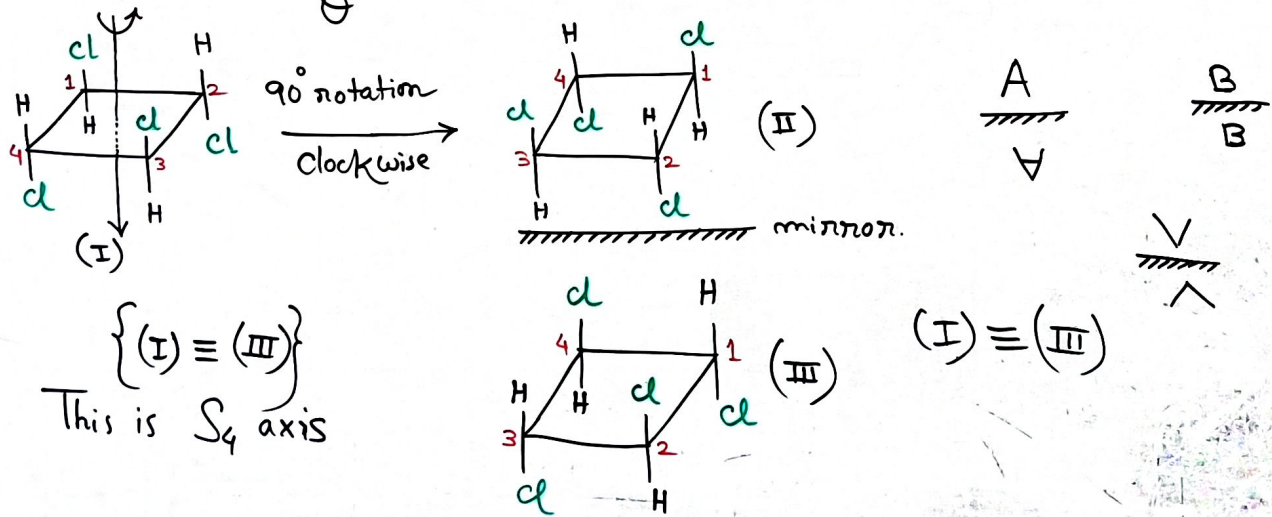


Alternating axis of symmetry / Rotational-reflectional axis of symmetry :-

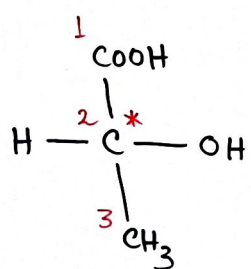
It is an imaginary axis across which if we rotate the molecule through an angle θ & then take the reflection across a plane \perp to the imaginary axis to get the arrangement indistinguishable with the original arrangement, then the molecule will be said to possess a n -fold alternating axis of symmetry, where $n = \frac{360^\circ}{\theta}$. It is represented as S_n .



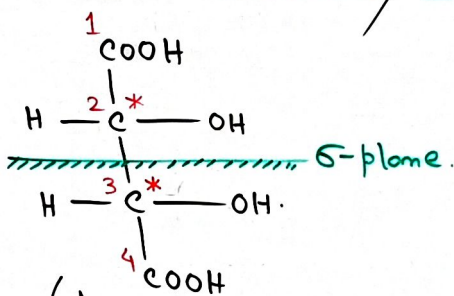
Chiral compound \Rightarrow Asymmetric compound \Rightarrow Optically active compound.

Achiral compound \Rightarrow Symmetric compound \Rightarrow Optically inactive compound.

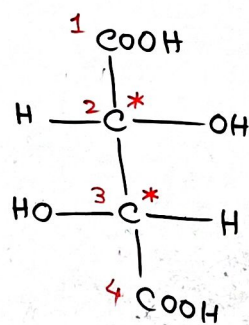
******* Those compounds contain plane of symmetry (σ) or inversion centre (i) then they are Achiral / Symmetric in nature.



No σ -plane
(Chiral)
Lactic acid.



(Achiral)
Meso-tartaric acid
(OR)
optically inactive tartaric acid.



(OR) dl-pair of tartaric acid
No σ -plane
(Chiral)
Active tartaric acid.