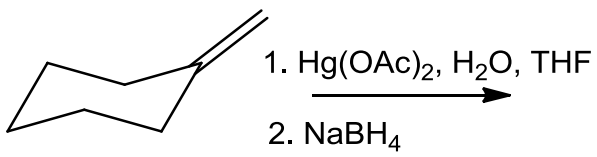




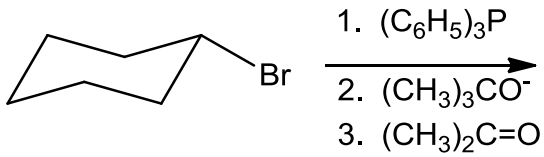
4. 1-Ethoxybutane reacts with HI to give a mixture of 1-iodobutane, iodoéthane, ethanol and1-butanol whereas 2-ethoxy-2-methylpropane gives a mixture of 2-methyl-2-propanol and iodoethane. Explain by means of appropriate mechanisms. (10 points)

5. Give the structure(s) of the principle organic products of the following reactions: (12 points)

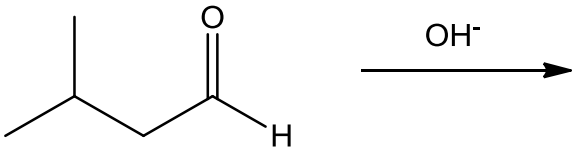
a.



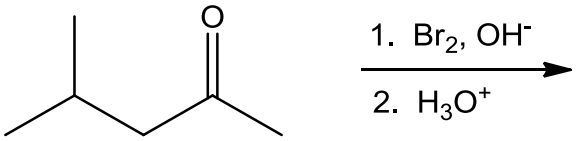
b.



c.

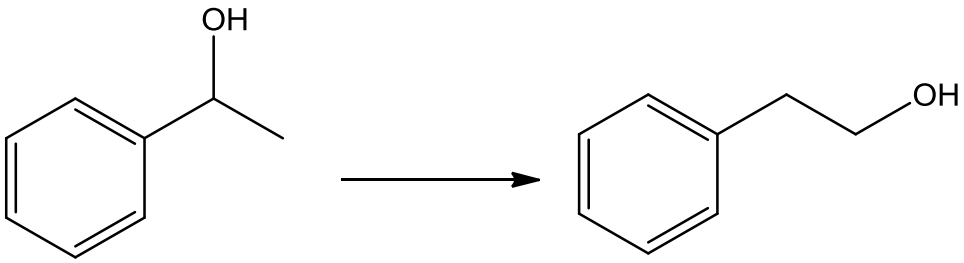


d.

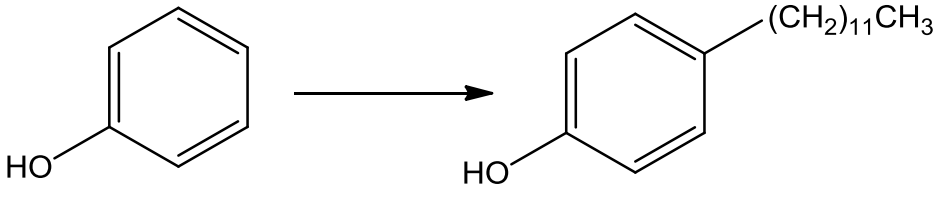


6. Provide a synthetic pathway for the following transformations using the starting material provided and any other reagents: (18 points)

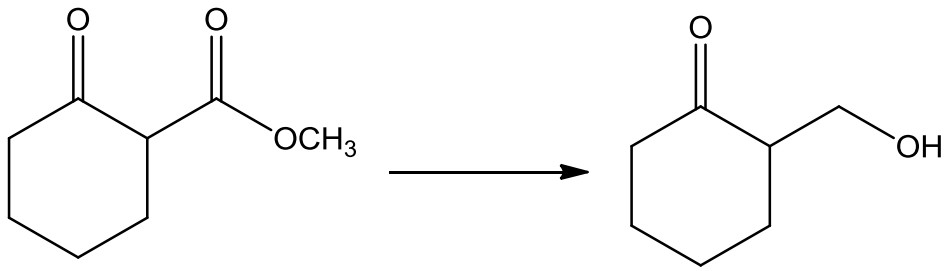
a.



b.



c.



7. Propose a mechanism for the following reaction (don't forget the curved arrows!): (12 points)