CHE 171
Fall, 2005
Specific Objectives for Quiz 4

1. Know what a stereogenic center is and be able to identify them in a molecule.

2. Be able to determine whether or not a molecule is chiral (look for the presence of stereocenter(s) and the absence of any planes of symmetry).

3. Be able to determine the absolute configuration (R or S) of a stereogenic center.

4. Know what it means for a molecule to be optically active and how optical activity is measured.

5. Know how to calculate the specific rotation $[\alpha]$ of a sample given its observed rotation, concentration, and the path-length of the sample tube.

6. Be able to calculate optical purity (enantiomeric excess or ee) of an optically active sample and determine how much of each enantiomer is present in a mixture.

7. Be able to draw all of the possible stereoisomers for a given molecule (maximum possible stereoisomers = 2^n, where n = # of stereocenters.

8. Be able to recognize the relationship between two stereoisomers as enantiomeric or diastereomeric.

9. Know what a meso compound is and be able to recognize one.