Problem Set #2

1. Provide systematic (IUPAC) names for each of the following structures:
2. Provide the correct structures for the following IUPAC names:

- 1-bromo-2,2-dimethylpropane
- 1,1,1-trichloro-3-ethyl-5-methyloctane
- 4-(1-methylethyl)nonane
- 3-bromo-2,2,3-trichloro-1-fluorobutane
- 1-sec-butyl-4-isopropylcycloheptane
- 1-butyl-3-isobutyl-5-pentyl-2-propylcyclohexane
- cis-1,3-dimethylcyclobutane
- trans-1,2-diiodocyclohexane
3. Draw the most stable Newman projection of 1,2-dibromoethane.

4. Draw the most stable Newman projection of pentane looking down the C2-C3 bond.
5. Draw the two chair conformers of 1-bromocyclohexane and indicate which one is more stable:

6. Convert the following stick structure to the appropriate chair conformer(s).
10. Draw the bond rotation energy diagram for 2-methylbutane (looking down the C2-C3 bond) with the Newman projections for each point.