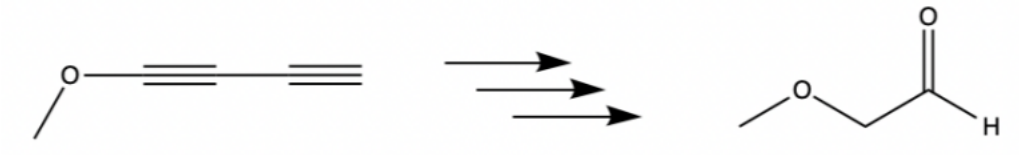
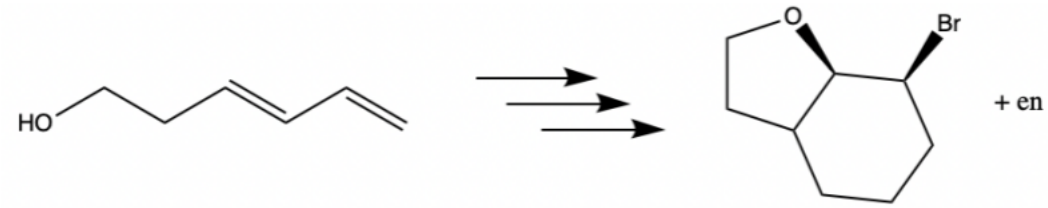
Problem Set 11 (Exam 2 Review)

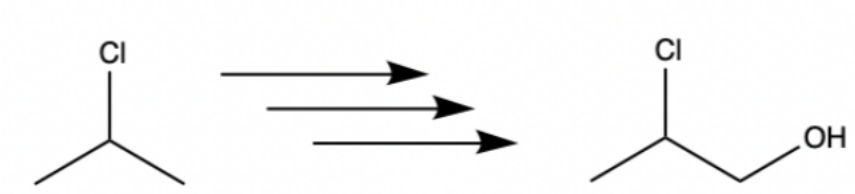
Organic Chemistry 1 (Greenberg)

Fall 2025

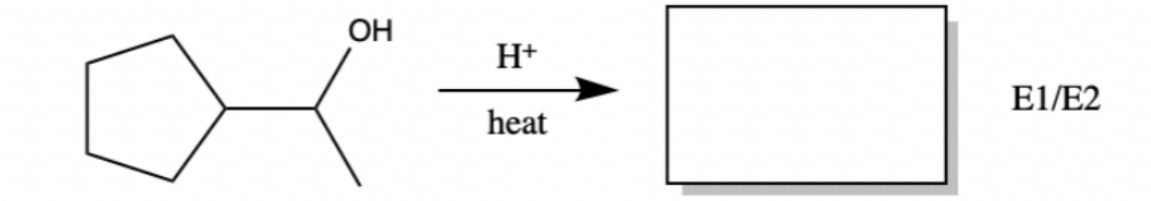
1. Provide the synthetic routes for the following problems:

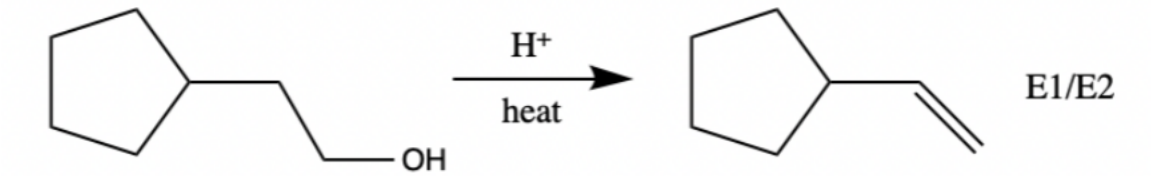




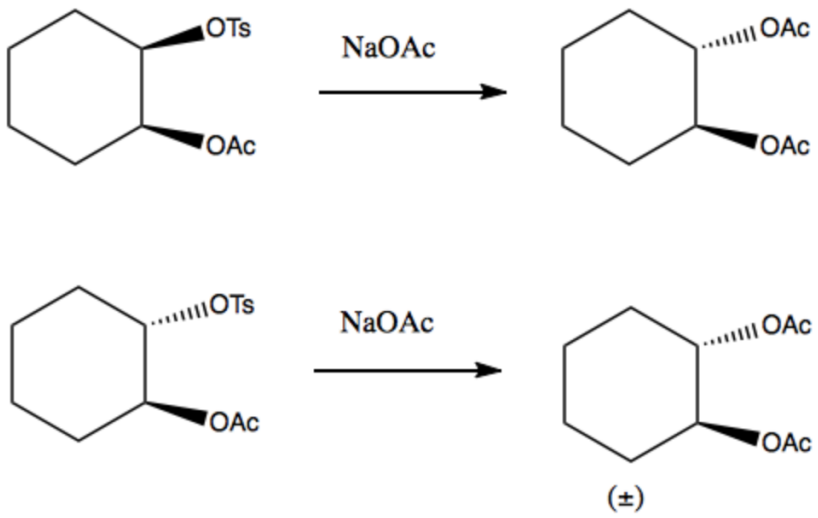


2. Indicate the type of reaction and draw both the mechanism and product:

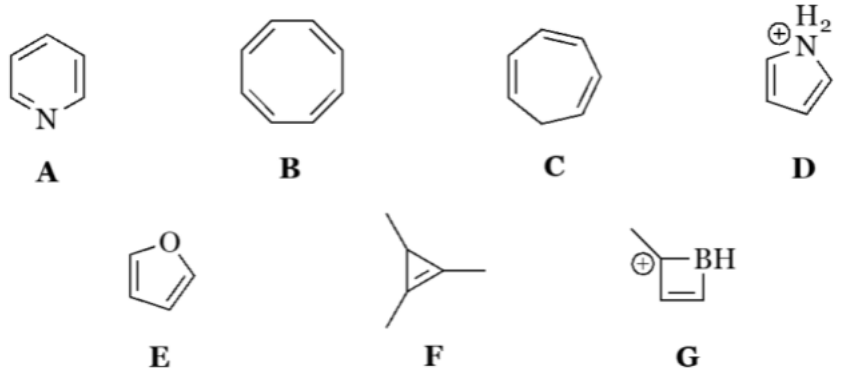




3. Using principles of anchimeric assistance (neighboring group participation), explain which reactant (cis or trans) will undergo a faster SN2 reaction:



4. Consider the following seven compounds; assume all are planar.



a. Which compound(s) is/are aromatic?

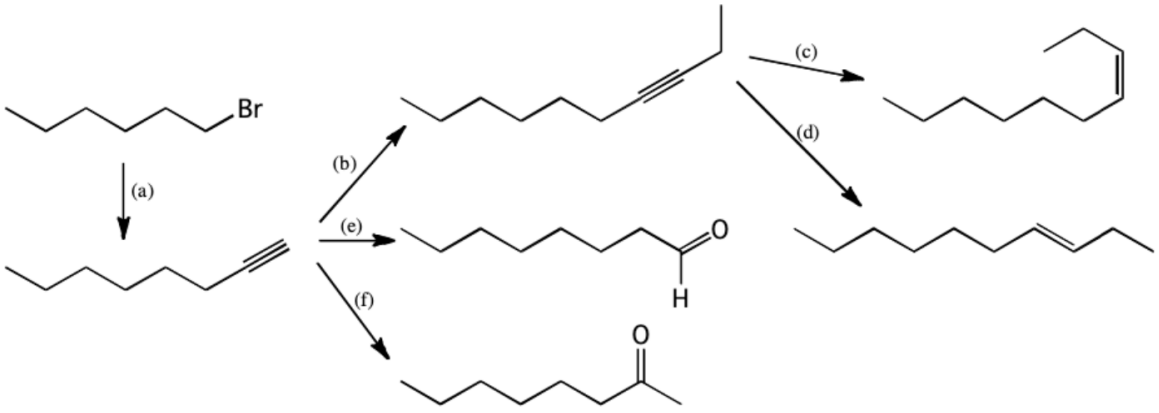
b. Which compound(s) is/are antiaromatic?

c. Of the nonaromatic compounds, which compound(s) can become aromatic after the removal of a proton?

d. Of the nonaromatic compounds, which compound(s) become aromatic after the removal of a hydride?

5. Provide the mechanism for the following transformation:

6. We have learned many ways to transform between functional groups. Provide the reagents for the reactions (a) through (e).



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Tip of the Week: