

Name: _____

The University of Akron
Chemistry 3150:264
Organic Chemistry

Exam #1
July 24, 2008
219 pts

There are eight (8) pages and nine (9) questions on this exam. Please check to see that you have a complete test. If you do not, please see me **NOW**. Please read and follow the directions to each question carefully.

Points:

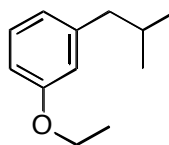
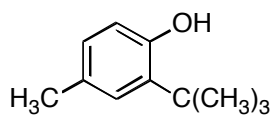
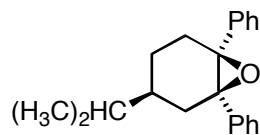
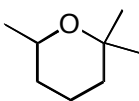
<u>Problem</u>	<u>Points</u>
1	15
2	15
3	6
4	14
5	35
6	35
7	35
8	35
9	30
	<hr/>
	220 Total

Bonus 5

Lost my boots in transit baby,
a pile of smokin' leather,
nailed a retread to my feet,
and prayed for better weather...

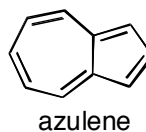
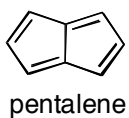
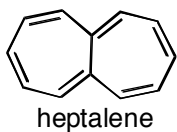
-J. Garcia, R. Hunter

1) Give the correct common or IUPAC nomenclature for *three* of the following molecules. Be sure to include stereochemical designations where necessary and indicate *clearly* which answers you want graded. (15 pts)



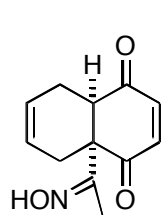
A preservative in many foods - look on your bread label (BHT)

2) One of the following molecules is more stable than the other two. Please indicate the most stable molecule and provide a BRIEF explanation why it is more stable. (15 pts)

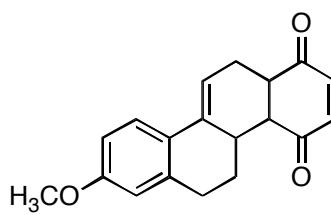


3) Draw the structures of pyridine, sulfuric acid and DMSO. (6 pts)

4) The two molecules shown below can be made using Diels-Alder chemistry. Show the starting diene and dienophile used to make each. Compound **A** is a precursor to tetrodotoxin, which is a poison found in the Japanese puffer fish, while **B** is a precursor to the female hormone estrone. (14 pts)

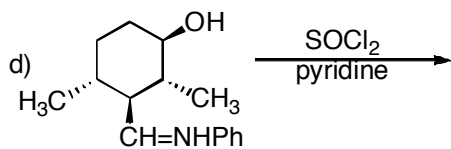
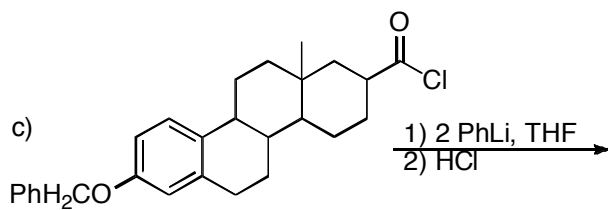
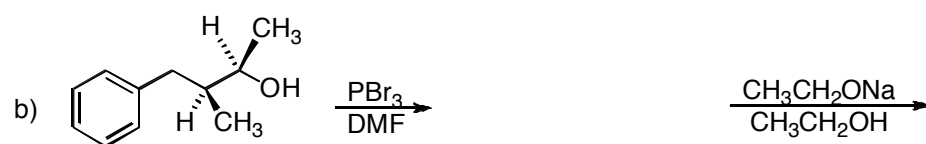
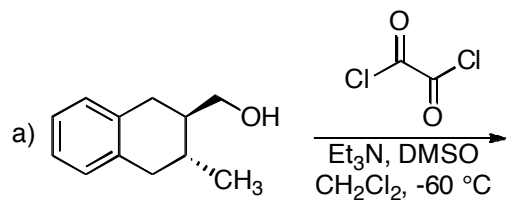


A

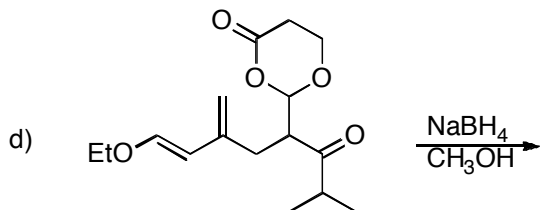
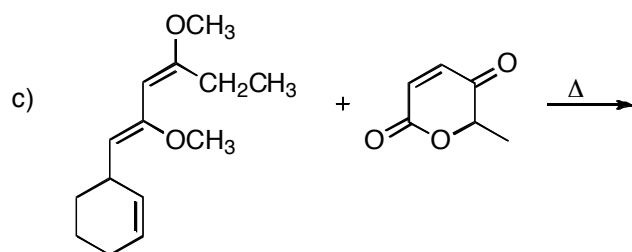
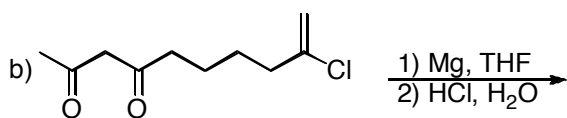
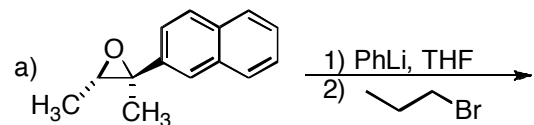


B

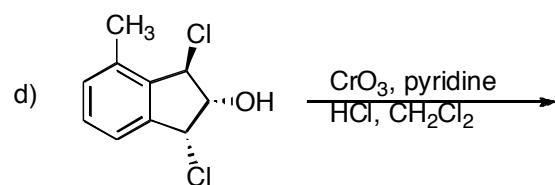
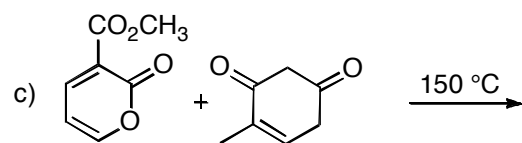
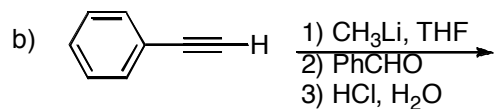
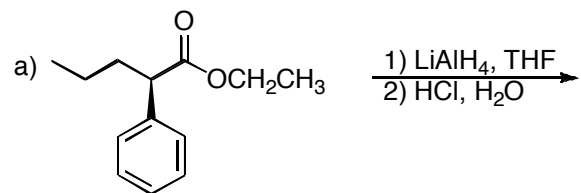
5) Indicate the expected product(s) from the following reactions. Be sure to show stereochemistry where necessary in your answers. (35 pts)



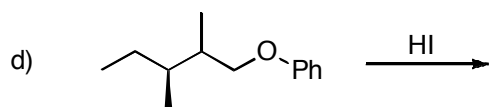
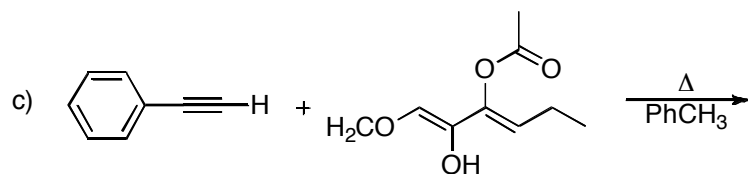
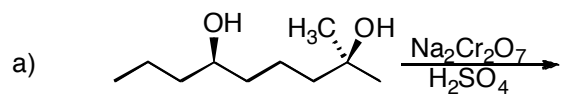
6) Indicate the expected product(s) from the following reactions. Be sure to show stereochemistry where necessary in your answers. (35 pts)



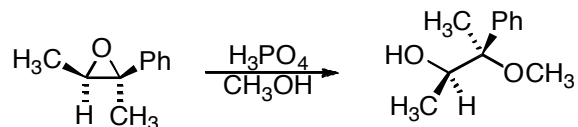
7) Indicate the expected product(s) from the following reactions. Be sure to show stereochemistry where necessary in your answers. (35 pts)



8) Indicate the expected product(s) from the following reactions. Be sure to show stereochemistry where necessary in your answers. (35 pts)



9) Provide a detailed and reasonable mechanism for the following reaction. Be sure to show all resonance structures, charges and relevant arrows. If stereochemistry is important in the reaction, be sure to include the relevant information in your answer. (30 pts)



Bonus: What is the biggest scientific question today?