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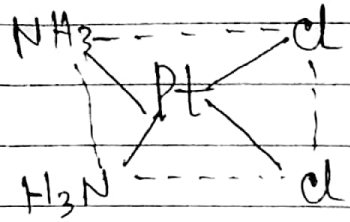
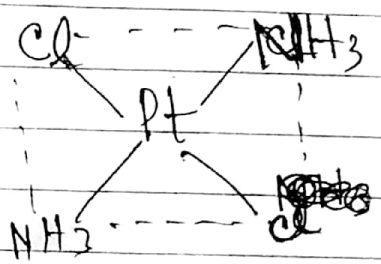
(b) Trans :→ When diagonal ligand same. Top or bottom Ligand different ion show geometrical isomerism.

Trans character of [illegible]

eg :→

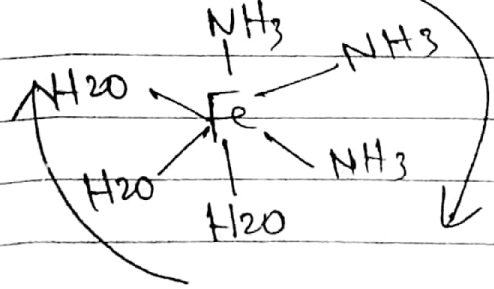


Cis platine (Anticancer)



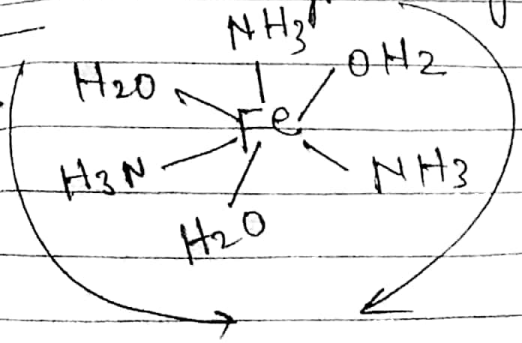
(c) Facial :→ When Compound having same ligand Continued.

eg :→ $K_4[Fe(NH_3)_3(H_2O)_3]$



(d) Meridian :→ When different ligand present continue

eg →



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(2) Optical isomerism :→ When compounds rotates on passing light through it in form of energy then compound rotates either clock wise (dextro form or +d form) and Anticlock wise (Laevorotatory or +l form)

optical isomerism

→ For ~~Bidentate ligand~~ generally atleast 1 bidentate ligand present. If no. of bidentate ligand ↑ then ↑ percentage probability of optical isomerism.

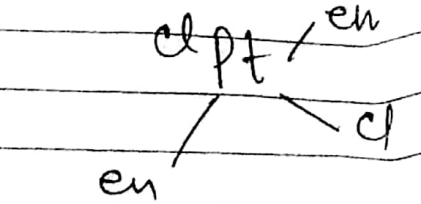
→ Square planer doesn't show optical isomerism but tetrahedral and octahedral show optical isomerism.

→ Trans doesn't show o. isomerism but cis show optical isomerism due to mirror image is diastereomers in nature.

→ If all monodentate ligands ~~show~~ is present then show optical isomerism.

eg → (I) $K_4[Fe(en)_3]$
(II) $K_4[Ni(C_2O_4)_3]$
(III) $K_4[Fe(EDTA)]$
(IV) $K_4[NiICl Br F (OH)(NH_3)]$

+ (V)



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(VI) $K_4[Fe(CN)_2Cl_2]$

(VII) $K_4[Fe(en)(CN)_2]$

↓

Square planar.

* Homoleptic Complex Compound :→ Complex compound in which only one types of ligands are present.

eg → $K_4[Fe(CN)_6]$

$K_4[Ni(NH_3)_4]$

$K_4[Fe(Cl)_6]$

* Heteroleptic ~~Compound~~ complex Compound :→ When different Ligand present in Complex compound.

eg → $K_4[Ni(NH_3)_3(H_2O)_3]$

$K_4[Fe(CN)_4Cl_2]$

$K_4[Cr(en)_2Cl_2]$

* Homopoly Nuclear Complex Compound :→

2 Complex Compound having same metal.

eg → (I) $[Pt(CN)_6]$ $[Pt(NH_3)_6]$

(II) $[Pd(Cl)_6]$ $[Pd(Br)_6]$