

First 2-Hour Exam

By printing your name below, you pledge that

"On my honor, as a University of Colorado at Boulder student,
I have neither given nor received unauthorized assistance on this work."

My Name is _____

My recitation TA's name: _____ [Greg, Matt, Kate, Carley, or Jacquie]

Recitation Day and Time: _____

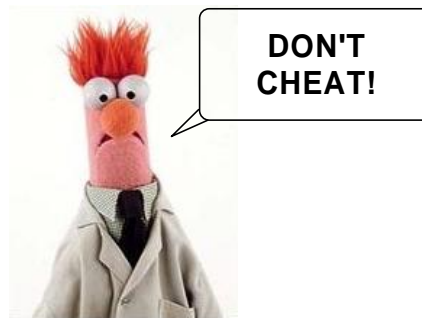
Points:

Page #	Max. Points	Your Score
2	14	
3	24	
4	8	
5	16	
6	24	
7	14	

_____ TOTAL (out of 100)

General Instructions:

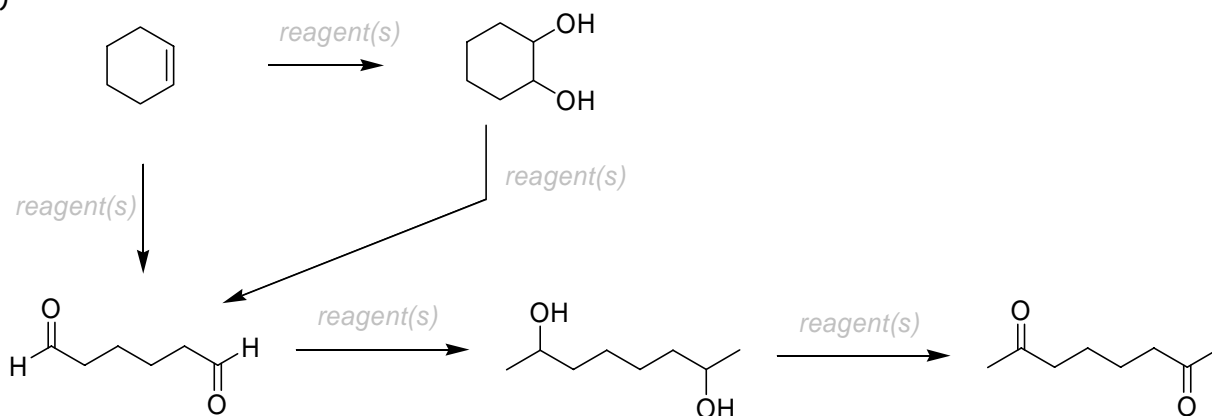
- This is a closed book exam! No notes and no molecular models may be used
- You have 2 hours to complete the exam
- Write your name on the top of each page
- Use the back of pages for scratch paper



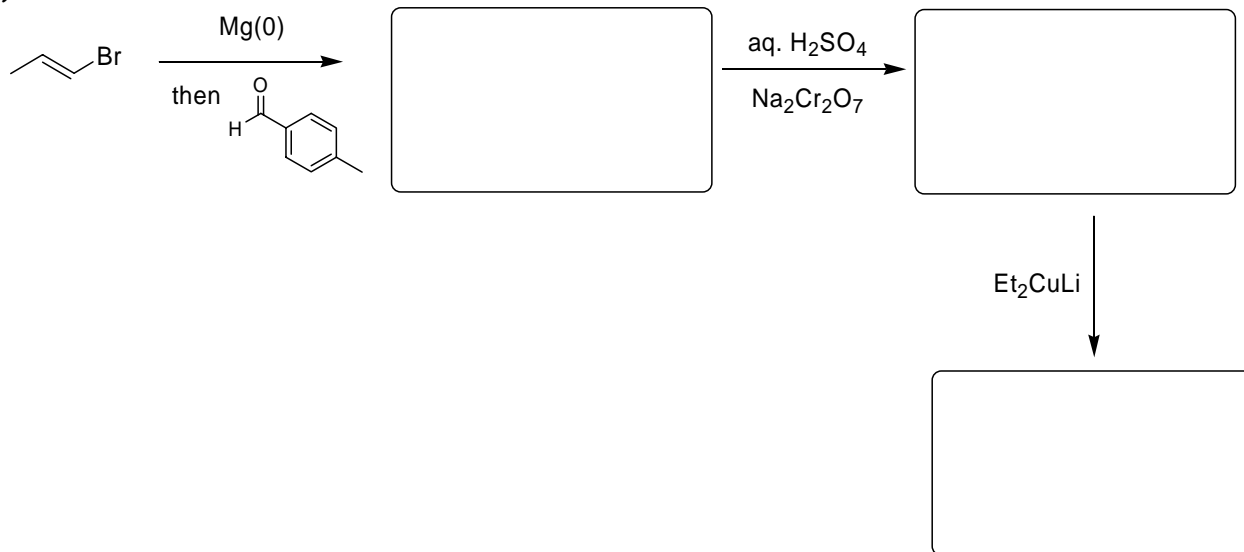
Question # 2**24 pts total**

For each of the reaction sequences below, fill in the missing reagents or structures

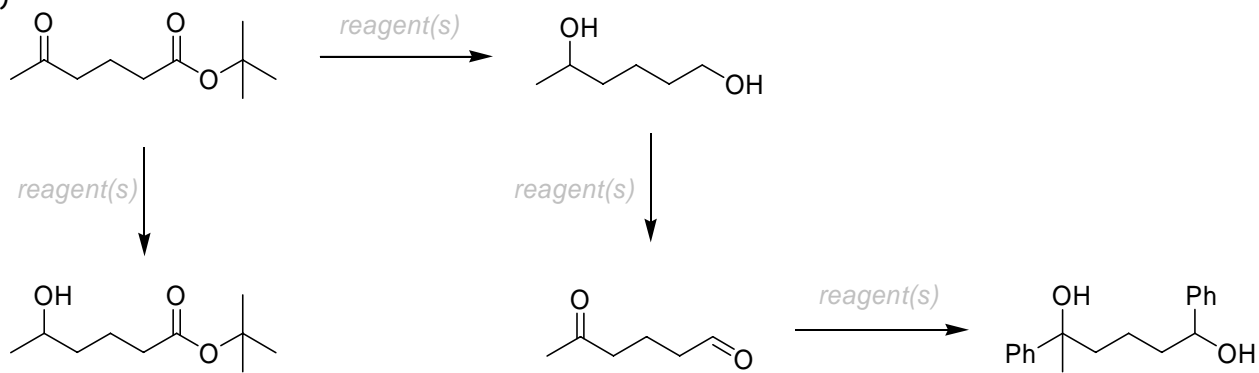
a)



b)



c)



Points this page _____

Question # 3**8 pts total**

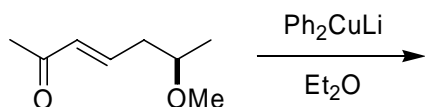
Draw the product of the following reactions. Remember that aqueous workup is performed at the end of reactions. If you believe there is no reaction then write 'NO REACTION'. If a reaction generates diastereoisomers, then draw both of the diastereoisomers.

a)



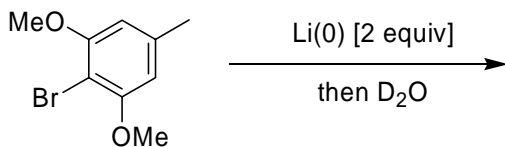
2 pt

b)



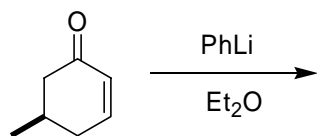
1 pt

c)



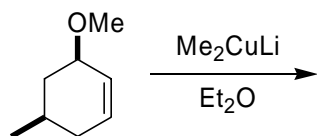
1 pt

d)



1 pt

e)



1 pt

f)

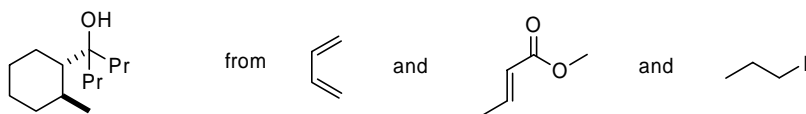


2 pt

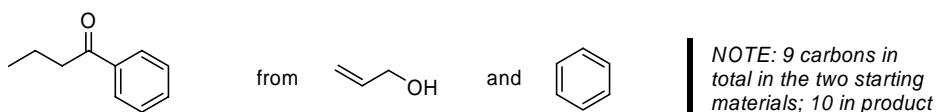
Question # 5**24 pts total**

Provide a synthesis of the compounds below that employs *the starting materials shown* and any other reagents you choose. All chiral products are racemic mixtures.

a)



b)

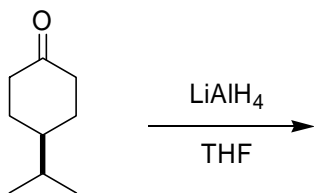


Question # 6**14 pts total**

Draw the product(s) and provide a mechanism for the following reactions. If more than one product is formed, draw both and indicate the stereochemical relationship [enantiomers, diastereoisomers]. For your mechanisms, be sure to show all the intermediates and all the arrows required for each step [including aqueous workup if it is required].

a)

7 pt



b)

7 pt

