5.43: Advanced Organic Chemistry

Cahn-Ingold-Prelog convention

Tetrahedral/sp^3 stereocenters: R or S

Step 1: Assign priorities to substituents, giving higher priority to atoms of higher atomic number (e.g., S > O > N > C > H)

- If there is a "tie," then compare the substituents attached to the groups in question.
- If there is a multiple bond, then each formal bond is counted once.
- Lone pairs have atomic number 0.

Step 2: Place the lowest priority substituent in back. If the other three substituents decrease in priority in:

- a clockwise direction ⇒ R
- a counterclockwise direction ⇒ S