

Name: _____

The University of Akron
Chemistry 3150:264
Organic Chemistry

Exam #3
August 15, 2008
222 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:

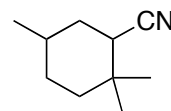
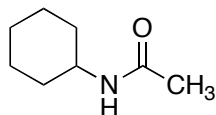
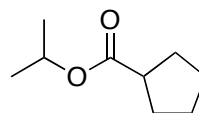
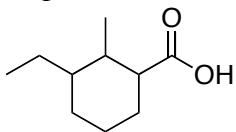
<u>Problem</u>	<u>Points</u>
1	15
2	10
3	31
4	34
5	31
6	34
7	34
8	30
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	219 Total

Bonus 5

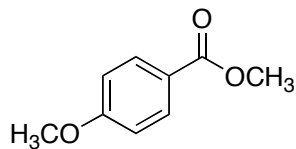
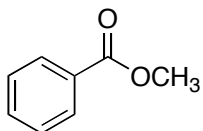
I been gamblin' hereabouts for ten good solid years,
If I told you all that went down it would burn off both of your ears.
Goes to show you don't ever know
Watch each card you play and play it slow...

-J. Garcia, R. Hunter

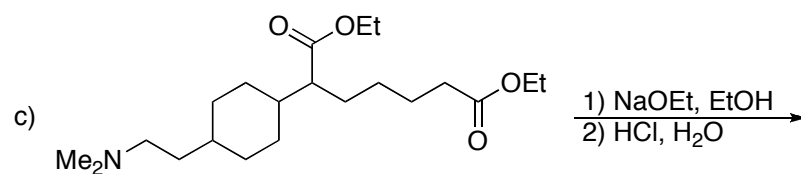
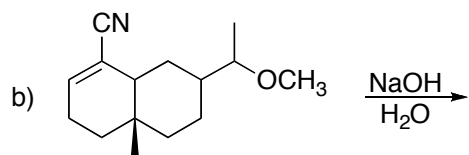
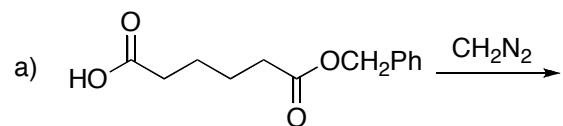
1) Give the correct common or IUPAC nomenclature for *three* of the following molecules. Be sure to include stereochemical designations where necessary and indicate *clearly* which answers you want graded. (15 pts)



2) Indicate the products produced when either of the following molecules is reacted with water and HCl. Also indicate which reactant should proceed fastest under these conditions. BRIEFLY explain your rationale. (15 pts)

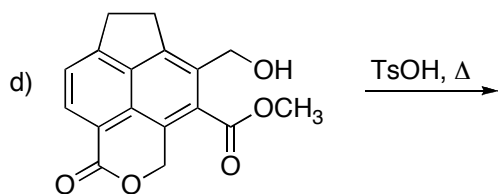
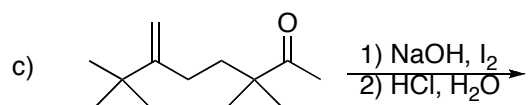
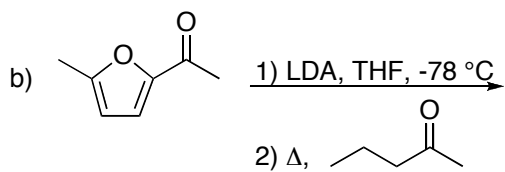
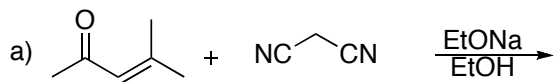


3) Indicate the expected product(s) from the following reactions. Be sure to show stereochemistry where necessary in your answers. (31 pts)



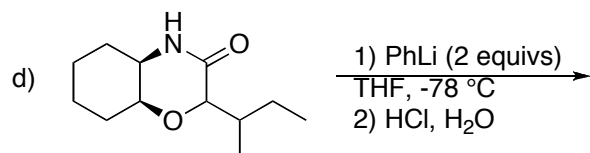
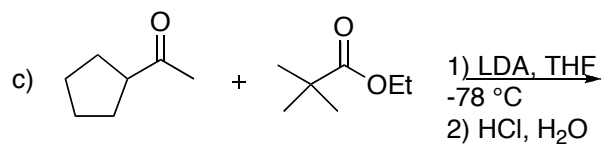
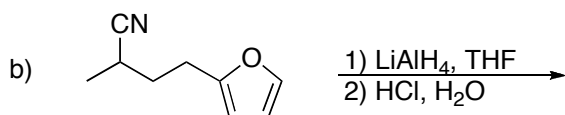
d) Draw the structure of LDA.

4) Indicate the expected product(s) from the following reactions. Be sure to show stereochemistry where necessary in your answers. (34 pts)

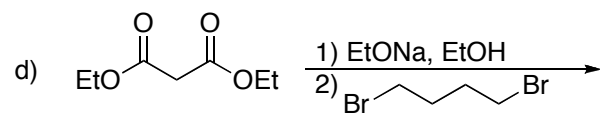
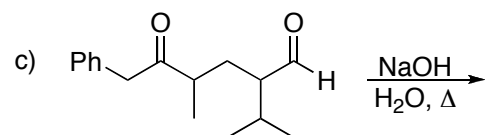
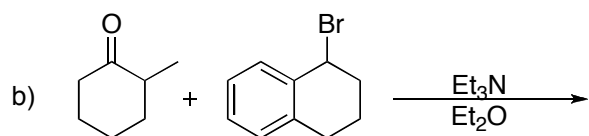
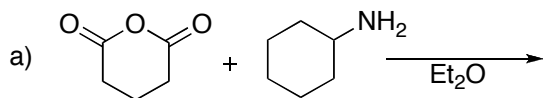


5) Indicate the expected product(s) from the following reactions. Be sure to show stereochemistry where necessary in your answers. (31 pts)

a) Draw the two resonance structures of CH_2N_2 .



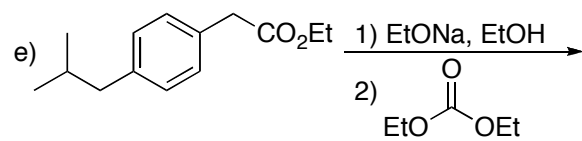
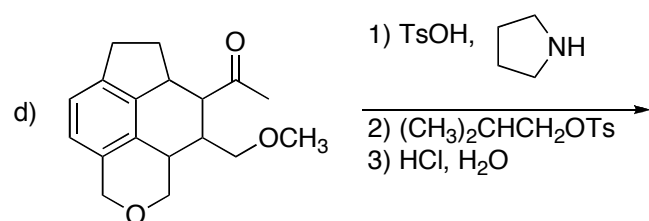
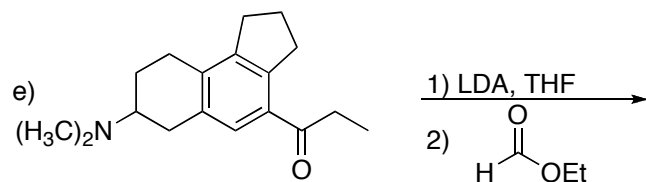
6) Indicate the expected product(s) from the following reactions. Be sure to show stereochemistry where necessary in your answers. (34 pts)



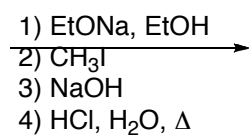
Hint: Work this one out stepwise.

3) NaOH
4) HCl, H₂O, Δ

7) Indicate the expected product(s) from the following reactions. Be sure to show stereochemistry where necessary in your answers. (34 pts)



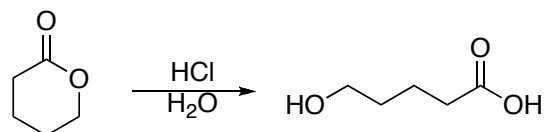
A



B
Ibuprofen

8) Provide a detailed and reasonable mechanism for the following reaction. Be sure to show all resonance structures, charges and relevant arrows. (30 pts)

In addition, indicate what conditions (i.e., reagent, solvent, temperature) you would suggest to drive the reaction to the LEFT.



Bonus: What is your idea of the perfect vacation and why!?! ;-)