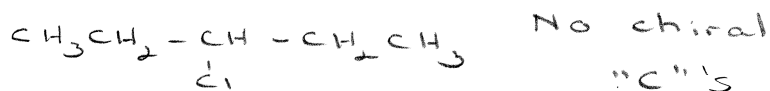


## Chapter 4: "Stereochemistry" Worksheet

1. Draw the following compounds and label the Chiral carbon(s).

3-chloropentane



3-chloro-2-methylpentane



2-bromo-1-chlorobutane



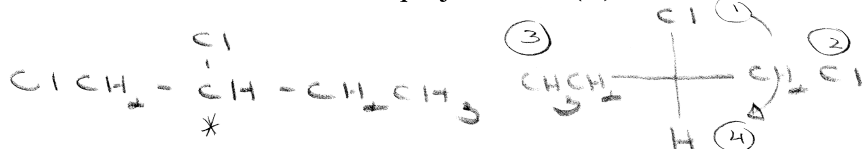
2. Define the Cahn, Ingold, Prelog Sequence Rules.

- #1 Atom w/ highest Atomic Number  
 #2 If the next 4 atoms or groups of atoms are not all different, move out to the first point of difference

3. List the three rules for assigning the R/S prefixes.

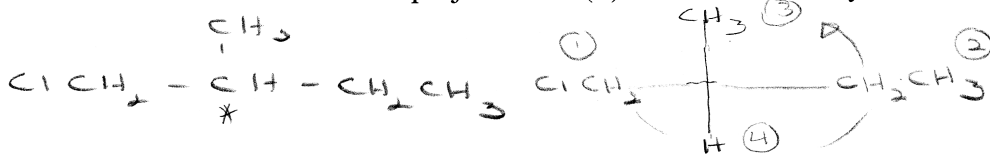
- (1) Using the rules above assign priorities
- (2) Rotate the lowest priority group (#4) away from you
- (3) Draw arrows from 1 → 2 → 3  
 clockwise ⇒ "R"  
 counter clockwise ⇒ "S"

4. Draw the Fischer projection of (R)-1,2-Dichlorobutane.

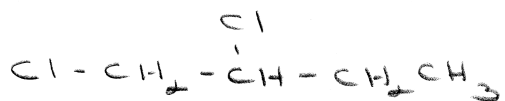


Start by putting (1) + (4) on the vertical axis w/ (1) up + (4) down, this satisfies (2) above

5. Draw the Fischer projection of (S)-1-Chloro-2-methylbutane.



6. Using the R,S prefixes name the following compound.



(2R)-1,2-dichlorobutane

The "2" is implied here since there is only one chiral "C"

(R)-1,2-dichlorobutane