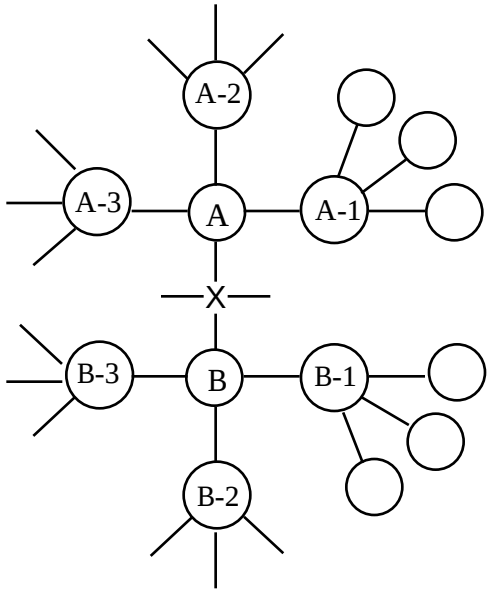
Cahn-Ingold-Prelog Priority Rules

1. Look at the four atoms directly attached to the stereogenic center (X). Assign priorities based on atomic number to all four atoms. Priority 1 is assigned to the atom or group of highest atomic number, priority 4 to the lowest.

2. If two or more atoms are identical (designated A and B below), look at all the atoms directly attached to the identical atoms in questions (designated A-1, A-2, A-3 and B-1, B-2, B-3). Assign priorities to all these atoms based on atomic number (1 is the highest priority, 3 the lowest).

3. Compare the highest priority atoms, i.e. compare A-1 with B-1. If A-1 is a higher priority atoms than B-1, then A is higher priority than B. If A-1 and B-1 are the same atom, then compare the second highest priority atoms directly bonded to A and B (A-2 with B-2); if A-2 is a higher priority atom than B-2, then A is higher priority than B. If A-2 and B-2 are identical atoms, compare A-3 with B-3.



4. If a difference still can not be found, move out to the next highest priority group (A-1 and B-1 in the diagram) and repeat the process.

5. Multiple bonds are considered as an equivalent number of single bonded atoms.