

SECOND HOUR EXAM - CHEMISTRY 3331

October 22, 2009

NAME: Anoway

Circle the Time of Your
Recitation

PROBLEM 1. _____

Monday 8am

Monday noon

PROBLEM 2. _____

Monday 5pm

Tuesday 8 am

PROBLEM 3. _____

Wednesday 8 am

PROBLEM 4. _____

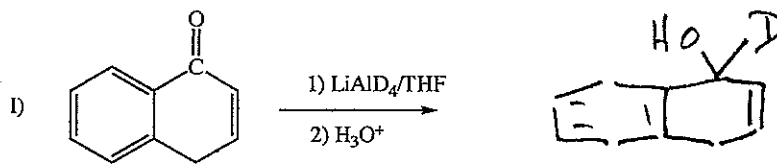
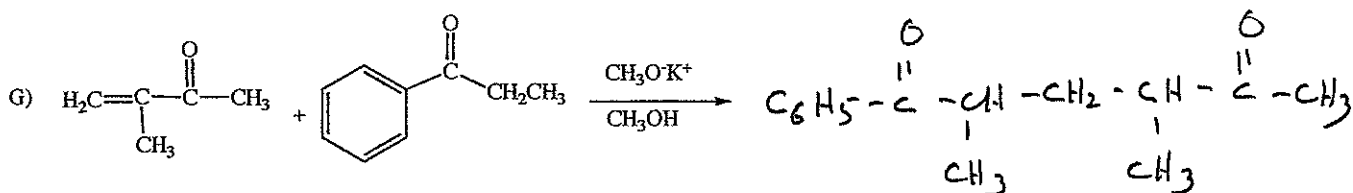
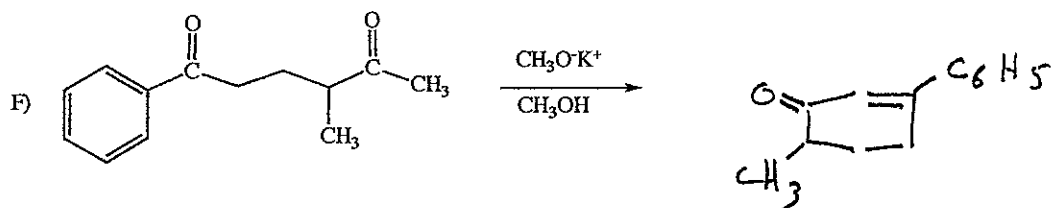
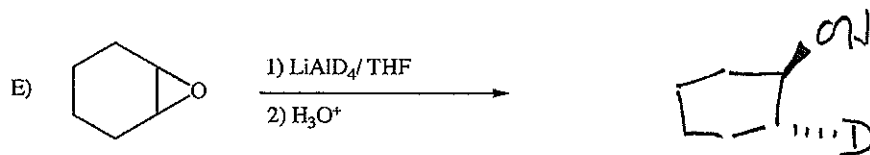
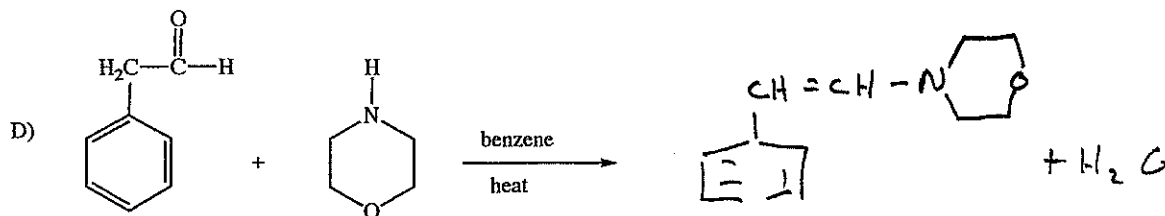
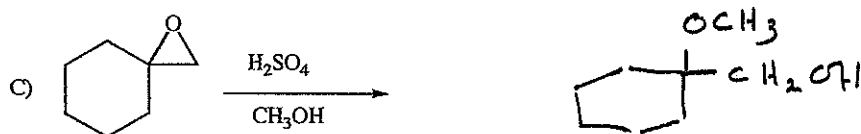
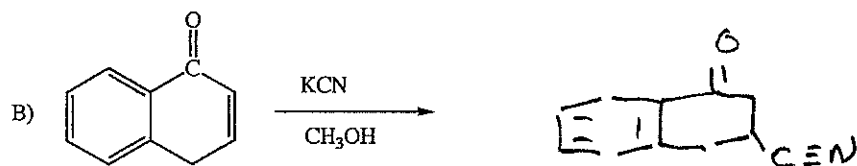
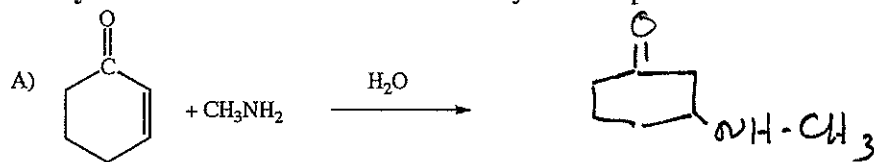
Wednesday 5pm

PROBLEM 5. _____

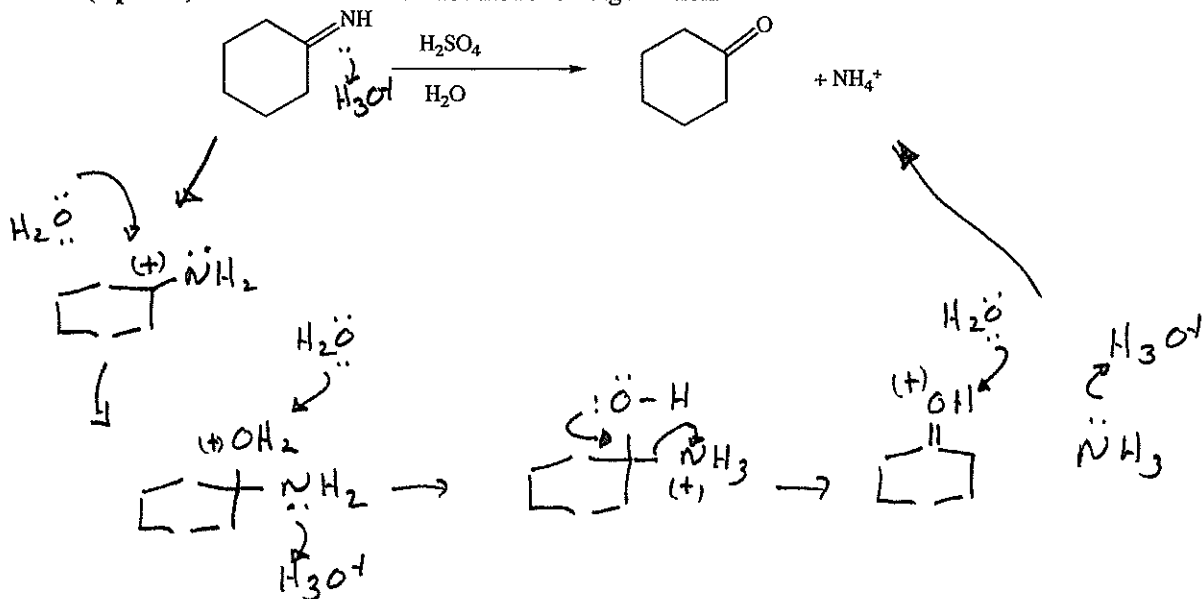
PROBLEM 6. _____

TOTAL: _____

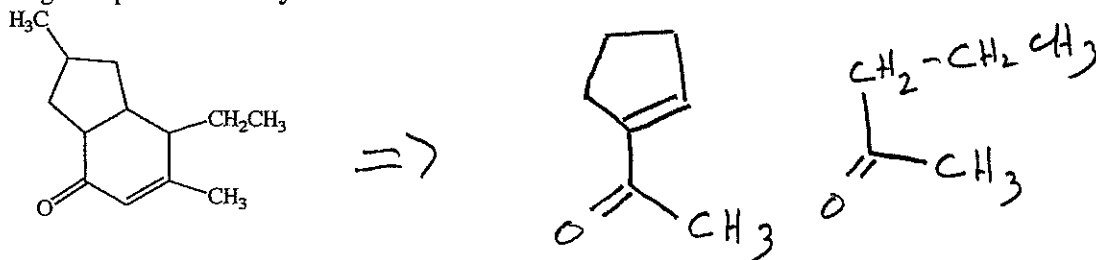
Problem 1. (24 points) Give the final products for the following reactions. If no reaction occurs, please state so. **Circle your answers.** Show the stereochemistry if it is important.



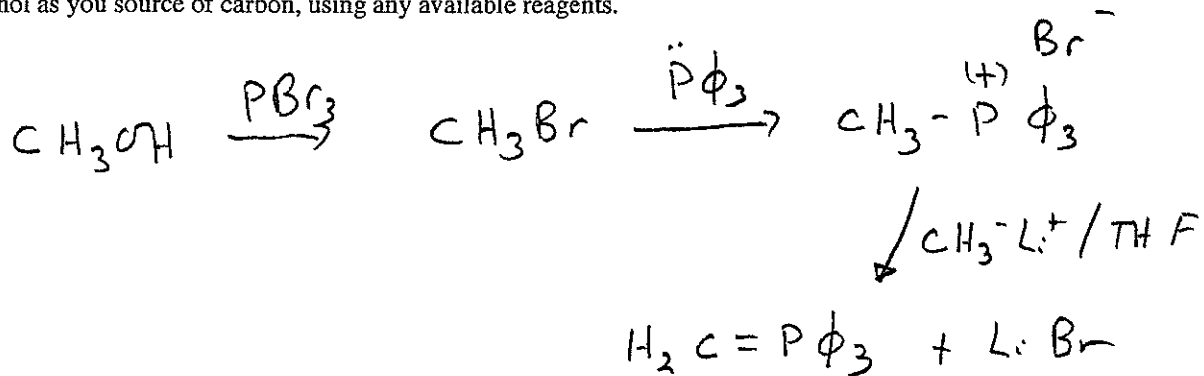
Problem 2. (6 points) Show the mechanism for the following reaction.



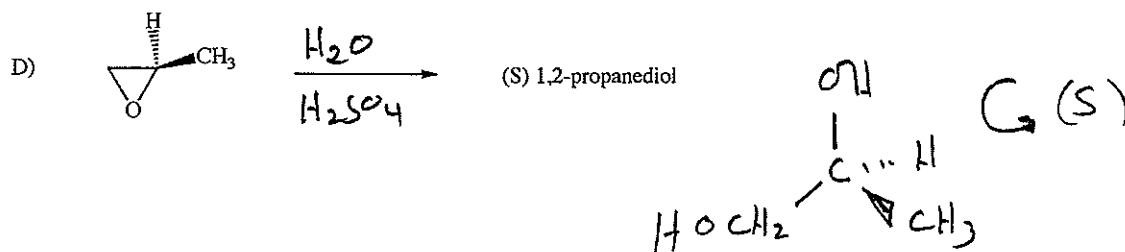
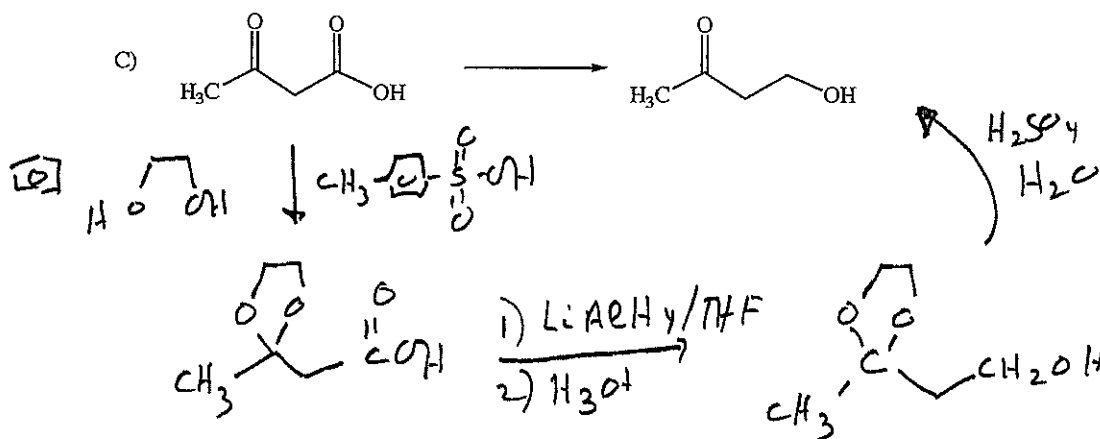
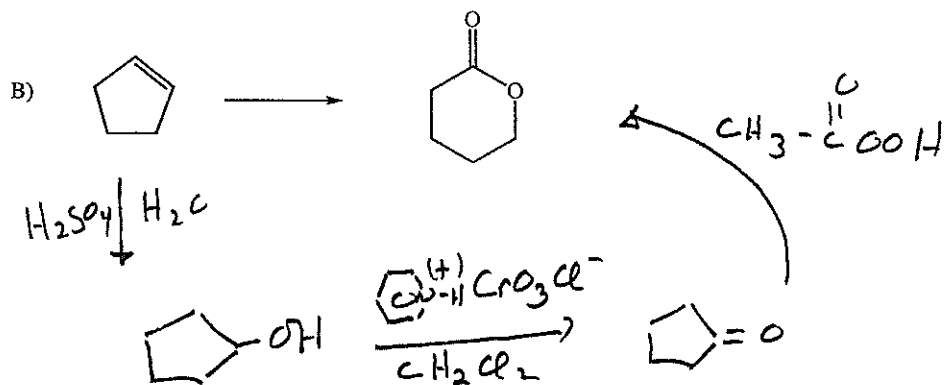
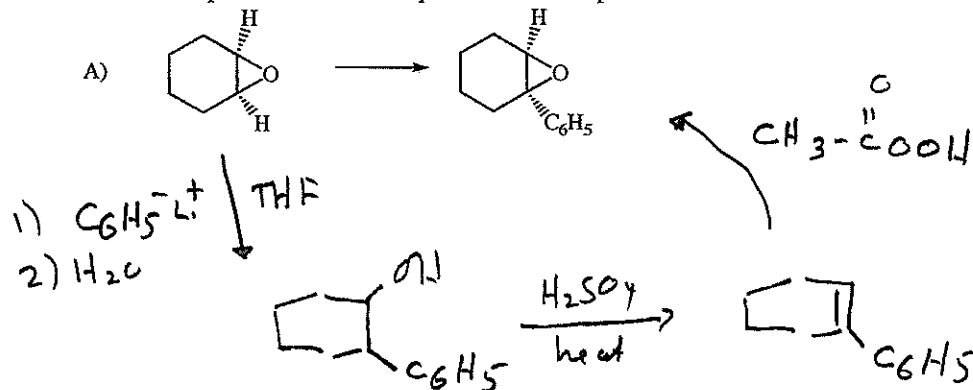
Problem 3. (5 points) Using the Robinson annulation, what two molecules would you use to synthesize the following compound. Circle your answers.



Problem 4. (5 points) Show how you would synthesize the Wittig reagent starting with triphenylphosphine and methanol as you source of carbon, using any available reagents.



Problem 5 (28 points) Show how you would carry out the following transformations with the given starting materials and any necessary organic or inorganic reagents. **You do not need to show the synthesis of the reagents.** For each step in the reaction sequence show the product for each reaction.



Problem 6 (32 points) Show how you would carry out the following transformations with the given starting materials and any necessary organic or inorganic reagents. **You do not need to show the synthesis of the reagents.** For each step in the reaction sequence show the product for each reaction.

