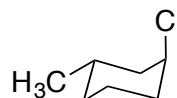
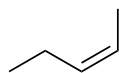
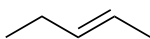
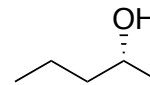
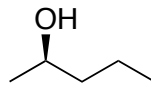
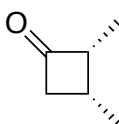
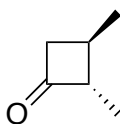
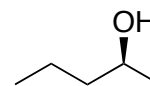
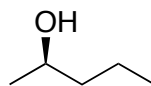
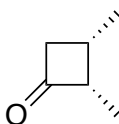
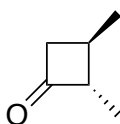
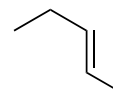
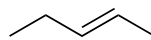
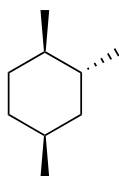
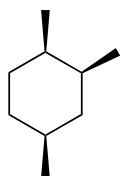
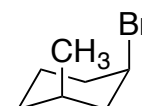
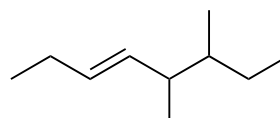
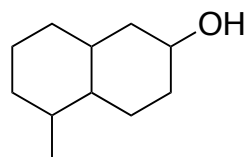
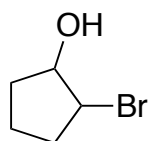
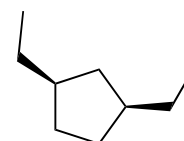
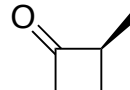
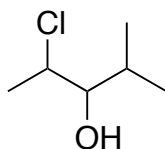
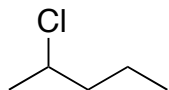


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Chapter 5 Problem Set

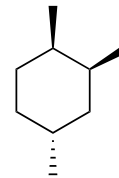
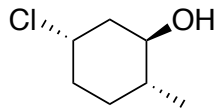
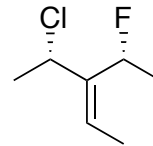
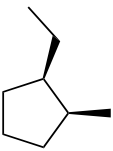
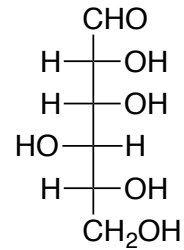
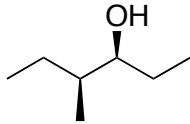
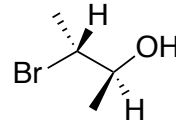
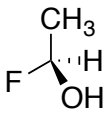
- 1) For each of the following pairs of compounds, determine whether they are identical, constitutional isomers, or stereoisomers. If stereoisomers – specify whether they are enantiomers or diastereomers.



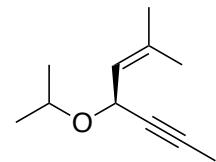
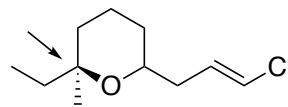
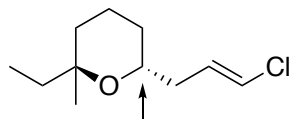
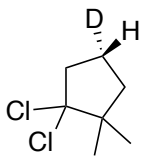
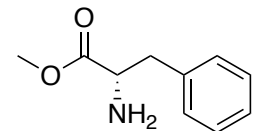
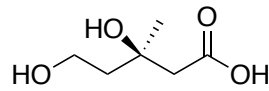
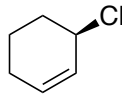
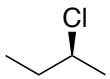
- 2) For each compound below, identify all chirality (asymmetric) centers with an asterisk (*).



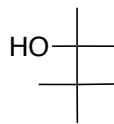
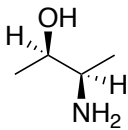
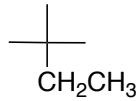
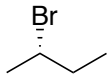
3) Draw the enantiomer of each compound below.



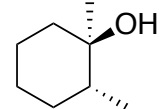
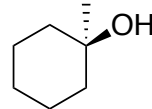
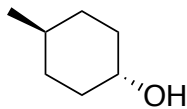
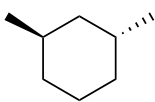
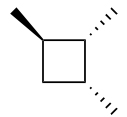
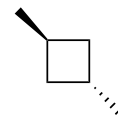
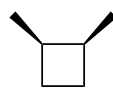
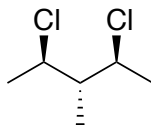
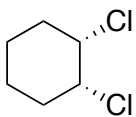
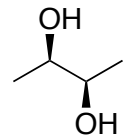
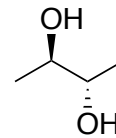
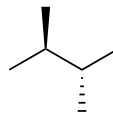
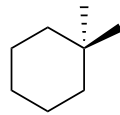
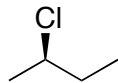
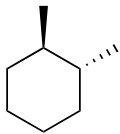
4) Assign an R/S configuration to each chiral center in the compounds below.



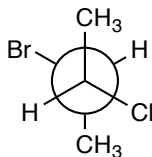
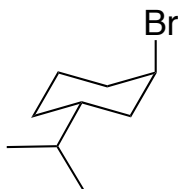
- 5) Convert each compound below to a Fischer Projection using the templates provided. Then, identify each chiral center with an asterisk (*) and draw the enantiomer.

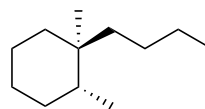
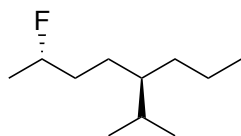
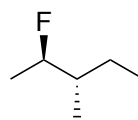
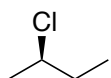
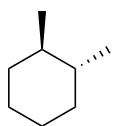


- 6) Identify all asymmetric centers in the molecules below and classify the molecule as chiral, achiral or meso-achiral.

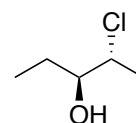
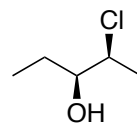
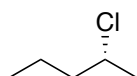
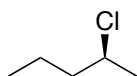
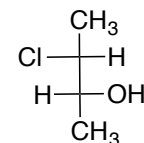
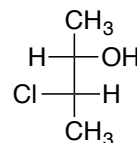
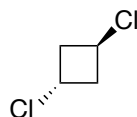
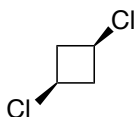
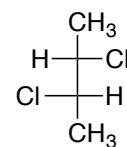
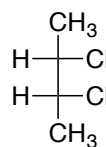
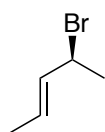
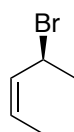
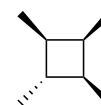
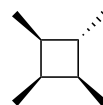
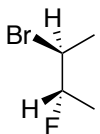
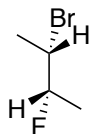
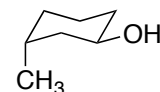
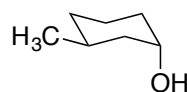
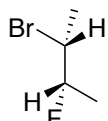
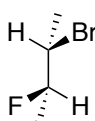


- 7) Give an IUPAC name for each of the compounds below. Make sure to include R/S designations.

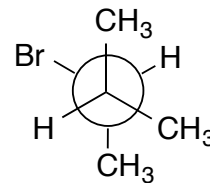
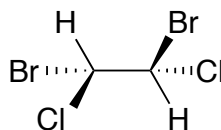
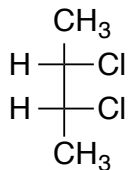
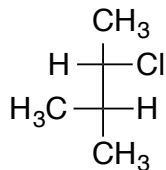
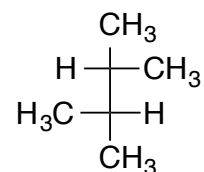
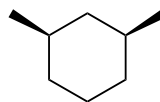
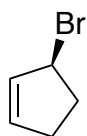
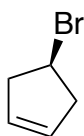




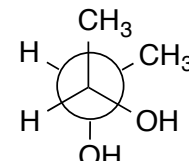
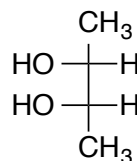
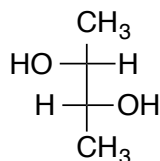
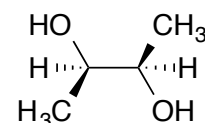
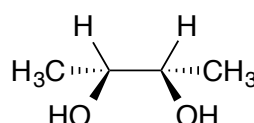
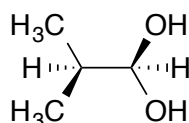
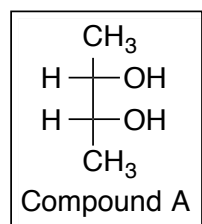
8) Indicate the relationship between each of the compound pairs below. Are they enantiomers, diastereomers, constitutional isomers, or identical compounds?



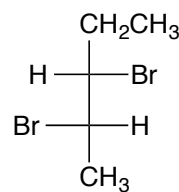
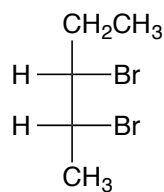
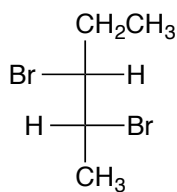
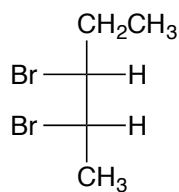
9) Label each of the following as chiral, achiral, or meso-achiral.



10) Give the relationship between Compound A and each the six compounds shown below.



11) Answer each of the following questions using the Fischer projections below.



- Identify the asymmetric centers in each.
- Label the R/S configurations at each asymmetric center.
- Identify a pair of enantiomers _____
- Identify a pair of diastereomers _____
- Which if any of the above compounds are meso compounds?