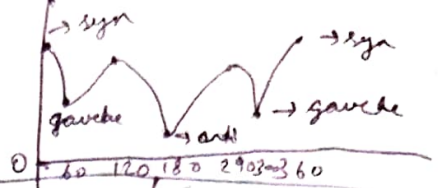


stereoisomerism



→ **Geometrical**

- **cis**
 - **Z (same)**
- **trans**
 - **E (opposite)**

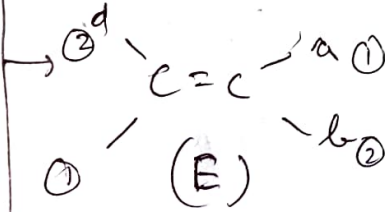
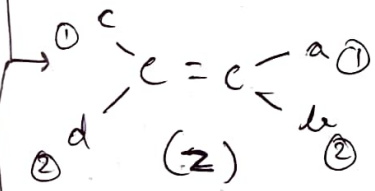
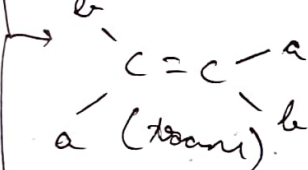
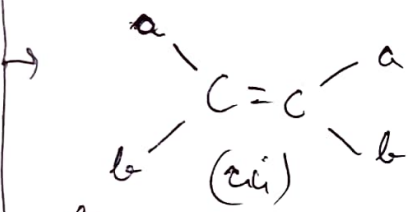
→ always C=C must be present

→ **Optical isomers**

- **d(+)** **l(+)**
- **Racemic**
 - 50% d + 50% l
 - optically inactive

→ **Conformation**

- **eclipse**
 - **syn**
 - 60° rotation
 - less stable
- **staggered**
 - **anti**
 - 180° rotation
 - more stable
 - **gauche**
 - 120° rotation
 - medium stable



→ MP → trans > cis

→ stability → trans > cis

→ BP → cis > trans (more surface area)

→ **Enantiomers**

- non super imposable
- mirror images
- optically active
- no POS, no COS

→ **Diastereomers**

- non super imposable
- not mirror images

→ no. of OI = 2^n

→ n = no. of C*

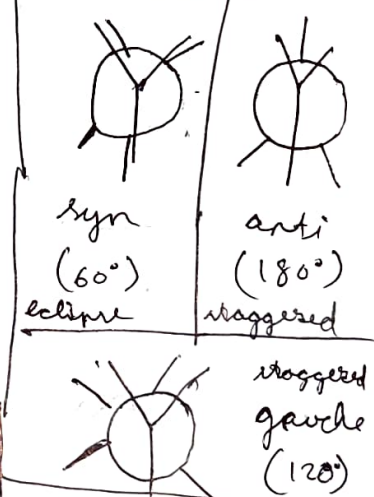
→ **R (Recton)** **S (Synthes)**

- clockwise
- from 1 → 2 → 3
- left
- anti clockwise
- from 1 → 2 → 3

→ **Priority order**

- atomic number
- if same, main no.
- higher priority of functional group

→ **Newman**



→ **Q-ethane & hexane**

→ $\text{CH}_3 - (\text{CH}_2)_2 - \text{COOH}$

→ **sawhorse**

