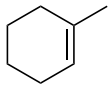
Organic 1: Exam 2

11/4/26

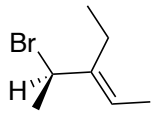
Name: Key

1. (12 points) Provide IUPAC names for the compounds. The stereochemistry is worth 2 pts each



1-methylcyclohex-1-ene

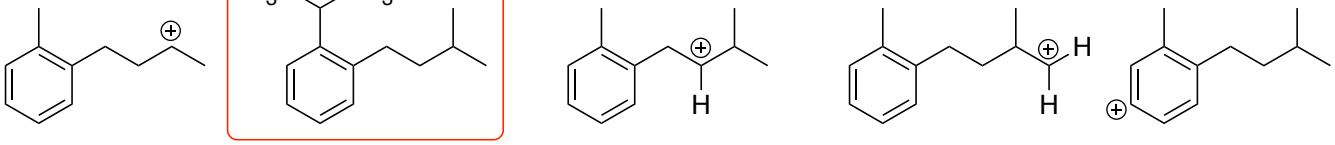
note: no need for stereochemistry here



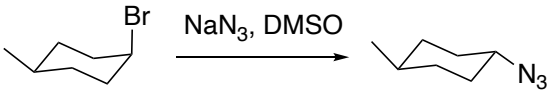
(*R*,*E*)-4-bromo-3-ethylpent-2-ene

note: there two stereochemical features

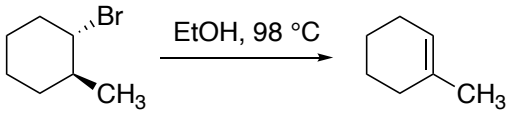
2. (4 points) Circle the most stable carbocation.



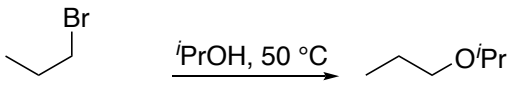
3. (21 points) Indicate the mechanism involved for each of the following reactions.



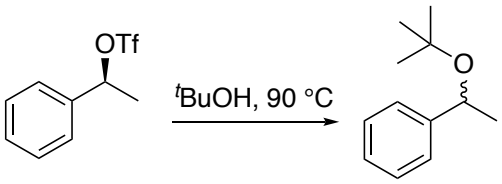
☐ R_S ☐ S_N1 ☑ S_N2 ☐ E1 ☐ E2



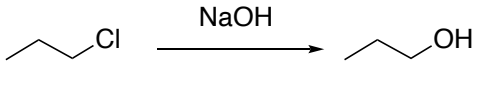
☐ R_S ☐ S_N1 ☐ S_N2 ☑ E1 ☐ E2



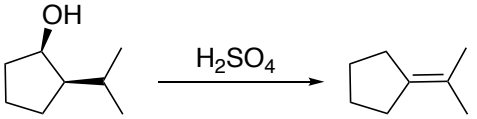
☐ R_S ☐ S_N1 ☑ S_N2 ☐ E1 ☐ E2



☐ R_S ☑ S_N1 ☐ S_N2 ☐ E1 ☐ E2

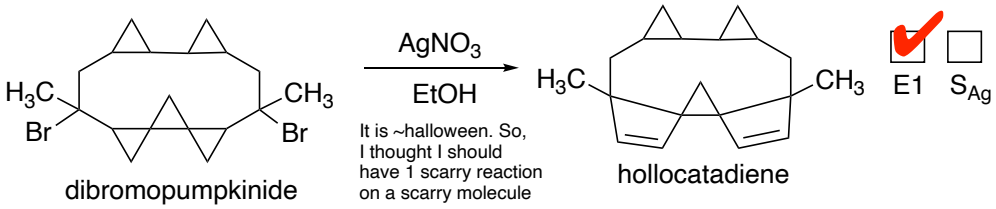


☐ R_S ☐ S_N1 ☑ S_N2 ☐ E1 ☐ E2



☐ R_S ☐ S_N1 ☐ S_N2 ☑ E1 ☐ E2

note there is a carbocation rearrangement here



dibromopumpkinide

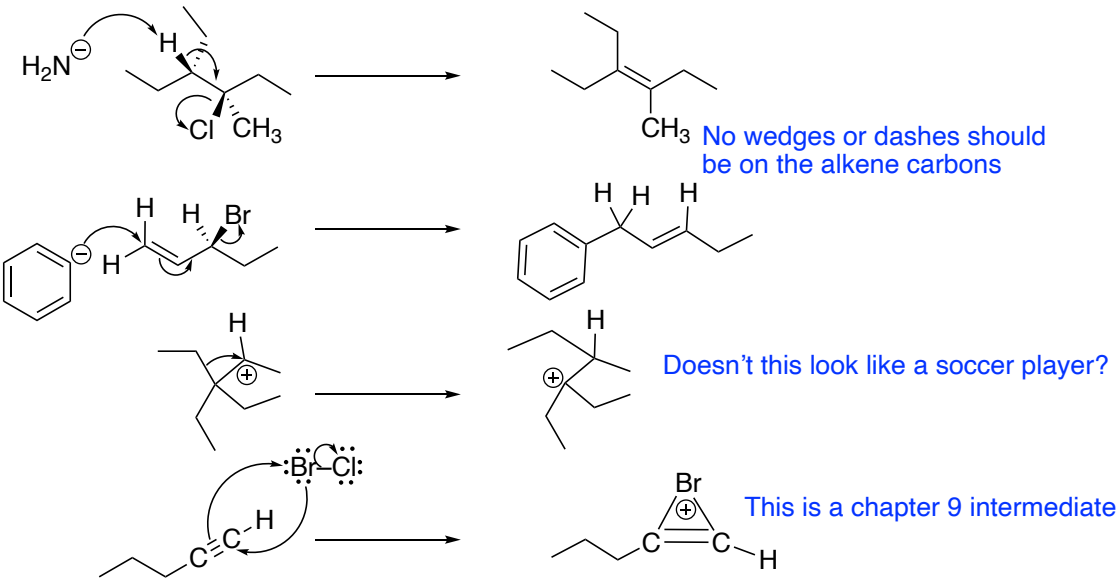
It is ~halloween. So, I thought I should have 1 scarry reaction on a scarry molecule

hollocatadiene

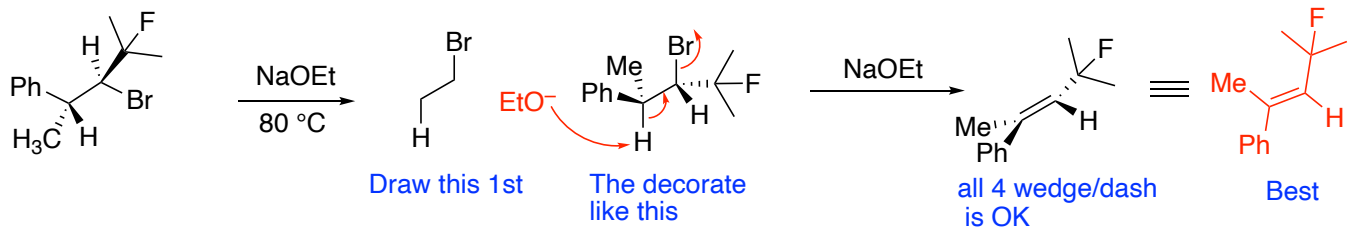
☑ E1 ☐ S_{Ag}

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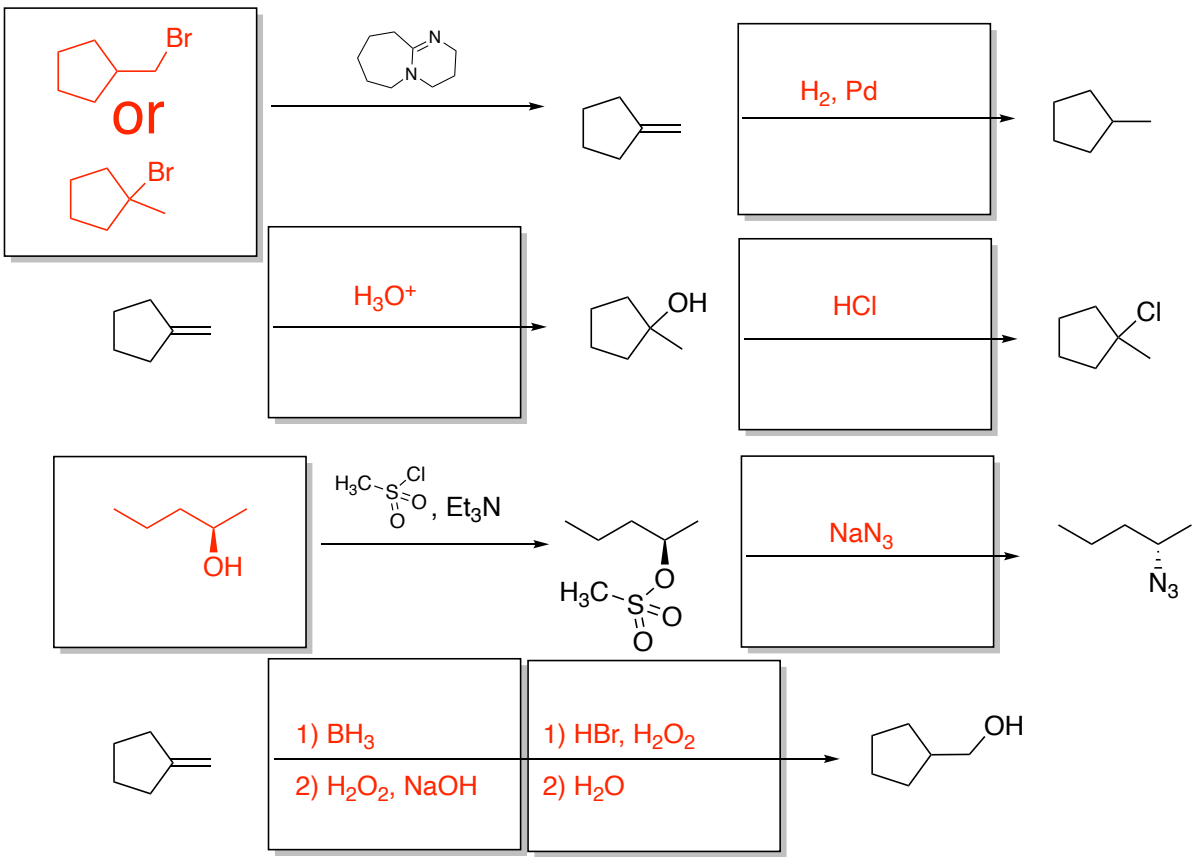
4. (12 points) Give the product/result of the arrow pushing shown below.
Note: the arrows have been carefully/precisely drawn.



5. (8 points) Provide the major alkene with the correct stereochemistry for the following elimination reaction



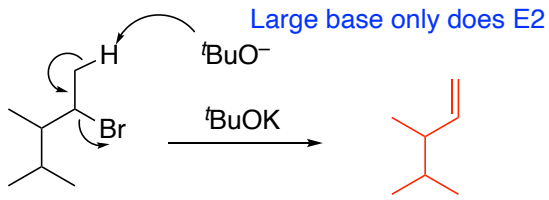
6. (14 points) Fill in the reagents or starting materials for the following reactions. Solvents are not needed.



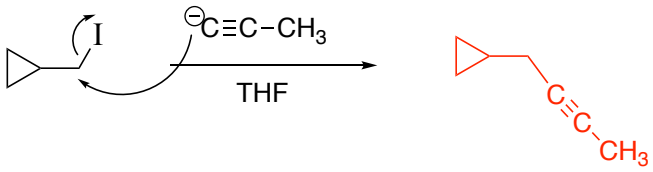
34

7. (35 points) Draw the **major product** for each of the reactions below and make sure to show the correct stereochemistry and regiochemistry where appropriate.

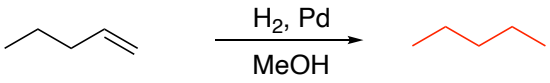
A.



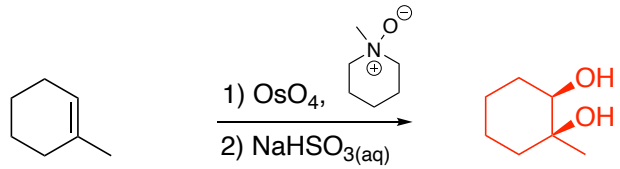
B.



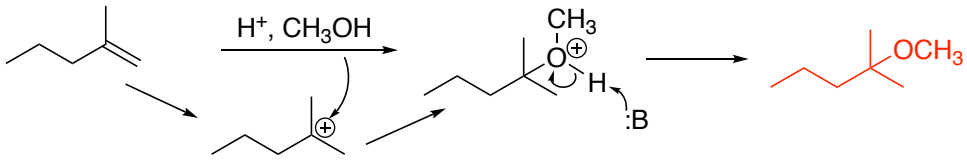
C.



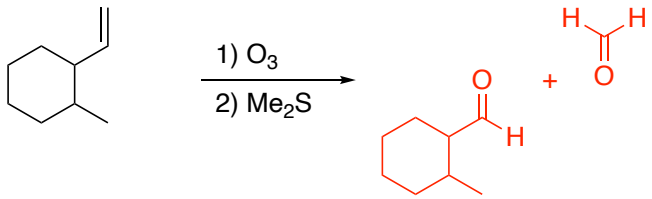
D.



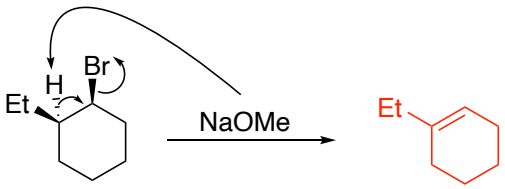
E.



F.

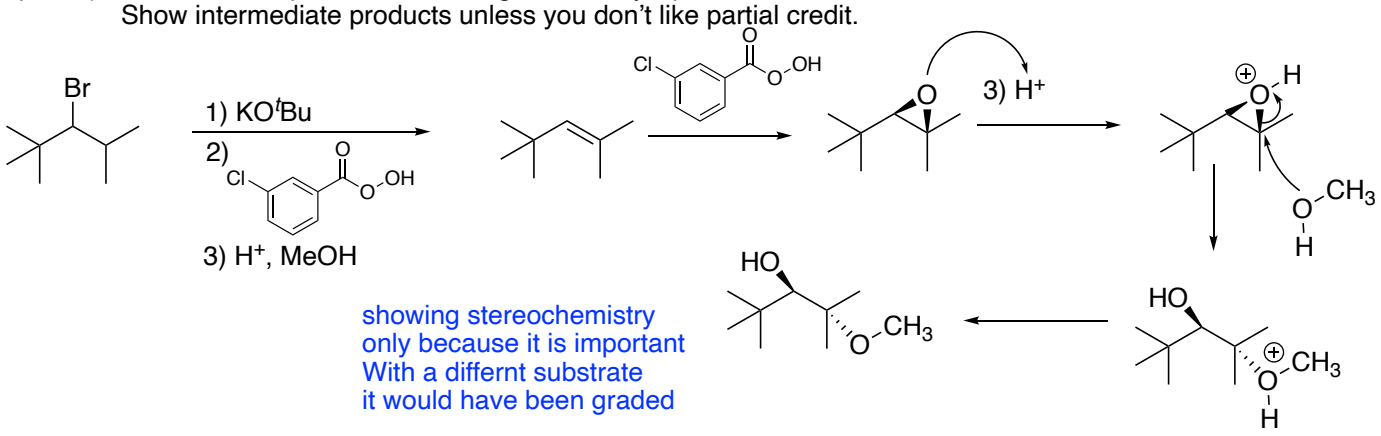


G.

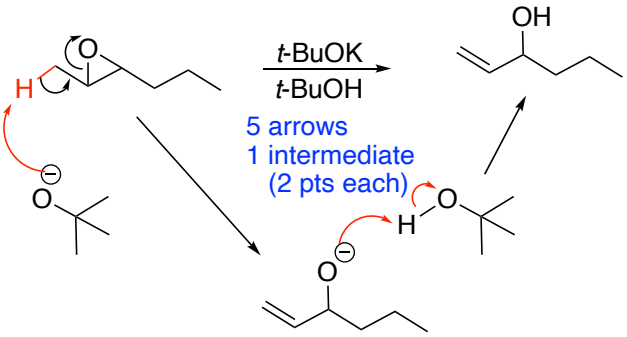


35

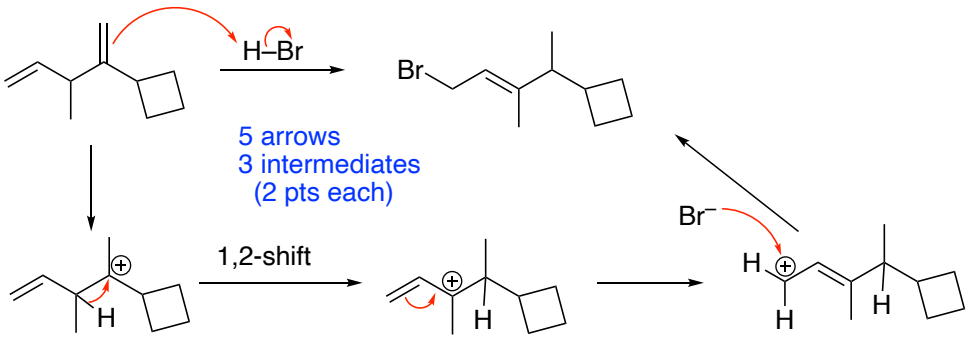
8. (6 points) For the multistep reaction below, give the major product.
Show intermediate products unless you don't like partial credit.



9. (12 points) Give a detailed curved arrow pushing mechanism for the following reaction.



10. (16 points) Give a detailed curved arrow pushing mechanism for the following reaction that requires a 1,2-hydride shift (a.k.a. a carbocation rearrangement)



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