

(26) Today

Sections 5.1 – 5.5

Chirality and Determining the Configuration of Chiral Centers

Next Class (27)

Sections 5.6 – 5.12

Diastereomers, N,P, and S, and Prochirality

(28) Second Class from Today

Chap 6

Third Class from Today (29)

Chap 6

Definitions

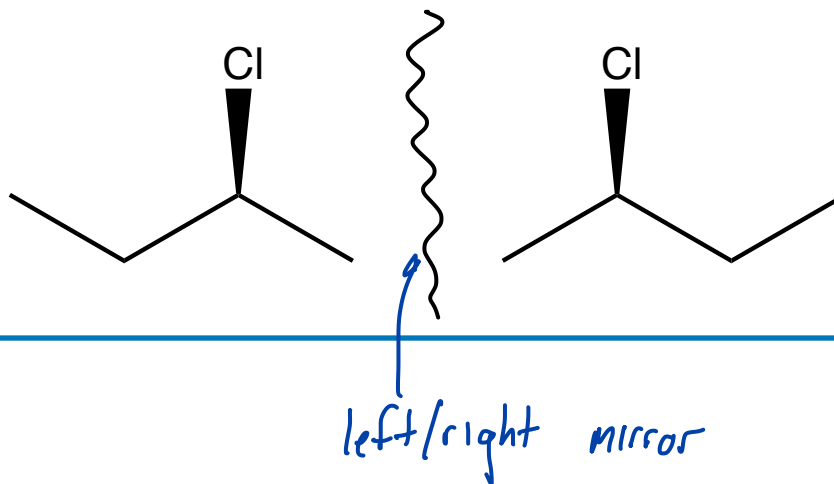
stereoisomers are molecules that have the same connectivity but different 3-D relationships between parts of the molecules

e.g. (*R*)-2-chlorobutane vs (*S*)-2-chlorobutane

The word **enantiomer** describes the relationship between two stereoisomers.

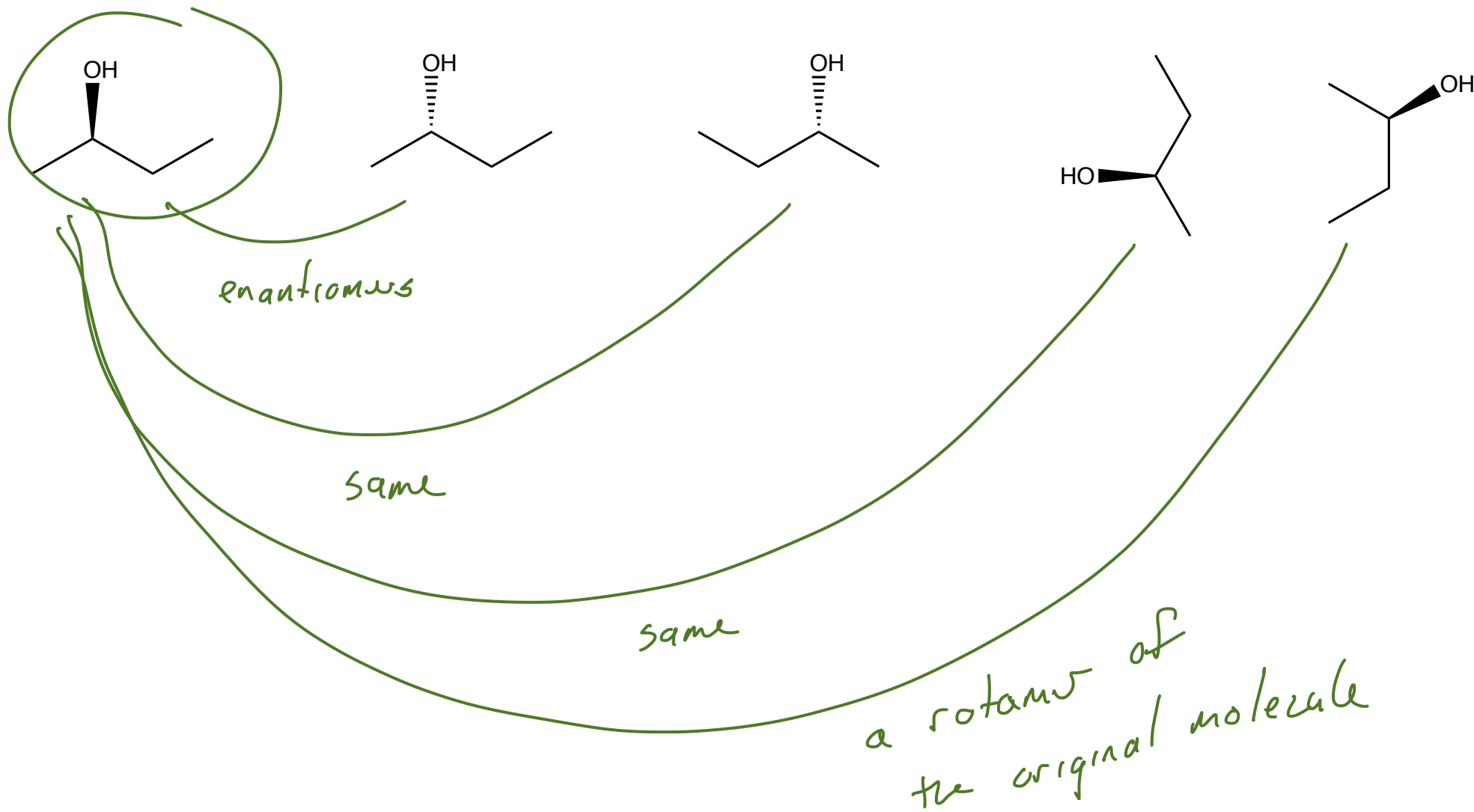
enantiomers are stereoisomers that are nonsuperposable mirror images of each other and an object must be chiral to have an enantiomer

e.g. (*S*)-2-chlorobutane vs (*R*)-2-chlorobutane



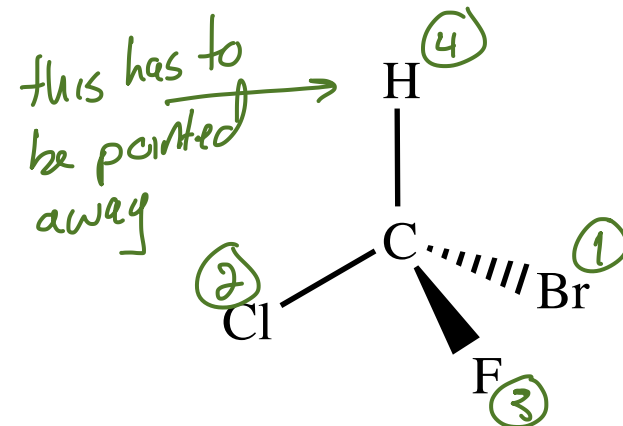
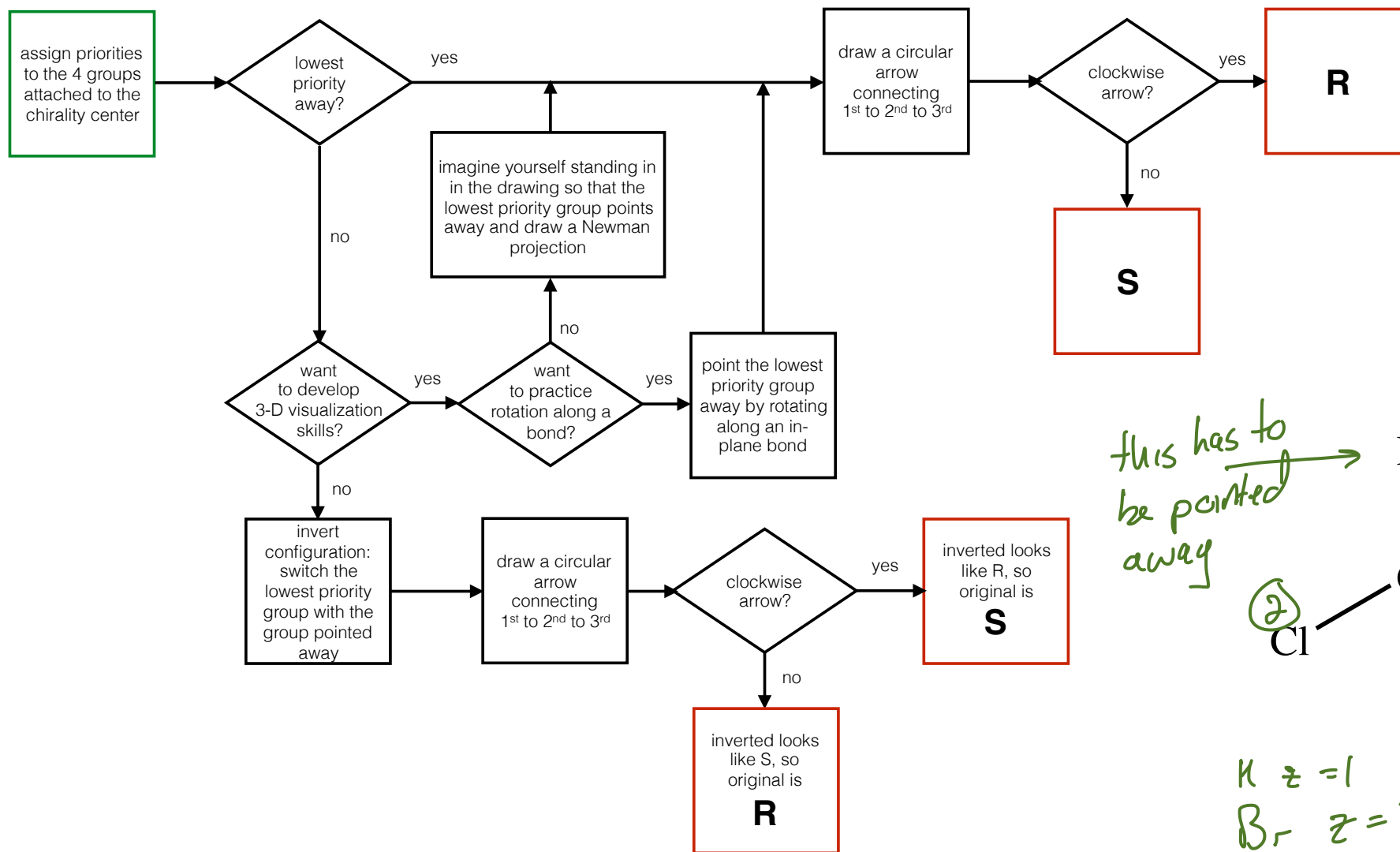
What's the Relationship?

Section 5.1 – 5.5



assign highest priority to highest atomic #

Determining Configuration (R vs S)



$H \quad z = 1$
 $Br \quad z = 35$
 $Cl \quad z = 17$
 $F \quad z = 9$

Practice determining the configuration of centers of chirality

Section 5.1 – 5.5

Priorities are based on the atomic number of the atoms bonded to the chiral center.

Highest atomic number is 1st place to lowest atomic number in 4th place

In a tie, go one bond further out.

O = 8 (1)
 H = 1 (4)
 C = 6 (2,3)
 C = 6 (1,5,6)

