Chem 331
Name key

Fall 2007
Homework #2
due: 10 a.m. Mon. Sep. 10th

1. (8 points) Write the correct IUPAC name for each of the following:
   a. (3R)-1-amino-3-pentanol
   b. 4-pentenal
   c. (2S, 3S)-2,3-dimethylcyclopentanone
   d. (2Z)-2-butenyl (2S)-2-bromopropanoate

2. (8 points) Draw the structure corresponding to the name given. Please show all stereochemistry clearly.
   a. (3R)-(6E)-6-octen-3-ol
   b. 4,4-dimethylcyclohexanol
   c. (2R)-2,3-dimethylbutyl pentanoate
   d. 4-methoxy-2-butanoic

3. (8 points) For each pair, indicate whether they are diastereomers, enantiomers or the same.
   a. diastereomers
   b. same

4. (6 points) Draw a detailed arrow-pushing mechanism (other side) for the transformation of A to B.

   \[ \text{Bu}_3\text{Sn-H} \text{AIBN} \Delta \]

   \[ \begin{array}{c}
   \text{A} \quad \text{SCH}_3 \quad \text{Br} \\
   \text{CH}_3-\text{SH} \\
   \end{array} \]

   \[ \begin{array}{c}
   \text{B} \quad \text{CH}_3-\text{SH} \\
   \text{H-SnBu}_3 \\
   \end{array} \]