

Chemistry 2511: Exam 2

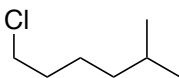
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Name: *Key*

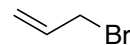
1. (9 points) Provide IUPAC names for the compounds.



cyclohexa-1,3-diene

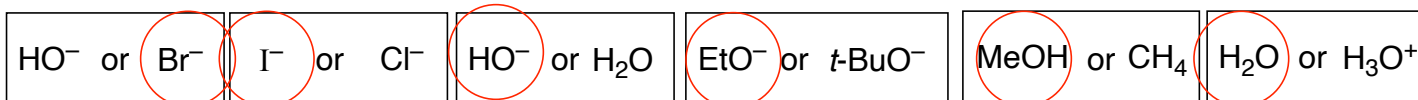


1-chloro-5-methylhexane

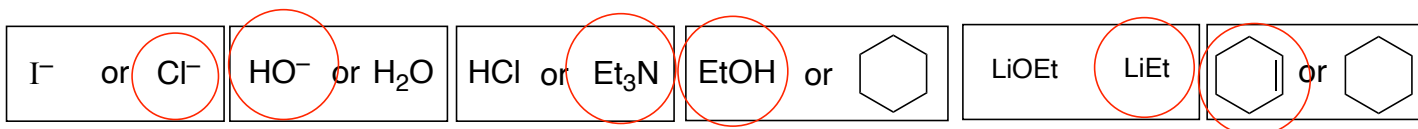


3-bromoprop-1-ene

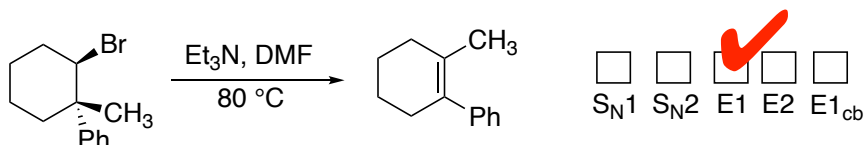
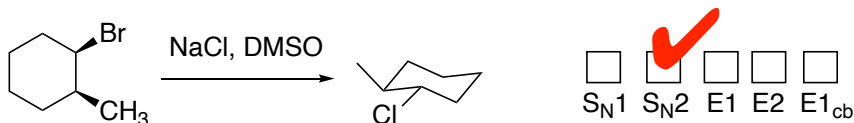
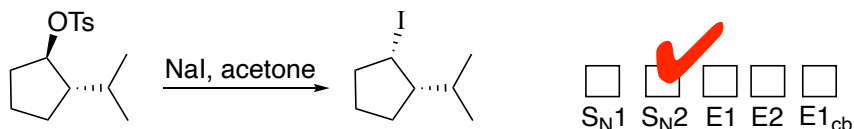
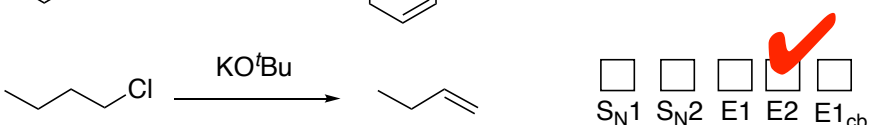
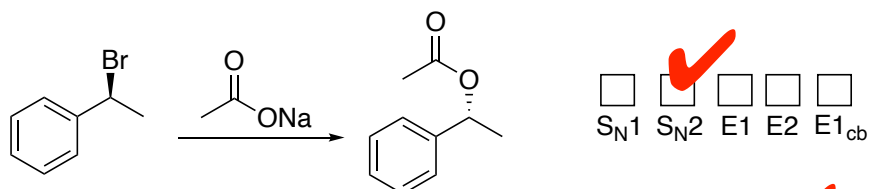
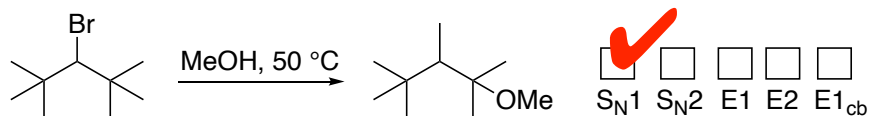
2. (12 points) Circle the best nucleophile in the following pairs of molecules.



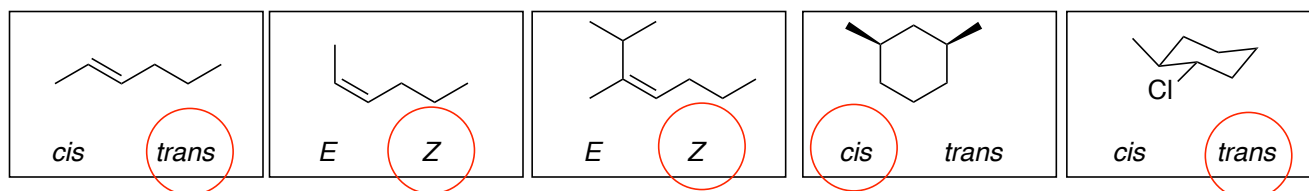
3. (12 points) Circle the strongest base in the following pairs of molecules.



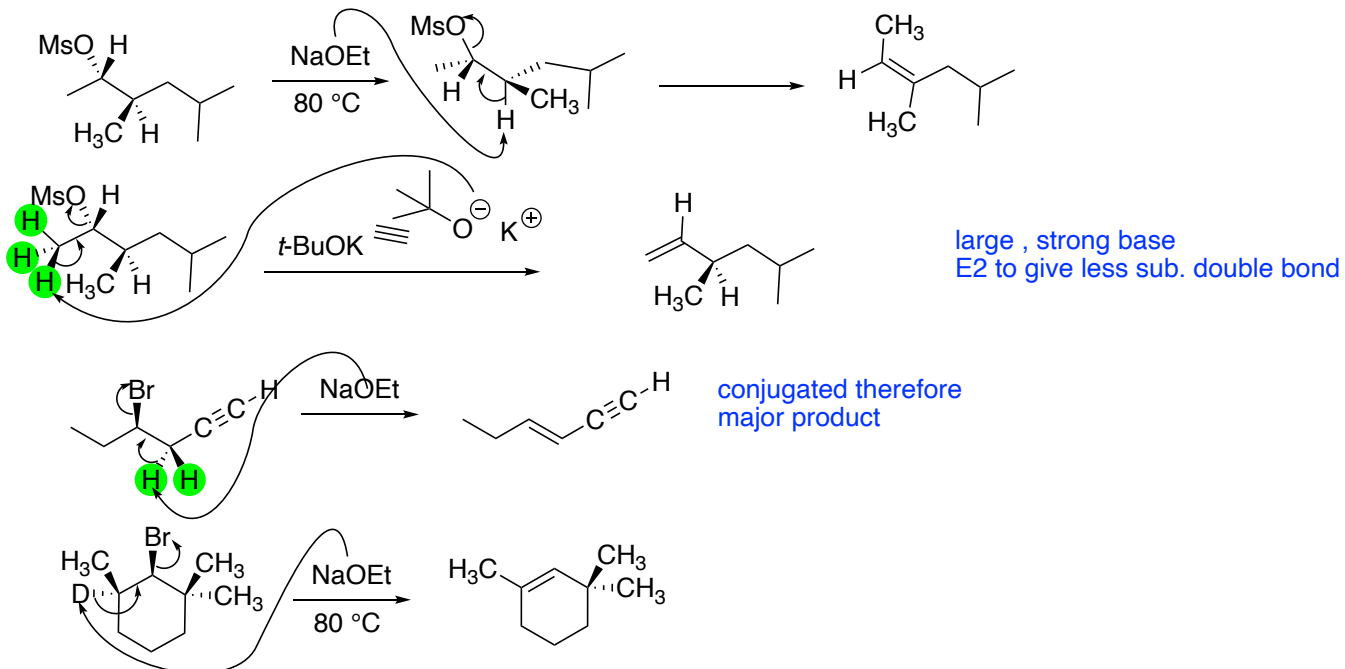
4. (18 points) Indicate the mechanism involved for each of the following reactions.



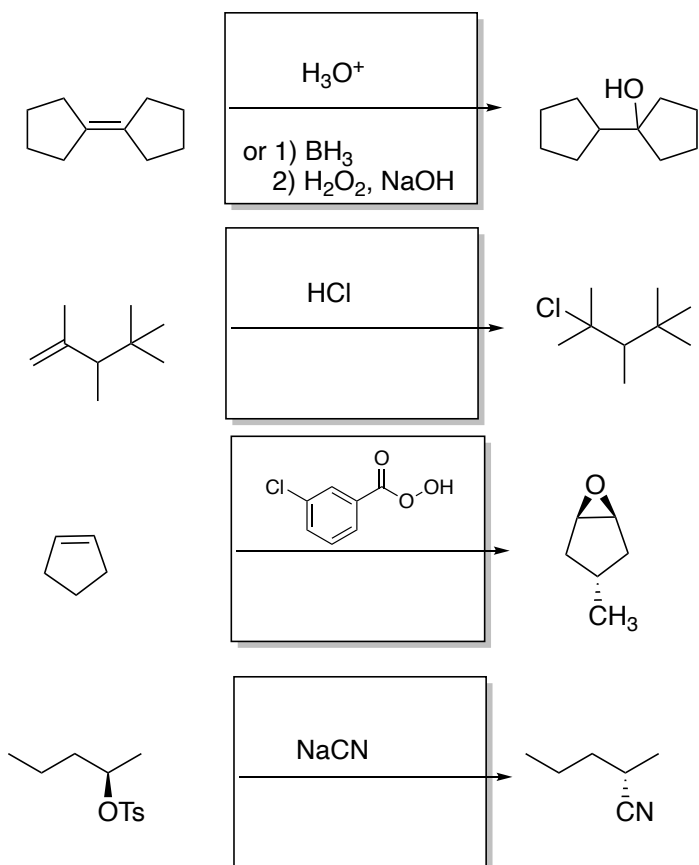
5. (10 points) Circle the term for the stereochemistry for the following compounds



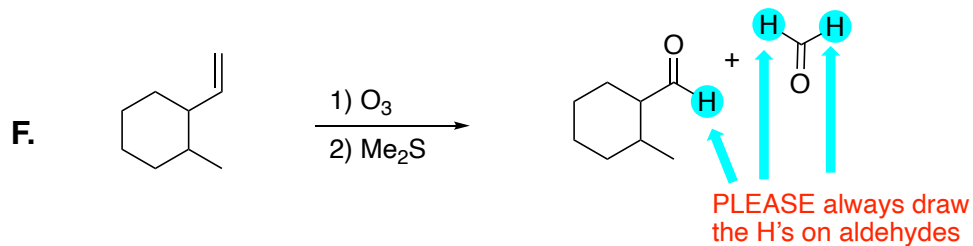
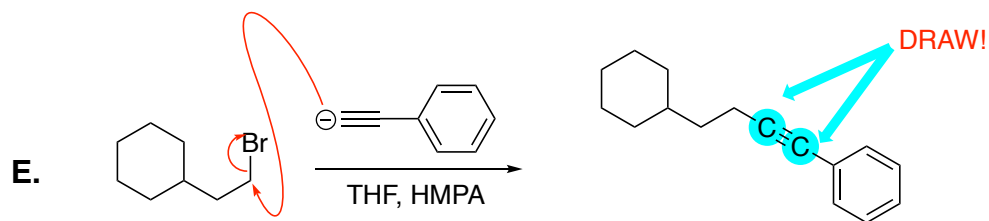
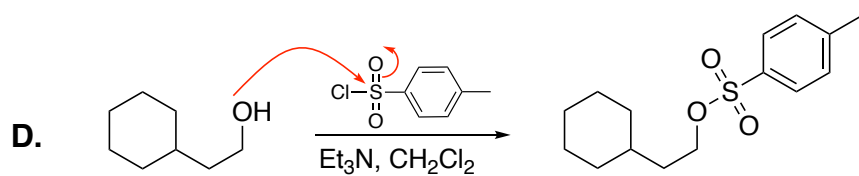
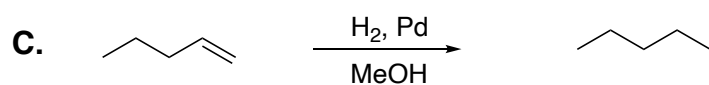
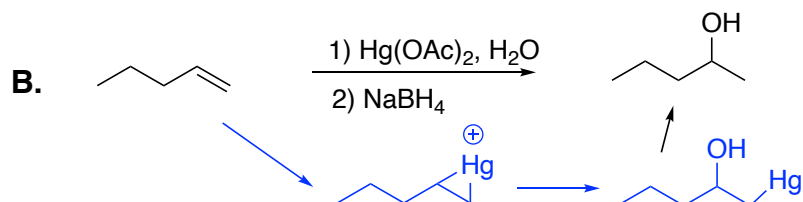
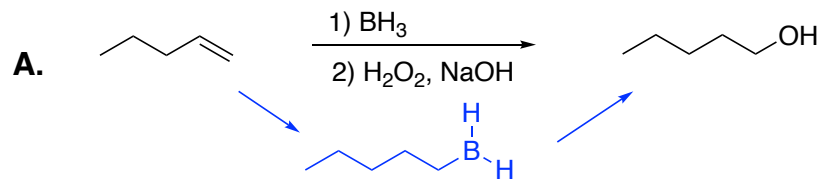
6. (16 points) Provide the major alkene with the correct stereochemistry for the following elimination reactions



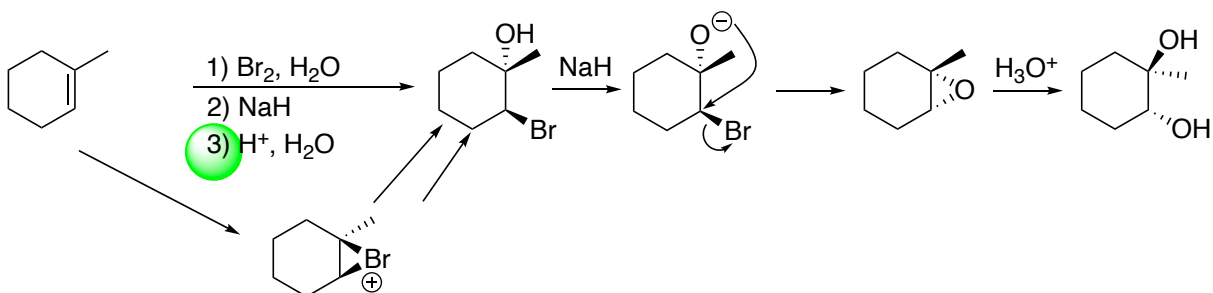
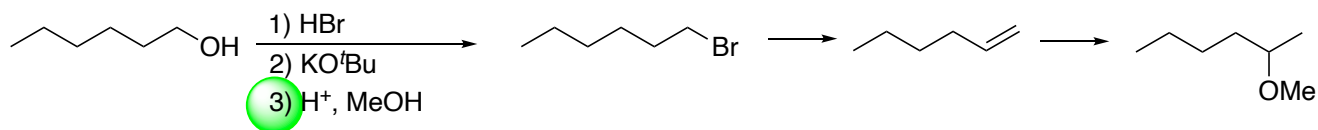
7. (12 points) Fill in the appropriate reagents for the following reactions. Some may require more than one step.



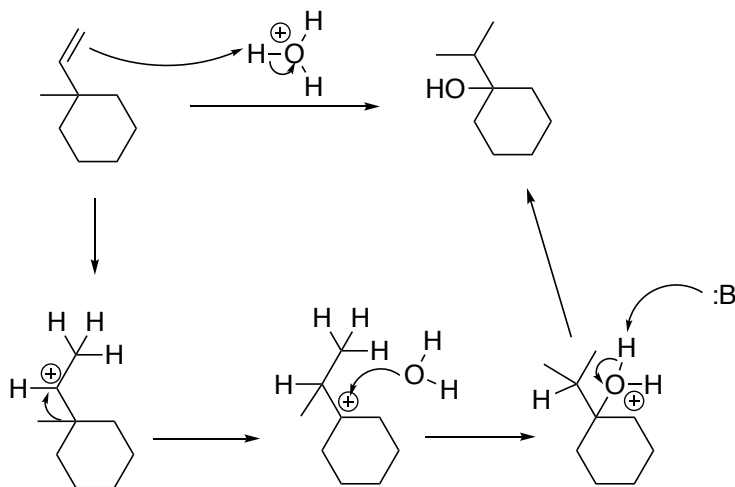
8. (24 points) Draw the **major product** for each of the reactions below and make sure to show the correct stereochemistry and regiochemistry where appropriate.



9. (12 points) For the two multistep reactions below, give the major product. You are strongly urged to provide the intermediate products.



10. (16 points) Give a detailed curved arrow pushing mechanism for the following reaction.



6 arrows
3 intermediates
2 points each = 18 pts!

Bonus: Give a complete reaction (starting materials, reagents and product) that was not included on this exam. Creativity, that is correct will get you more points. For example, swapping out Br_2 for Cl_2 in the reaction above will only get you 1 point regardless of the substrate that you deploy.

