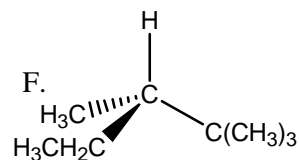
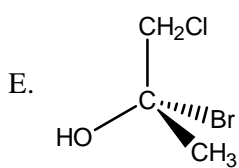
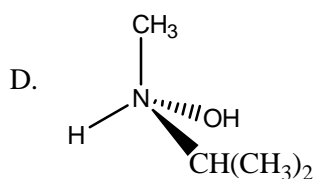
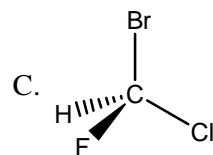
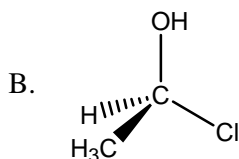
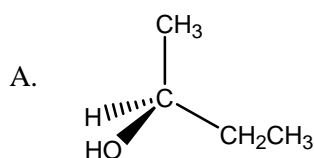
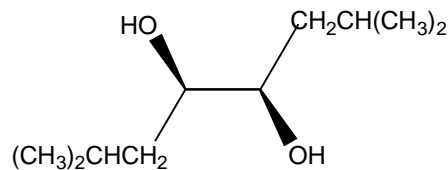
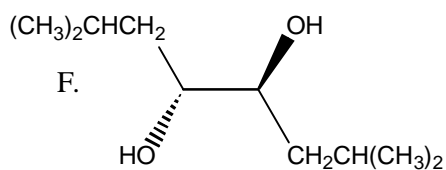
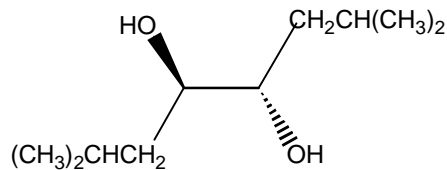
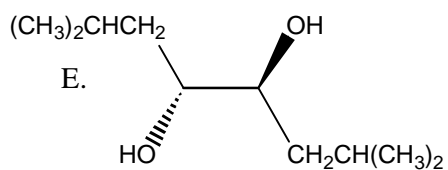
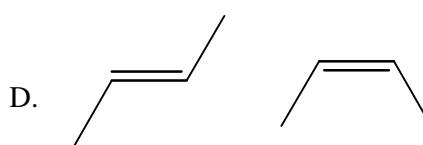
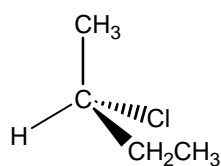
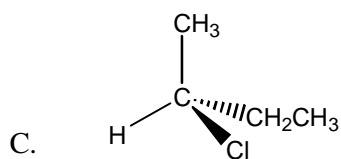
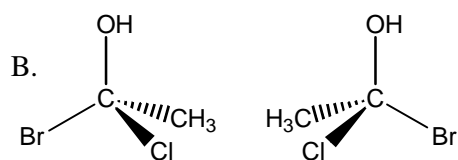
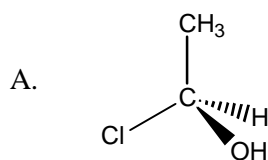


Chem 233: Problem Set #9A (on Chapter 9)

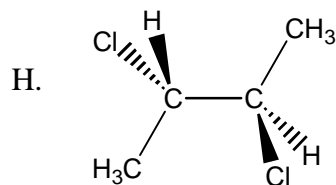
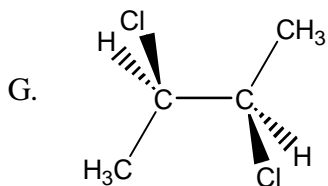
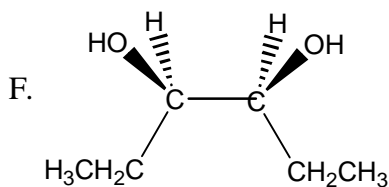
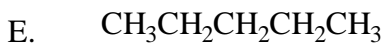
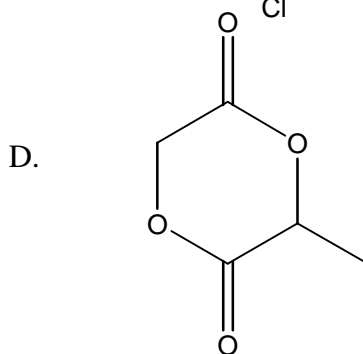
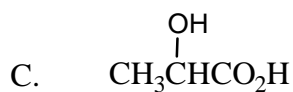
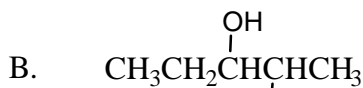
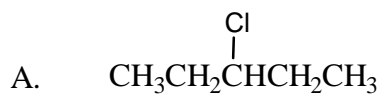
1. Determine the stereochemistry of the following compounds (R or S?).



2. Are the following pairs of molecules diastereomers, identical or enantiomers?

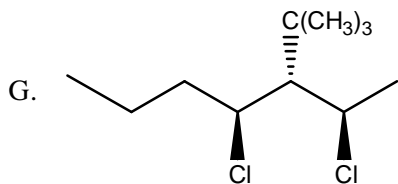
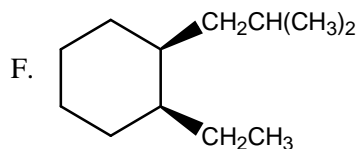
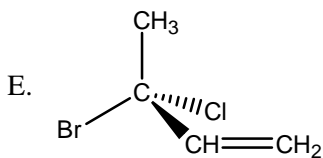
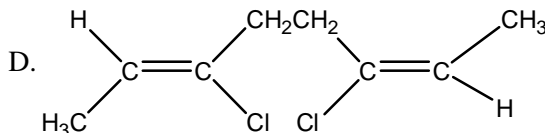
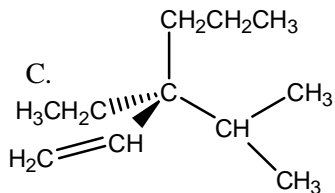
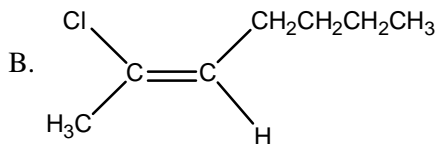
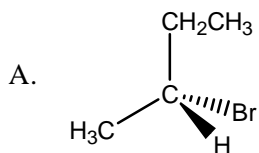


3. For each compound shown below, find and label all chirality (stereogenic) centers.



4. Determine if the compounds shown in question #3 are chiral or achiral. Remember: If a compound has a mirror plane of symmetry in any one of its conformations, then it is achiral.
5. Which of the compounds shown in question #3 are meso (i.e. have stereogenic centers but are achiral)?

6. Name the following molecules. Include E, Z or R, S designation where appropriate.



7. Draw structural formula for the molecules indicated below. For A and B, be sure to show the correct arrangement about the double bonds. For C and D, be sure to show the correct three dimensional arrangement about the stereogenic carbon center.

A. (Z)-1-bromo-2-methyl-1-butene

B. (2E,4Z)-2-bromo-5-chloro-2,4-hexadiene

C. (3R)-2,3-dimethylpentane

D. (3S)-3-bromo-3-chloro-1-hexene