Midterm II

Fall 2011

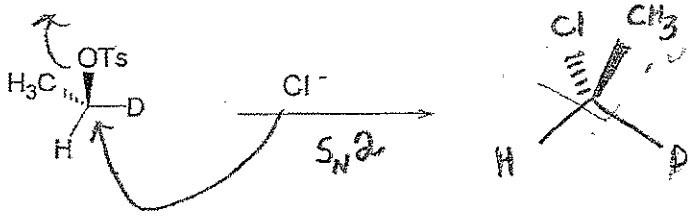
answer key

1. Show the **major** product or products of each of the following reactions. Do not show **minor** products. Be sure to show proper stereochemistry. (6 points each, 5 minutes each).

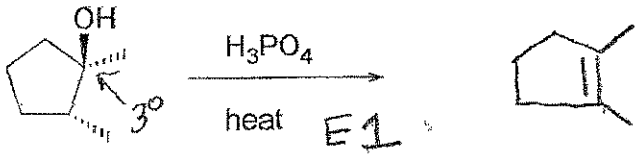
NOTE:

"OTs is a good leaving group

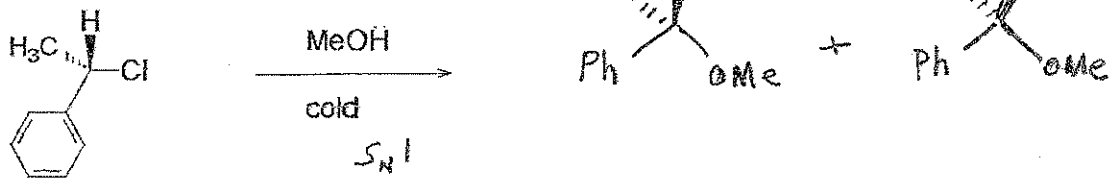
Ch. 9

a. 

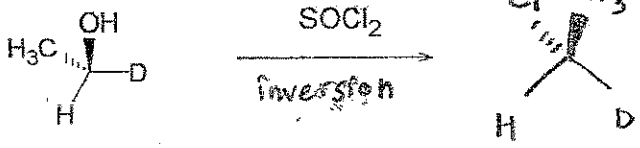
OMIT Ch. 10

b. 

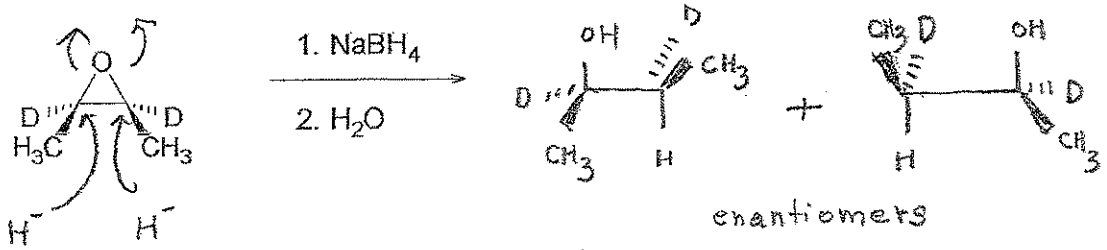
Ch. 9

c. 

OMIT Ch. 10

d. 

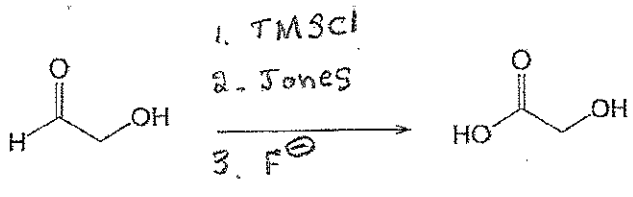
OMIT Ch. 11

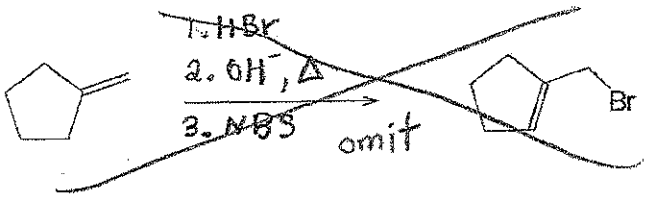
e. 

enantiomers

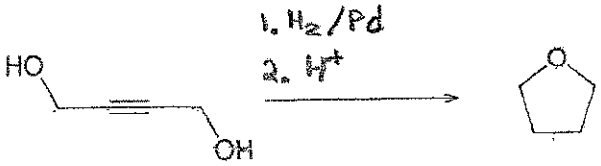
2. Give the reagent or reagents necessary to accomplish each of the following transformations. Number each step so it is clear when reagents must be added **together** or **separately**. Do **not** show **intermediates.** (6 points each, 4 minutes each)

OMIT Ch. 10

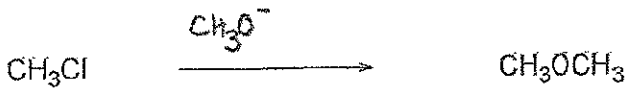
a. 

b. 

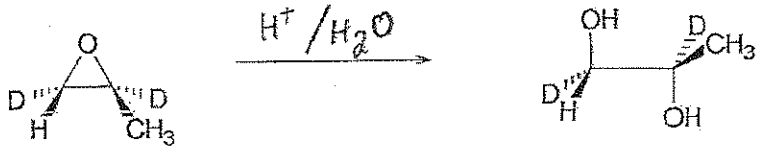
Ch. 6/7

c. 

Ch. 9

d. 

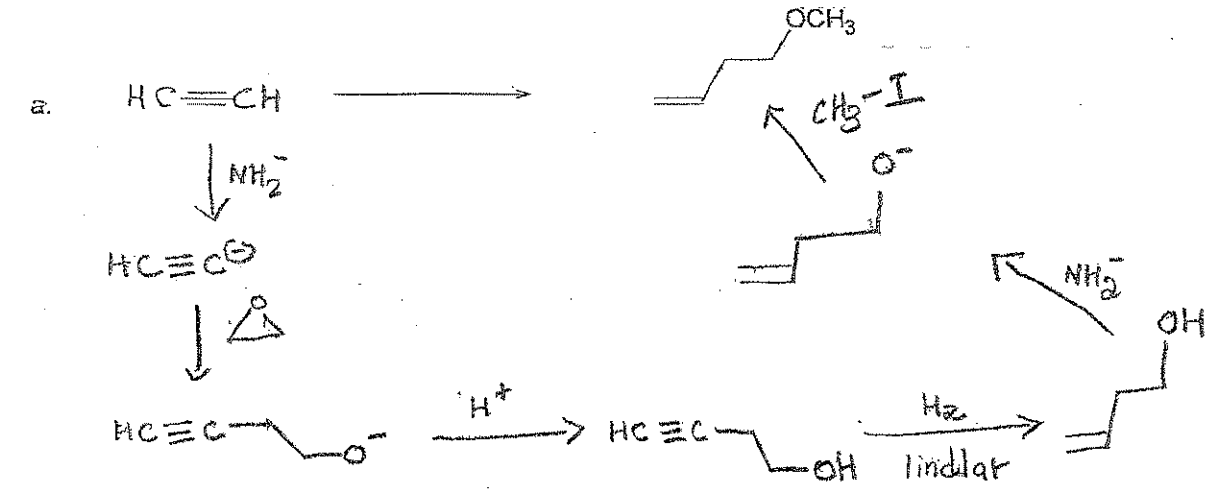
OMIT Ch. 11

e. 

3. Give the reagent or reagents necessary to accomplish each of the following synthetic transformations. Any needed carbon based reagents are allowed. **Show all intermediates.** (9 points each, 7 minutes each)

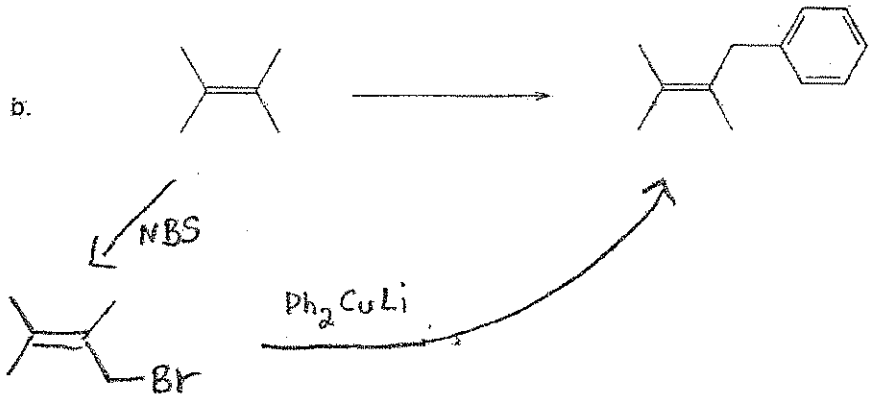
OMIT Ch. 10/11

a.



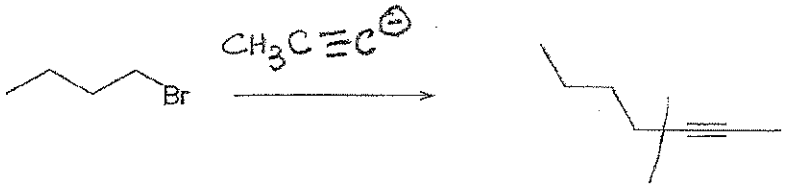
Ch. 8/15

b.



Ch. 7

c.



OMIT

Ch. 11

4. Show the mechanism for the following reaction. (13 points, 8 minutes)