Homework Week 5


Skills: Isomers of alkenes--identify and name (E,Z)
   Identify isoprene units of terpenes
   Predict relative bond lengths based on hybridization/multiplicity of bonds (already know from Chapter 1)
   Predict relative energies of alkene isomers, based on substitution level and non-bonded interactions (calculate from heats of combustion or heats of hydrogenation)

Monday
   Read Chapter 5 (if not done so already)
   Problems 4.10, 11, 33 (draw Fisher projections of all compounds), 34 (draw Fisher projections of all linear compounds), 35 (first identify the stereocenters in starting material and product)

Tuesday
   Problems Chapter 5: 2-4, 8, 10, 12, 13,

Wednesday
   Read through section 6.4
   Problems Chapter 5: 5, 6, 14, 16, 26,

Friday
   Problems Chapter 5: 19, 21, 24, 31; Chapter 6: 1-4, 16b,c,d, 17, 18
The following problems should be turned in on Friday as part of your weekly quiz. Please write your answer on a separate sheet of paper and turn it in with your quiz. This problem should be completed individually.

1. The specific rotation of a pure enantiomer is +12°. If the observed rotation of a mixture of the two enantiomers containing a total concentration of 1.0 g/mL is -9°, what is the concentration of each enantiomer?

2. a. Draw the structural formula for 2,3,4,5-tetrachlorohexane
   b. Draw all of the different possible stereoisomers as Fischer projections.
   c. Label your Fisher projections as pairs of enantiomers or as meso compounds.
   d. Identify the configurations (S or R) about the stereocenters in any one of the chiral compounds. Write out the complete IUPAC name for this stereoisomer.