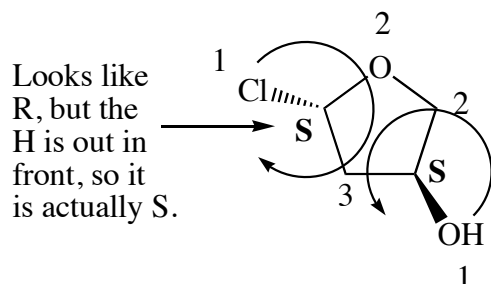
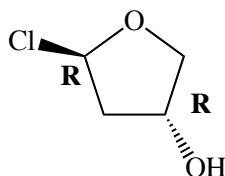


Chemistry 250A Mock Stereochemistry Quiz Answer Key

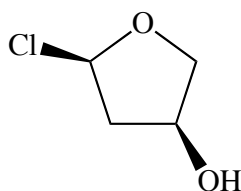
1. Indicate the configuration (R/S) of the chiral centers in the following molecule. For full credit, show your priority ranking for the groups.



2. Draw an enantiomer of the molecule in question 1. Indicate the configuration (R/S) of the chiral centers in this molecule.

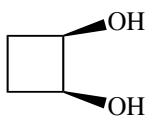


3. Draw a diastereomer of the molecule in question 2. Do you expect this compound to be optically active? Why or why not?



This compound is chiral, so it should be optically active.

4. Draw a *meso* molecule.



A molecule with more than one chiral center that is achiral.

5. Does the R/S stereochemistry of chiral centers on a cyclohexane ring switch when you flip from one chair conformation to another? What must always occur in order to change the stereochemistry at a chiral center?

No. The stereochemistry does not change when you change conformers. In order to change the stereochemistry at a chiral center you must normally break one of the bonds to the chiral center. (This is not actually always true, since in some pyramidal compounds (for example amines and phosphines) the stereochemistry can change by inverting the pyramid, like an umbrella inverting in a strong wind.)