

Third Exam

Chemistry 3331

November 22, 2013

Name (PRINT) _____

Last, First

Signature _____

ID # _____

PLEASE CIRCLE CLASS TIME

10:00 AM

1:00 PM

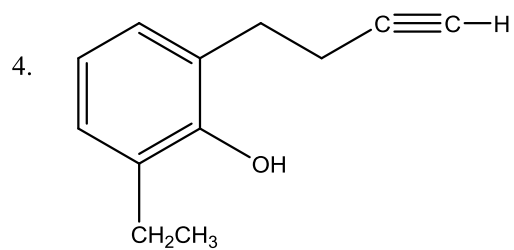
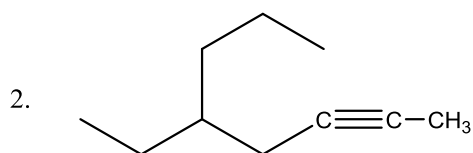
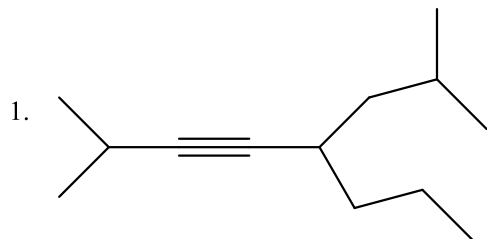
Page #	Score
1. 15 pt	
2. 24 pt	
3. 18 pt	
4. 18 pt	
5. 12 pt	
6. 13 pt	

Total: _____

NOTE: Present your ID when you return the exam booklet

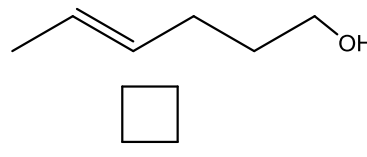
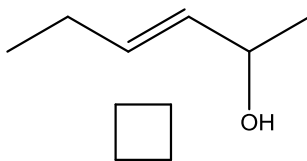
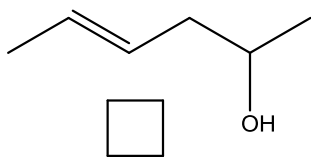
A. Nomenclature: (15 points)

Give an acceptable IUPAC name for each of the following compounds. Be sure to indicate the **stereochemistry** where appropriate.

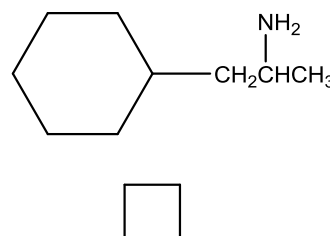
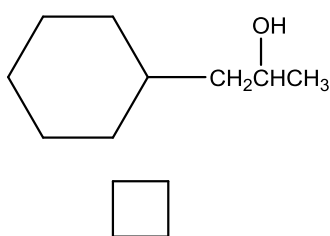
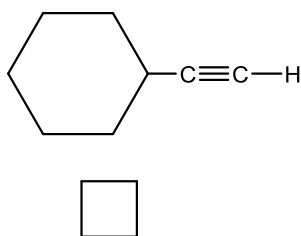


B. Facts: Total Points = 24

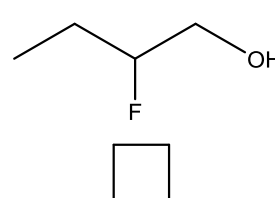
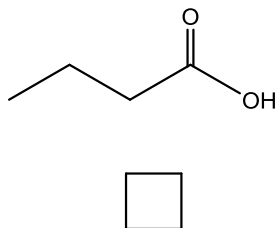
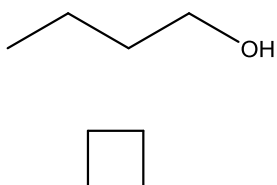
1. Place the alcohols in order of increasing reactivity in an acid catalyzed dehydration. (1=least reactive, 3=most reactive) (6 points)



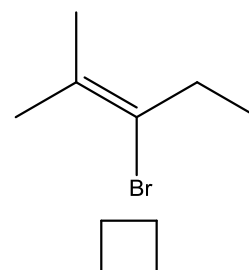
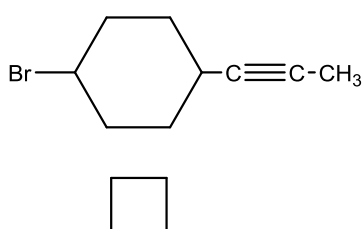
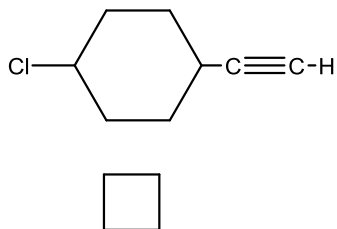
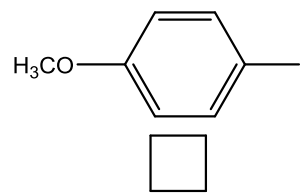
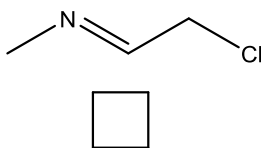
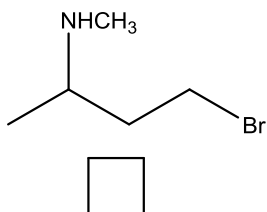
2. Place the compounds in order of increasing acidity. (1=weakest acid, 3=strongest acid) (6 points)



3. Place the compounds in order of increasing acidity. (1=weakest acid, 3=strongest acid) (6 points)

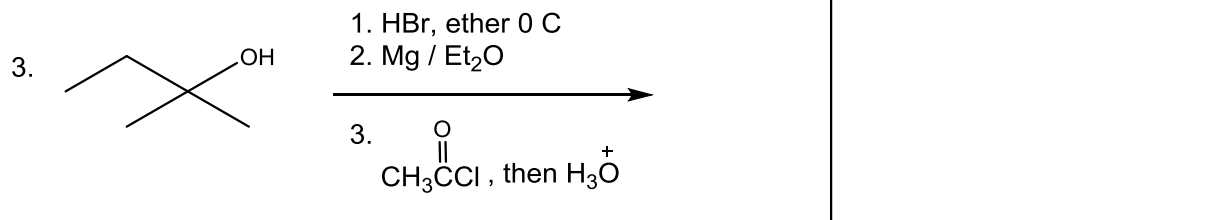
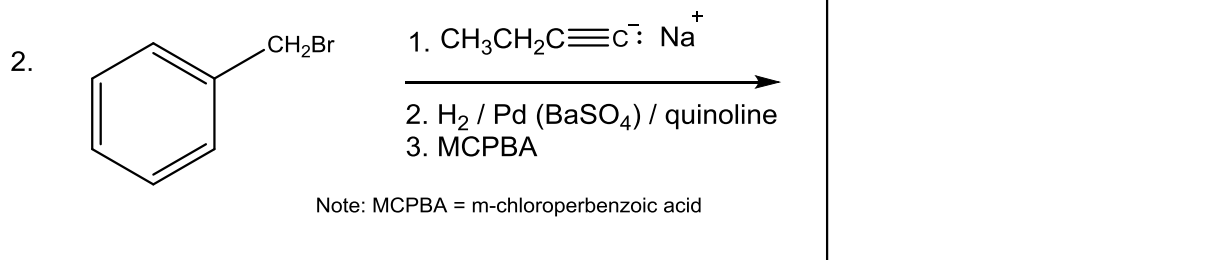
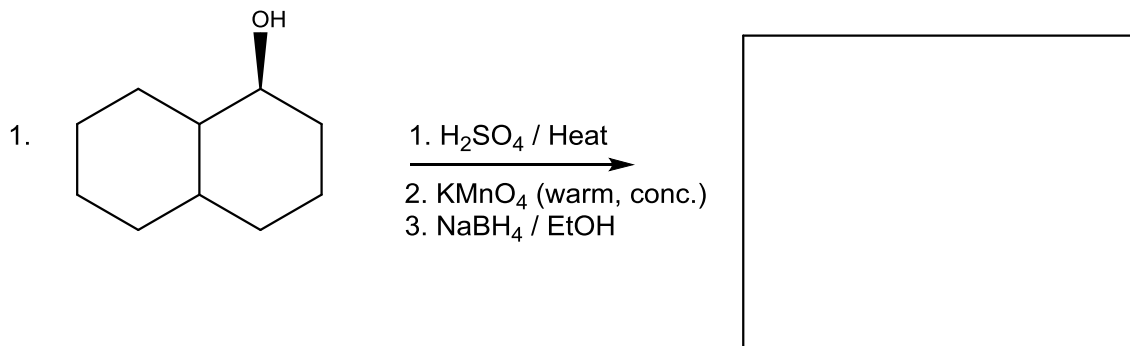


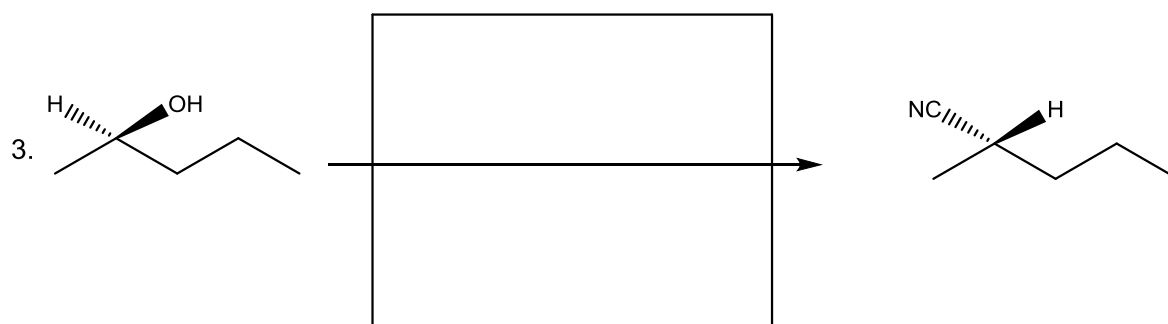
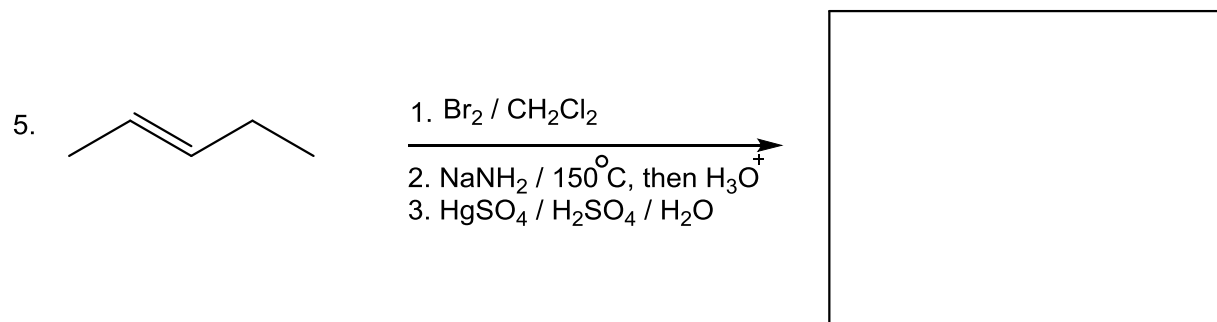
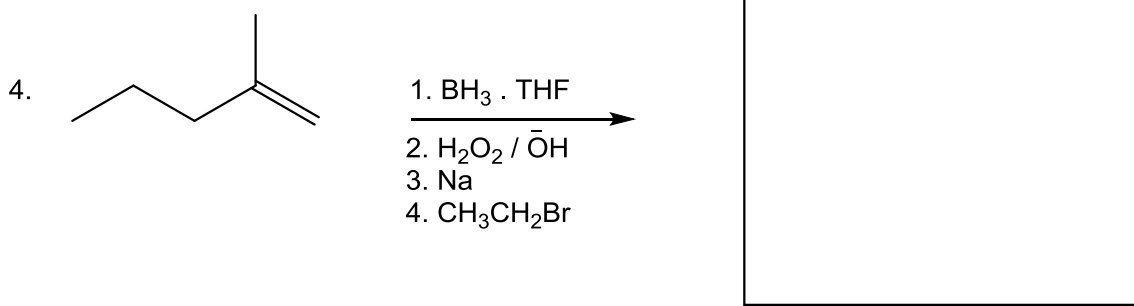
4. Place a "Y" in the box below any halide that will produce a useful Grignard reagent. Place an "N" in the box below any that will not. (6 points)



C. Reactions: Total= 36 points, 6 points each

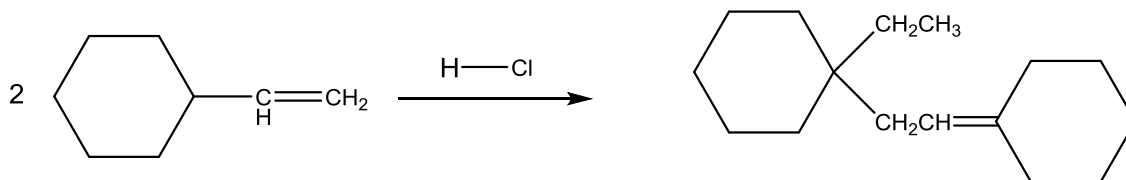
Please provide the major product or the reagents in the box. Be sure your drawing indicates stereochemistry if applicable. Partial credit is awarded only when intermediate products in a multi-step reaction are shown below the reaction.





D. Mechanisms: 12 points

The reaction below produces a mixture of products. Provide a clear mechanism to explain the formation of the product shown. Use curved arrows to indicate "electron flow". Remember to show only one step at a time. **Show all intermediates and all formal charges. Do not show transition states.**



E. Synthesis: 13 points

Synthesize the molecule below from alkanes, alkynes, or alcohols of **three** carbons or less, and any inorganic reagents. (Please do not include mechanisms.)

