

Problem Set 18: Chirality, Stereoisomers and Fischer Projections

1. Draw 1,3-dibromobutane in a proper Fischer Projection below, and then complete a-c.
 - a. Draw the mirror image molecule to the right of your first drawing for 1,3-dibromobutane.
 - b. How are the two molecules related?
 - c. What physical property will be different for the two molecules?
2. There are THREE stereoisomers of 2,3-dibromobutane. Draw all three below in proper Fischer Projection, and then complete a-d below.
 - a. Circle the two molecules that are a pair of enantiomers.
 - b. How is the other molecule related to the two enantiomers?
 - c. Which of the above will be optically active?
 - d. Draw a line under the molecule that is a meso compound.
3. There are FOUR stereoisomers of 1-bromo-4-chloro-2,3-butanediol. Draw all four below in proper Fischer Projection, and then complete a-c below.
 - a. Label one pair of enantiomers with capital A, and the other pair of enantiomers with capital B.
 - b. How are the molecules labeled A related to the molecules labeled B?
 - c. Which of the above will be optically active?