

# Stereochemistry

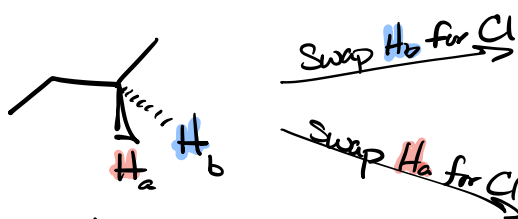
Same atom connectivity but different spatial arrangement

## Enantiomers

Mirror images

## Diastereomers

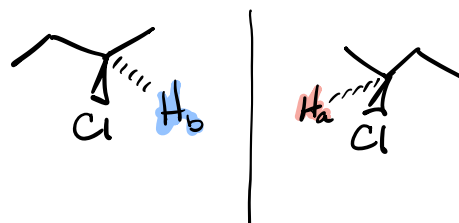
Not mirror images



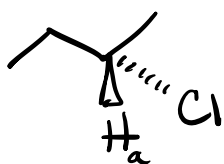
enantiotopic hydrogens

Hydrogens are said to be non-equivalent

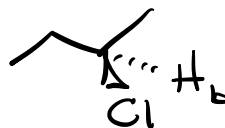
- enantiotopic means non-equivalent leading to enantiomers.



Mirror images  
Enantiomers

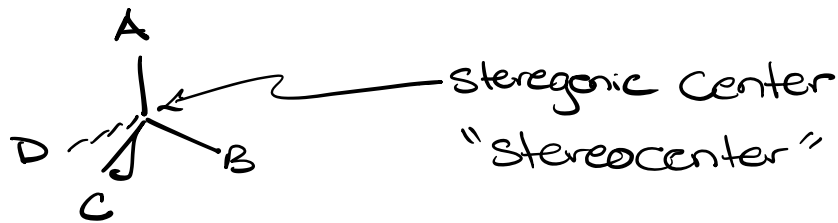


(+)-2-chlorobutane



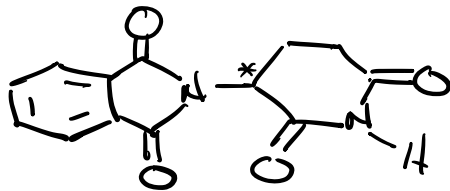
(-)-2-chlorobutane

Physical property of how molecule reacts with plane polarized light



Chiral - an object (or molecule) and its mirror image are non-superimposable.

Chiral - Handedness



Thalidamide

Have Same :

molecular formula

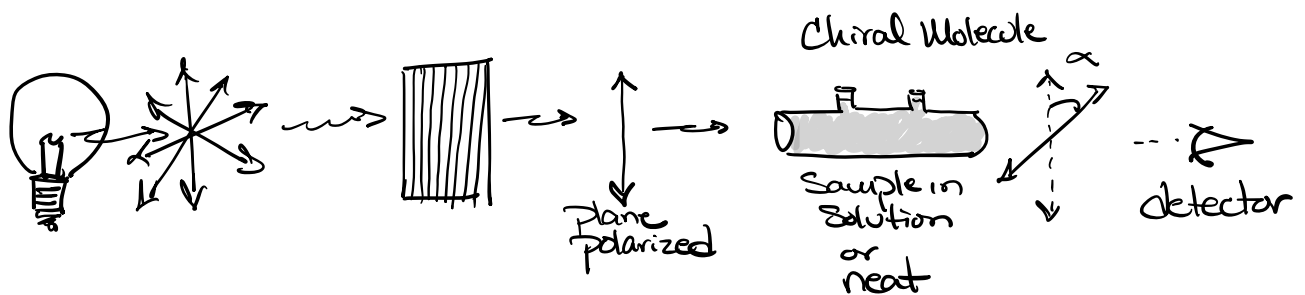
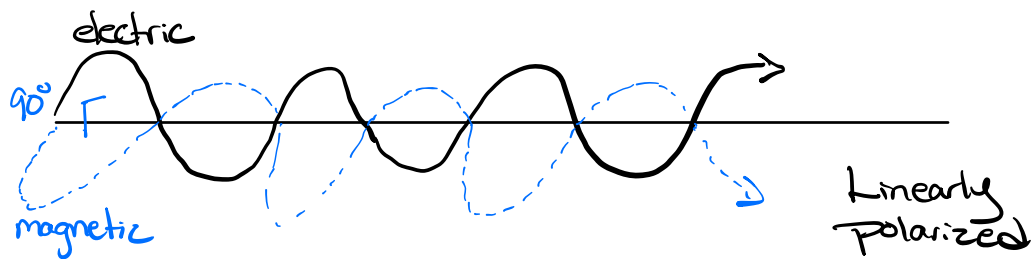
dipole moment

Boiling point

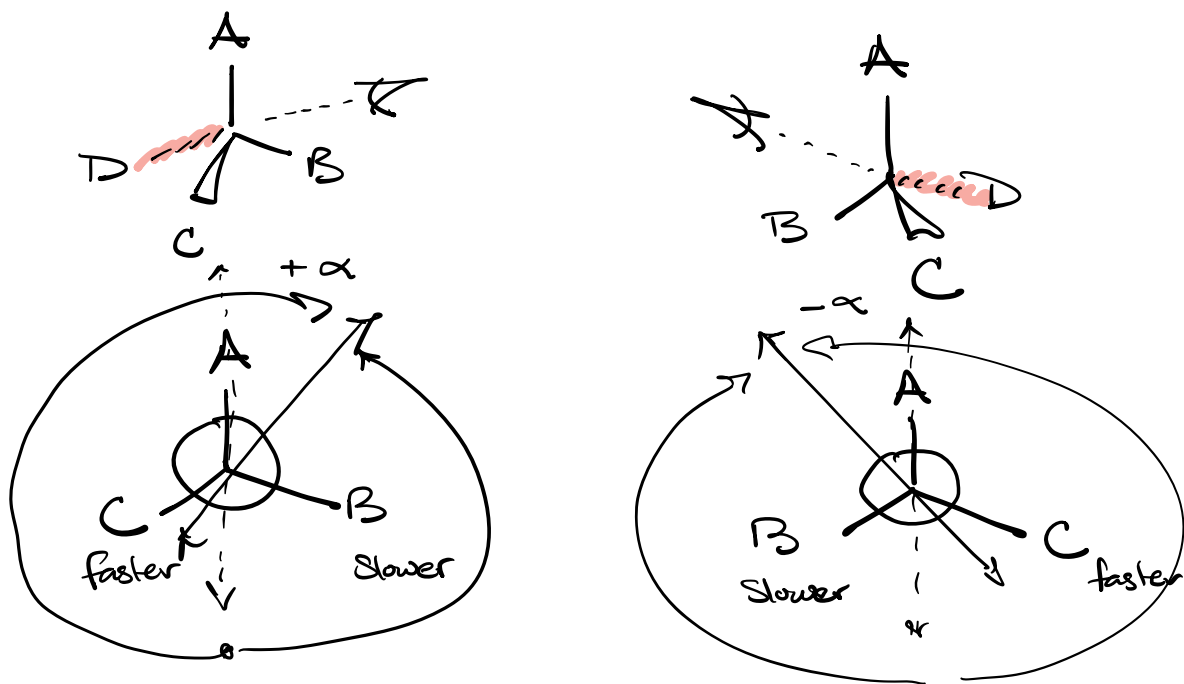
melting point

all physical properties except for one

⇒ React with plane polarized light differently



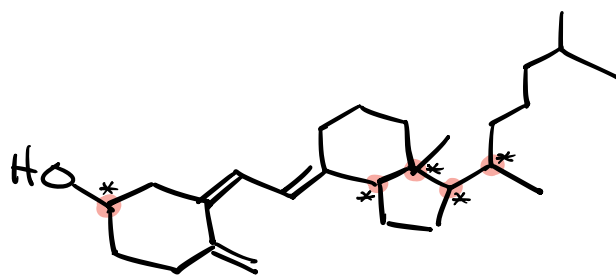
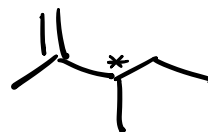
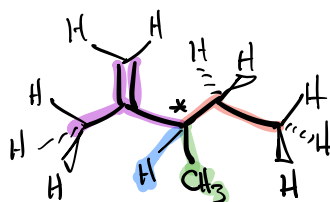
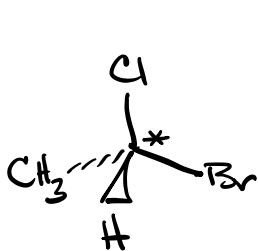
one isomer rotates clockwise +  
the other counterclockwise -



# Jobs

- ① Identification of Stereogenic center
- ② How to name stereogenic centers & Chiral Molecules.

\* Stereogenic center is one w/ 4 different groups



Vitamin D<sub>3</sub>