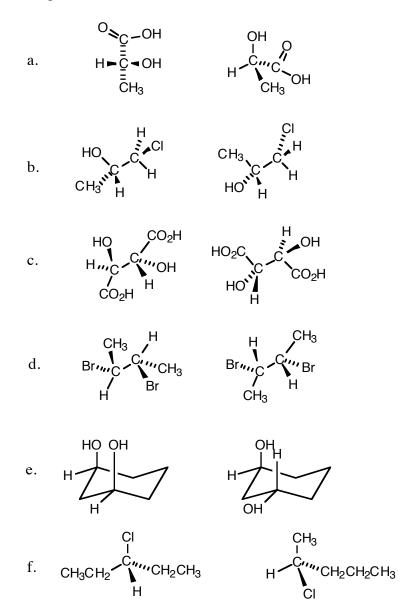
## **ORGANIC CHEMISTRY**

## WORKSHOP 7

## **Stereochemistry**

1. Tell whether the compounds in each of the following pairs are **non-isomeric**, **identical**, **constitutional isomers**, **enantiomers**, or **diastereomers**. Also, assign **configuration** (**R or S**) to all stereocenters. Identify the **optically active** (**chiral**) compounds. Identify any meso compounds. Make molecular models of these compounds to confirm your assignments.



2. For each of the following reactions, predict whether the product will be optically active, a racemic mixture or achiral. **Explain your choice.** 

a. (+)-2-chlorobutane 
$$\xrightarrow{\text{Br}_2}$$
 2-bromo-2-chlorobutane  
 $\stackrel{\text{in CCl}_4}{\text{hv}}$ 

b. 
$$(+)-2$$
-chlorobutane  $\xrightarrow{SO_2Cl_2, CCl_4}_{hv}$  1,2-dichlorobutane  
Several other products are formed.  
This one is separated by gas chromatography.

c. (+)-3-methylcyclopentene 
$$\xrightarrow{PtO_2}$$
 methylcyclopentane  $H_2$