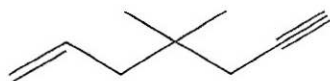


# Exam 3A, Fall

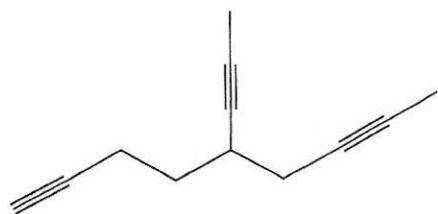
## A. Nomenclature: (16 points)

Give an acceptable IUPAC name for each of the following compounds. Be sure to include the **stereochemistry** when indicated and appropriate.

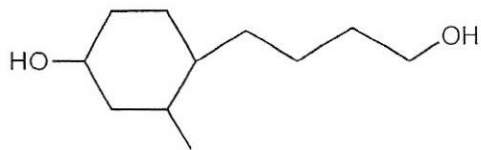
1.



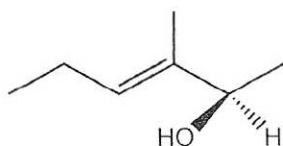
2.



3.



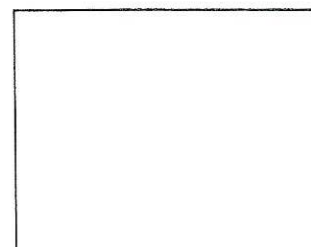
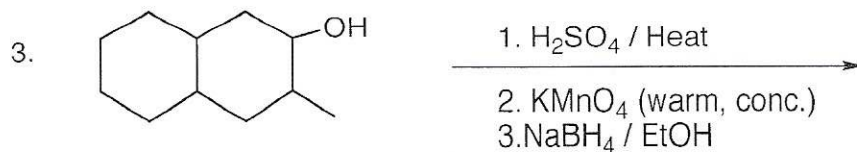
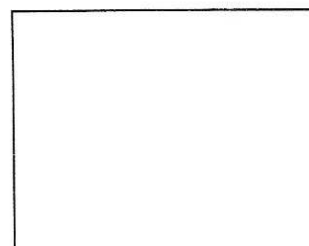
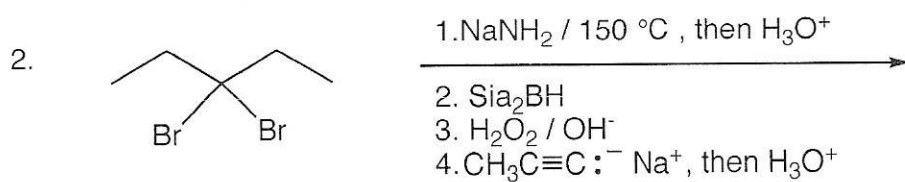
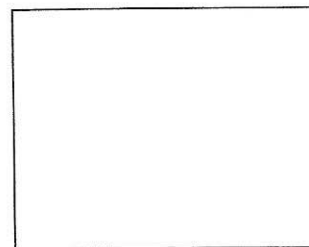
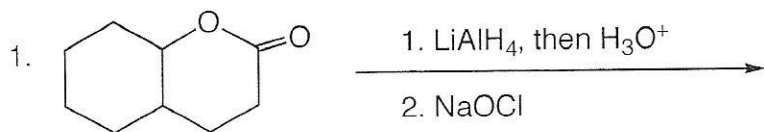
4.

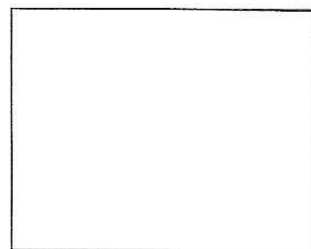
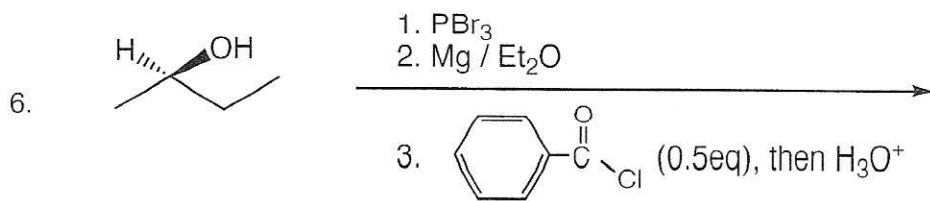
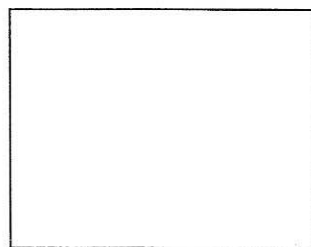
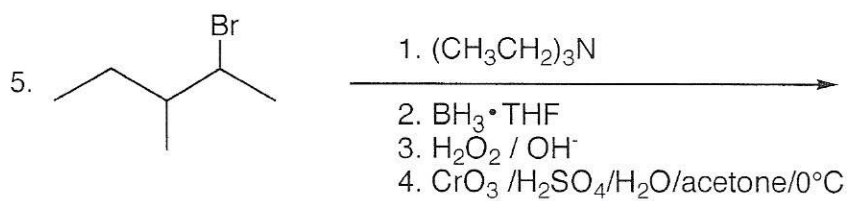
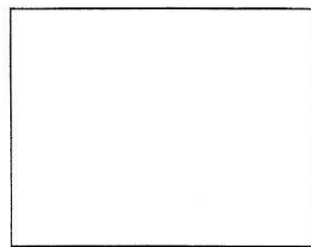
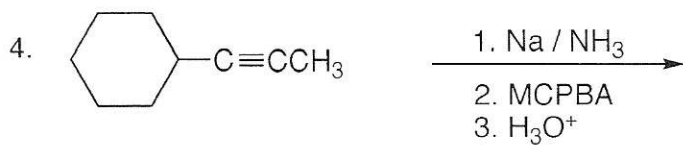




**C. Reactions:** Total = 36 points, 6 points each

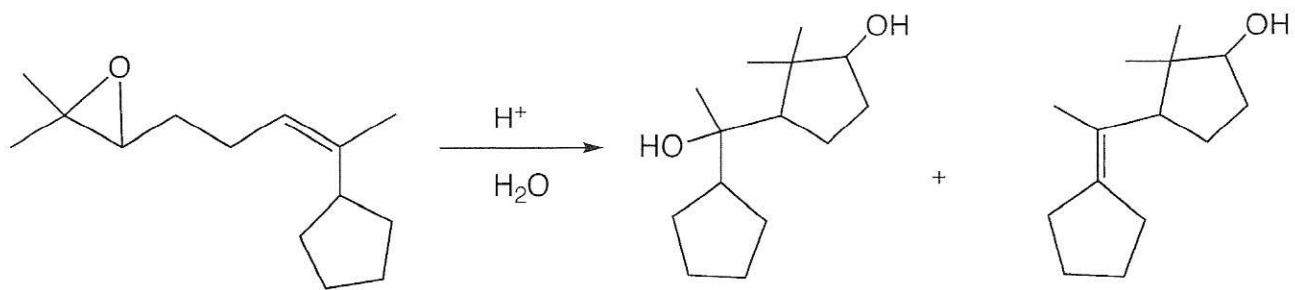
Please provide the major product in the answer box. Indicate **stereochemistry** if applicable. **Full credit is awarded only when the product of each step in a multi-step reaction is shown below the reaction.**





**D. Mechanisms:** (12 points)

The reaction below produces a mixture of products. Provide a clear mechanism to explain the formation of the products 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:** (12 points)

Synthesize the molecule below from cyclohexanol and alcohols of **four** carbons or less, any oxidizing or reducing agents, and any other inorganic reagents. (Please do not include mechanisms.)

