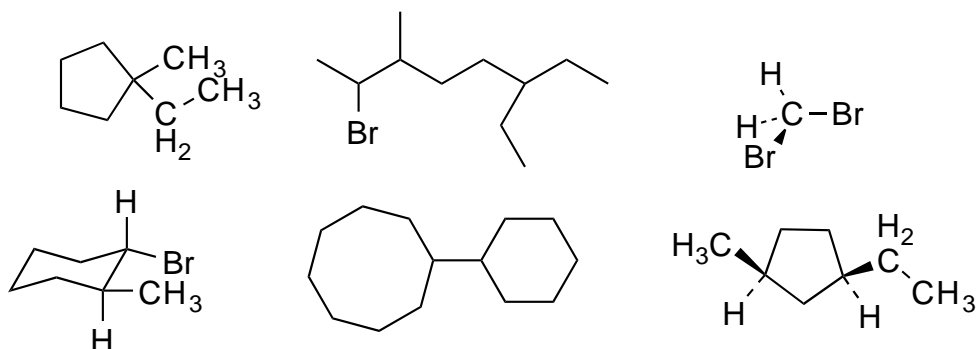


CH 207 Problem Set #2

1. Draw skeletal structures of the following:
 - a. All isomers with the formula C_4H_9Br
 - a. All isomers with the formula $C_5H_{11}Cl$
2. Name all of the above compounds
3. Draw and name all dimethylcyclopropanes, dimethylcyclobutanes, and dimethylcyclopentanes.

4. Name the following compounds:



5. Draw 3 dimensional structures of all cyclohexanes having a methyl and a chloro substituent.
 - a. Name each of the above structures
 - b. Label all axial and equatorial substituents in the above structures
6. Draw Newman projections of the staggered conformations of ethane and chloroethane.
7. Draw 3 dimensional structures of staggered and eclipsed (about the 1,2-bond) of propane and 2-methylpropane.
8. We have said that the difference in energy between staggered and eclipsed propane is about 3.4 kcal/mol. Explain why this is so. Which conformer is more stable?
9. Using energies from your notes and the text, estimate the energy difference between the staggered and eclipsed 2-methylpropanes you have drawn above.