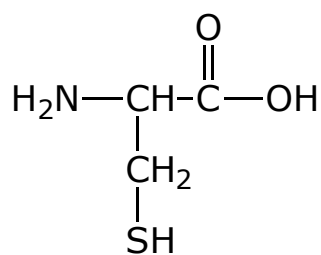
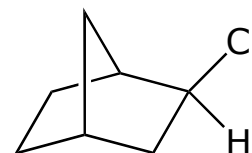
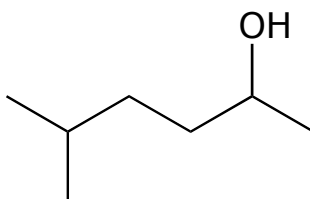
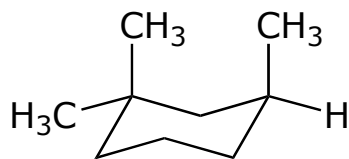


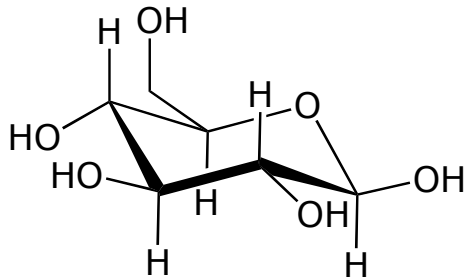
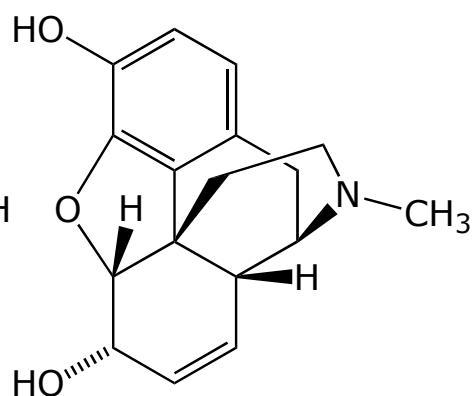
## WORKSHOP 7

## Stereochemistry

1. Identify all the stereocenters in the following compounds.

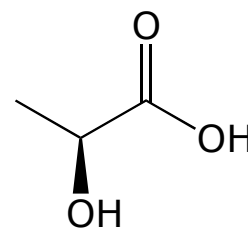
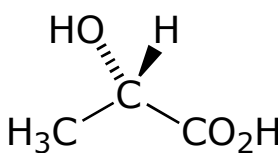
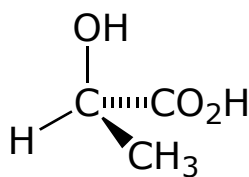
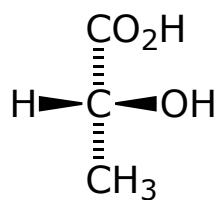


cysteine

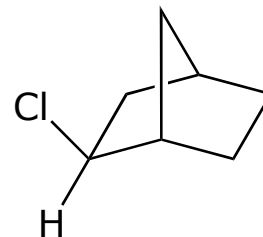
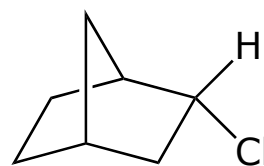
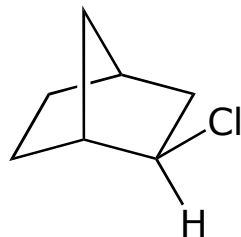
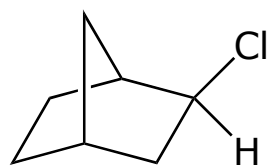
 $\beta$ -D-glucose

morphine

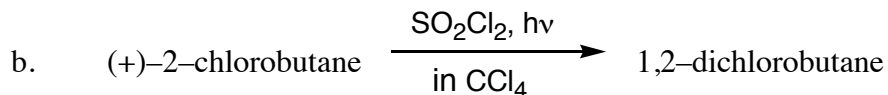
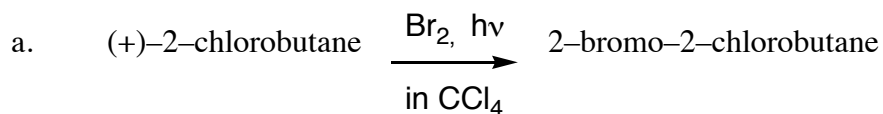
2. a) Determine the relationship between the compounds in each of the following pairs.  
 b) Identify the optically active (chiral) compounds and any **meso** compounds.  
 c) Assign **configuration (R or S)** to all stereocenters.



Note: among four structures, there are six pairwise relationships.



3. For each of the following reactions, give a careful representation of the structure of the product and predict whether the product will be optically active, a racemic mixture or achiral. **Explain your choice.**



Several other products are formed.

This product is separated by gas chromatography and collected for analysis.

