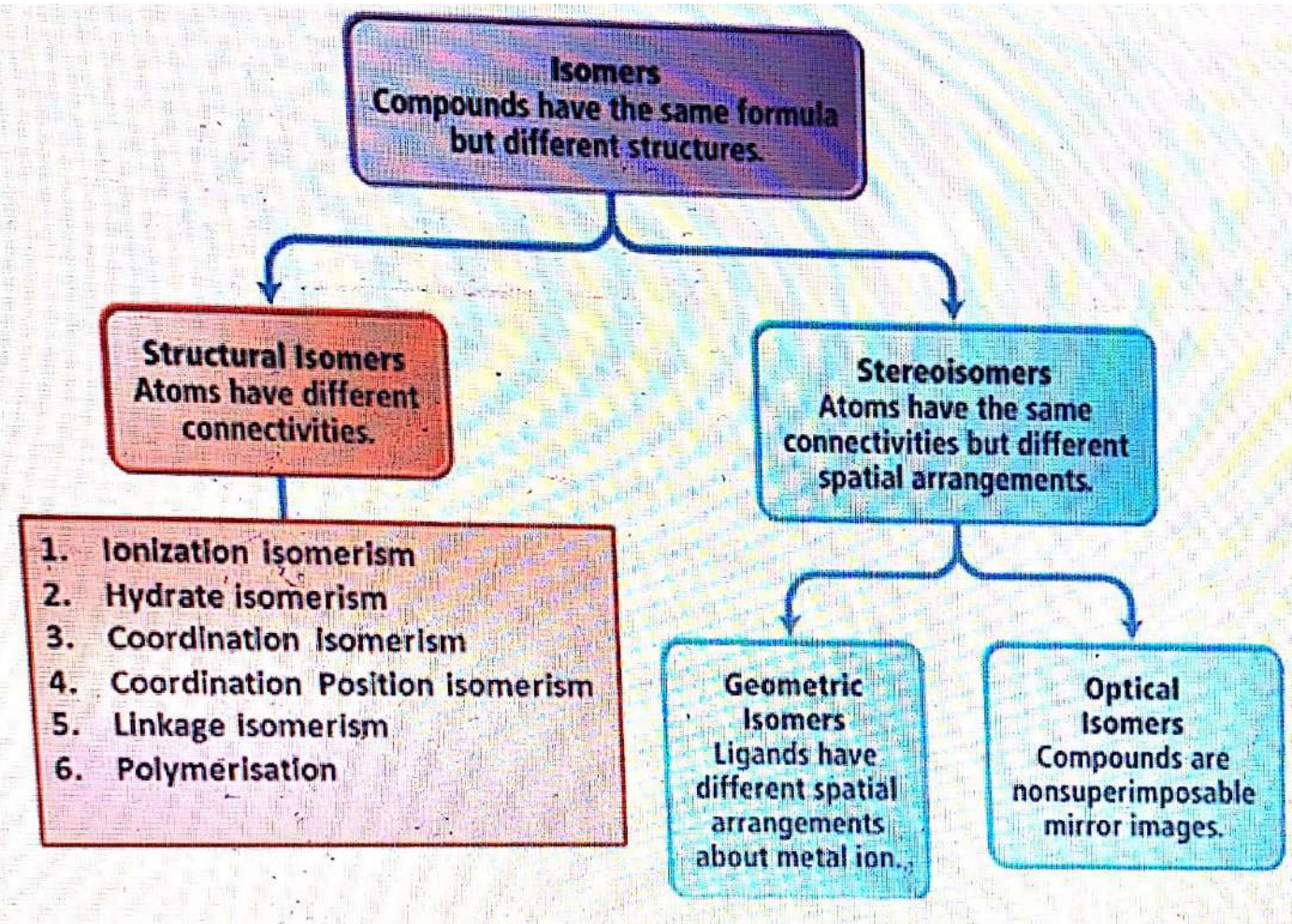

Isomers have the same molecular formula, but their atoms are arranged either in a different order (structural isomers) or spatial arrangement (stereoisomers).

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Isomerism

↓

Same

Same molecular formula but have different properties

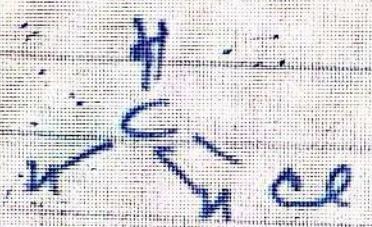
why isomers have different properties

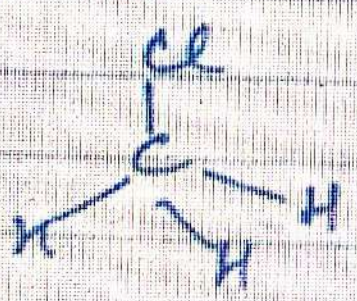
① Due to change in its structure

② Structure is same but orientation of groups is different

$CH_3-CH_2-CH_3$ CH_3-CH_2

CH_3





change in str. → structural isom

" " orientation → stereo "

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Steriosomerism:- The compounds which have same position of atoms or groups but arrangement is different around the central atom/cation.

Geometrical → ~~Same~~ Different arrangement around metal ion
(Cis-Trans)
(Distriomers)

Optical → Non super imposable mirror images
(Enantiomers)
→ POS is not tut plane of symmetry

↑↑↑ ↑↑↑ optically inactive
PPL

optical Active

Dextro (d) (+)

levo (l) (−)

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Steriisomerism :-

The compd which have same position of atoms or gp's but arrangement is different around the central atom/cation.

① Geometrical ② optical

↳ complex compds have same ligands in coordinat^n sphere but relative posit^n of the ligands around central atom/cation is different.

Ⓐ Td complex C.N. = 4

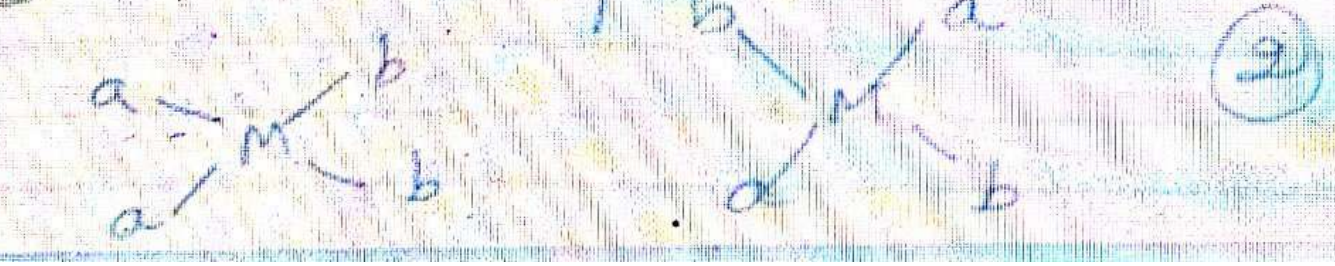
NO geometrical isomerism

Ⓑ Square planar complex

① $[Ma_4]^{\pm n}$ $[Ma_3b]^{\pm n}$ $[M(AA)_2]^{\pm n}$

✗ ✗ ✗

② $[Ma_2b_2]^{\pm n}$ eg $[PtCl_2(NH_3)_2]^{\pm n}$



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