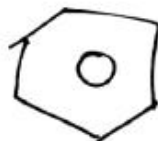


Optical Isomerism

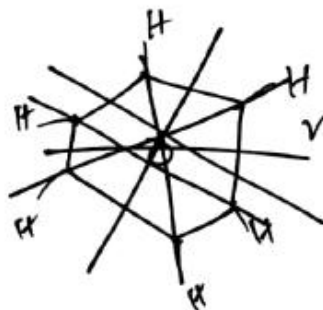
Types of Symmetry

POS



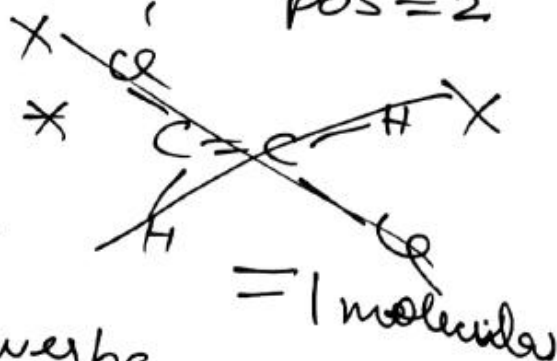
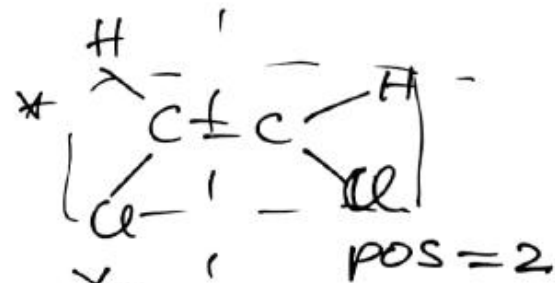
no. of POS

Benzene = 7



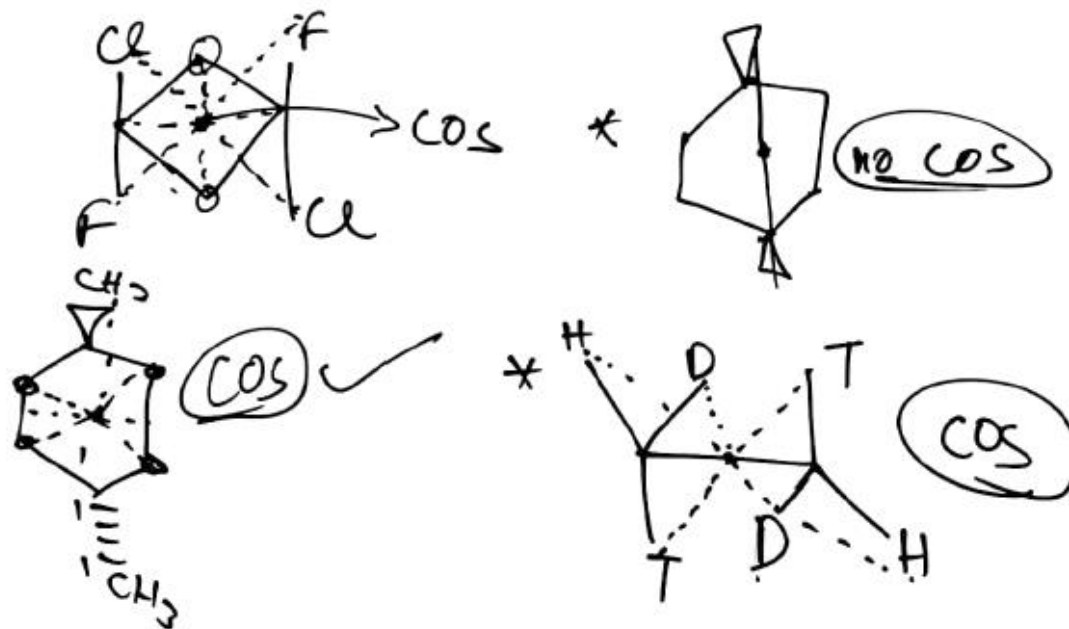
molecular Plane of Symmetry

Planar molecules can never be chiral



Optical Isomerism

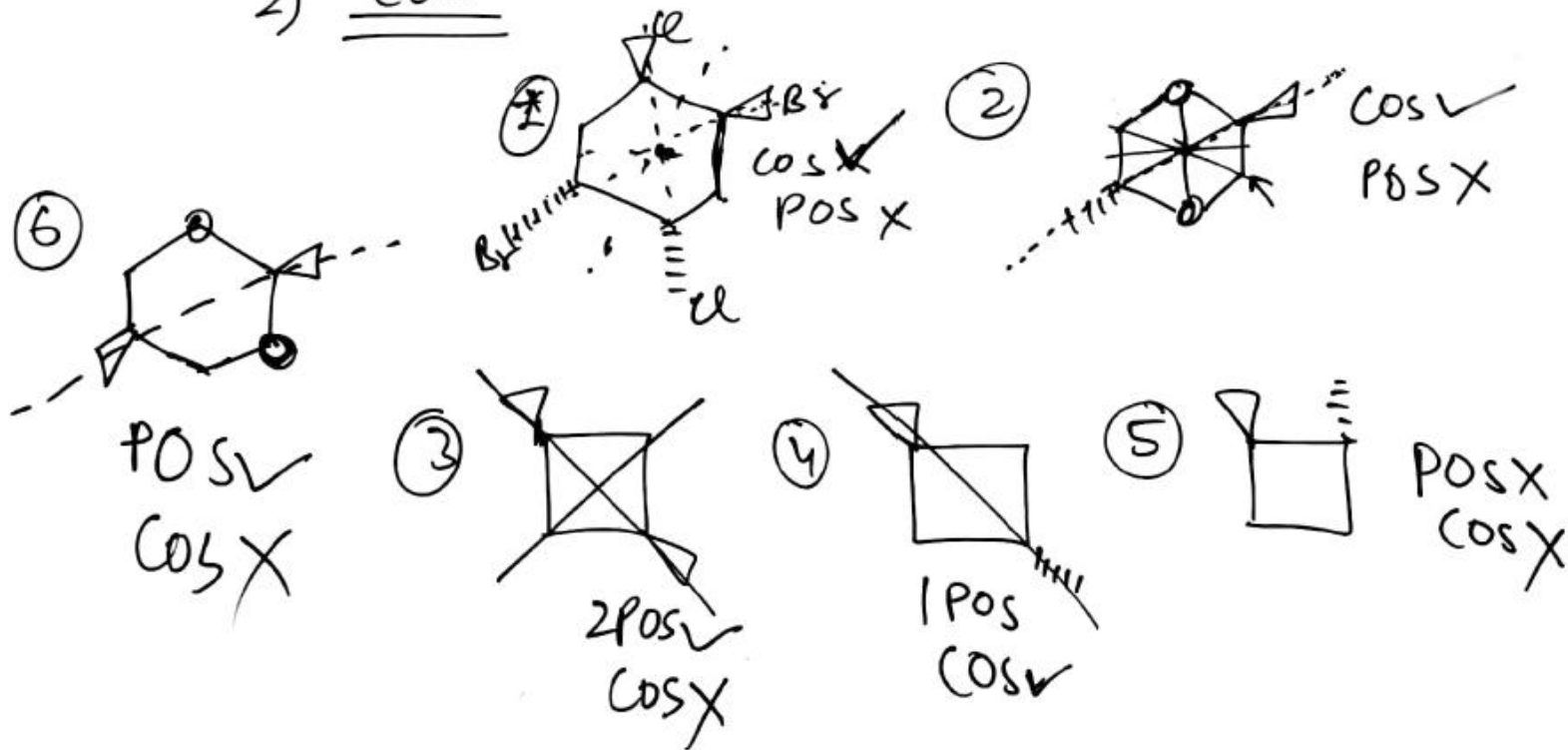
2) COS



X

Optical Isomerism

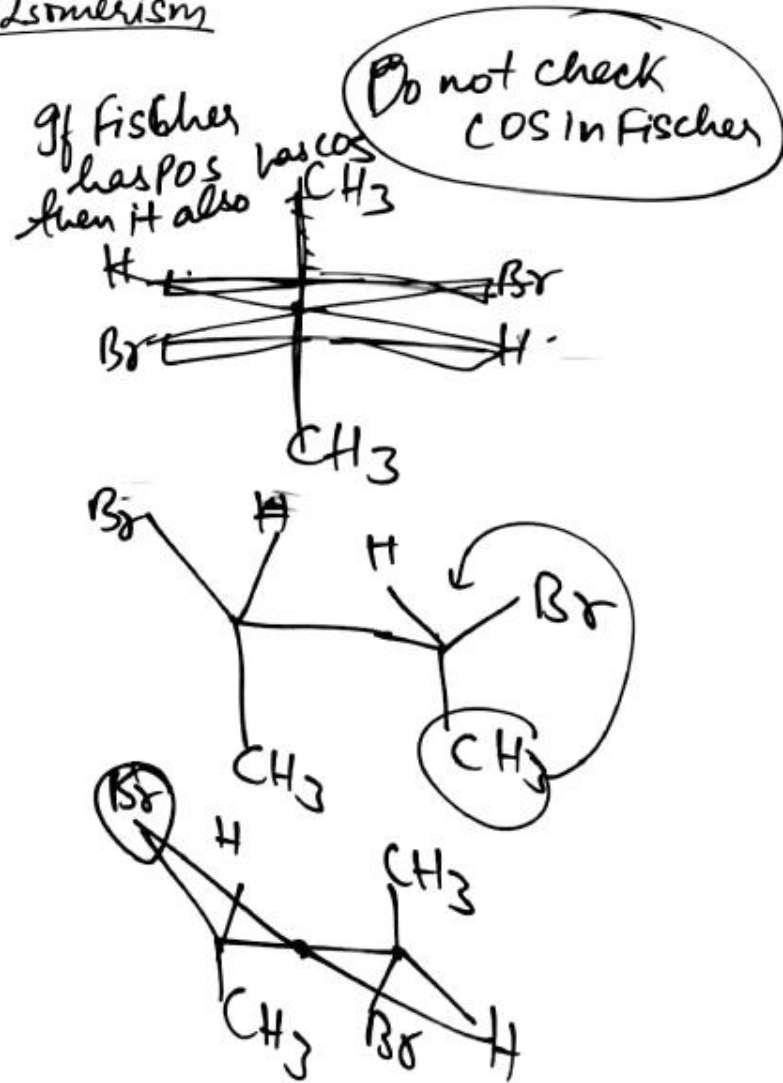
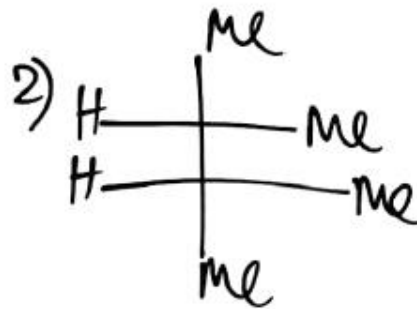
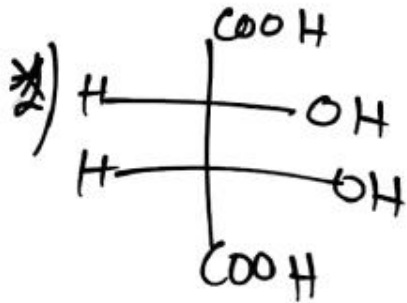
2) COS



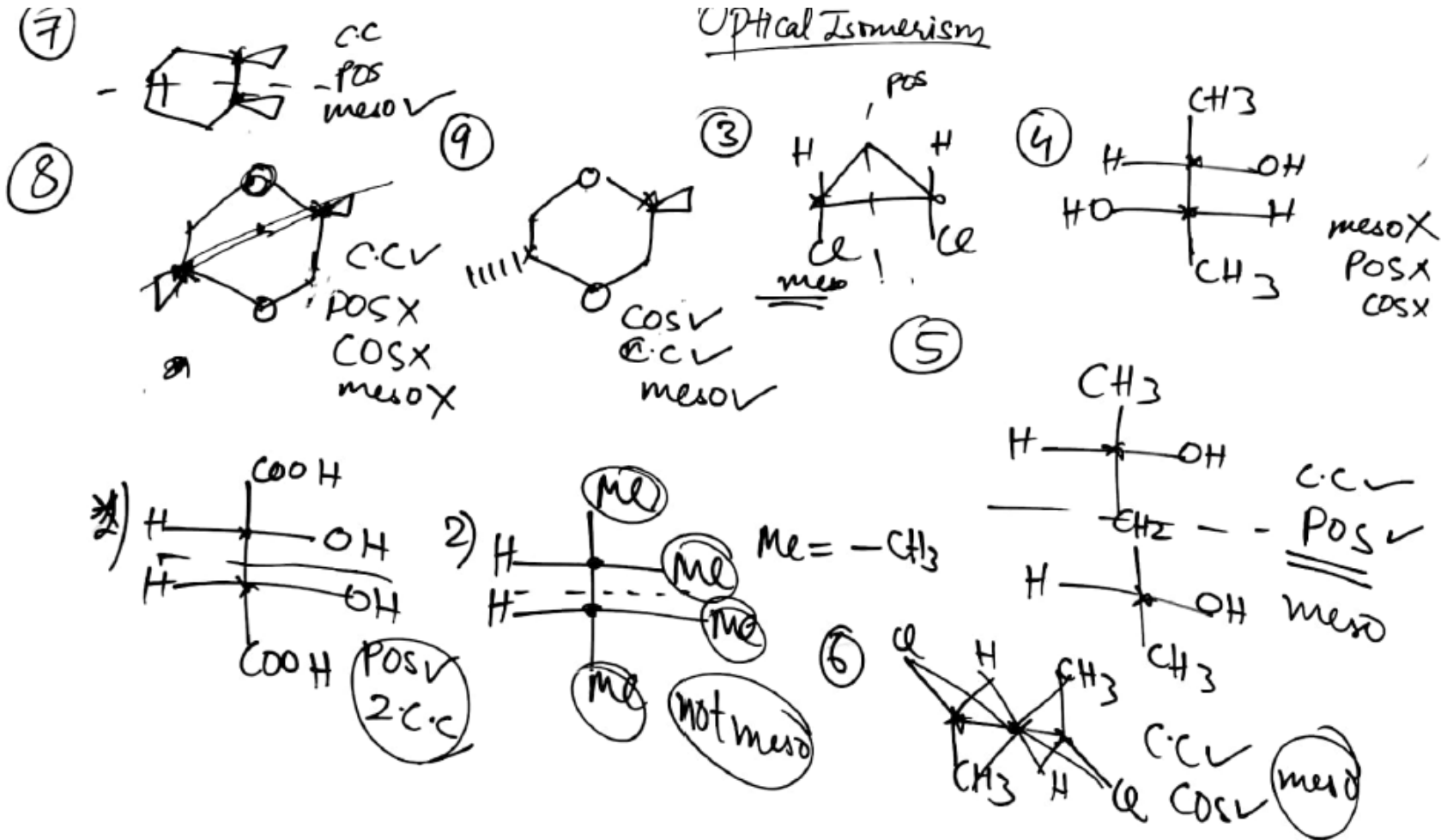
Optical Isomerism

Meso Compound

= C.C + Symmetry
 ↑
 min. 2 C-C



Optical Isomerism



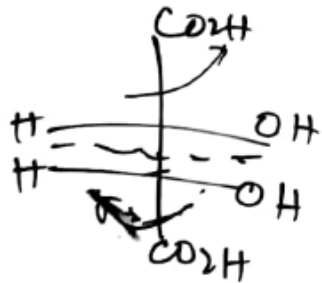
Optical Isomerism

Racemic Mixture (\pm) * Equimolar mixture of two enantiomers

* Enantiomers have equal & opposite rotation

* Racemic Mixture is optical inactive

\pm doesn't rotate PPL.



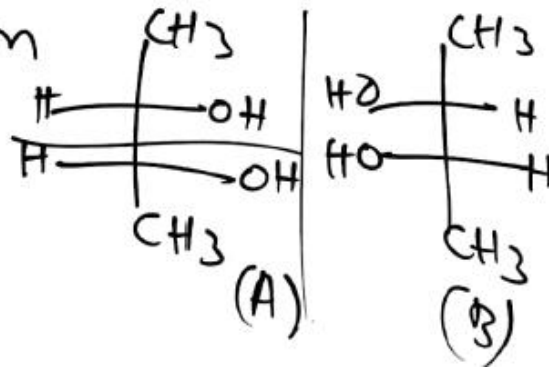
* Racemic mixture is optically inactive due to external compensation.

* Meso compounds are optically inactive due to internal compensation.

Optical Isomerism

* 0.5 ltr soln of molarity 5M \downarrow (S), d & 2 ltr soln of molarity 2.5M \uparrow R, d
of two enantiomers? Is given mixture Racemic or not?
 $5 \times 0.5 = 2.5 \text{ moles}$ NOT racemic $2 \times 2.5 = 5 \text{ moles}$

Q. Find Relation



identical

Optical Isomerism

Find relationship

*
ROR
WOR



enantiomers

*



diastereomers

*