Isomerism

Homoleptic

$K_4[Fe(CN)_6]$

$Fe(CO)_5$

$Ni(CO)_4$

Same ligand

Heteroleptic

diff ligand

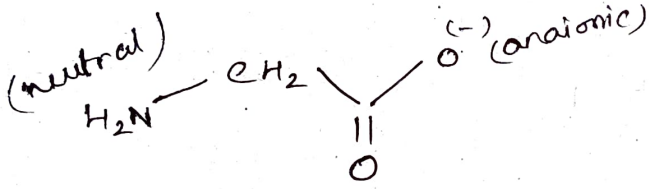
Inner metallic complexes:

→ first order ligand should have both anaionic and neutral donar atoms ⇒ ligand should fullfill the charge and CN

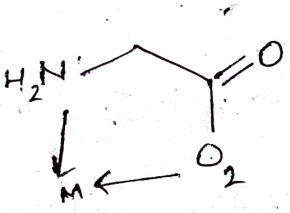
→ second order

→ third order

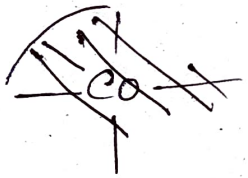
First order inner metallic:

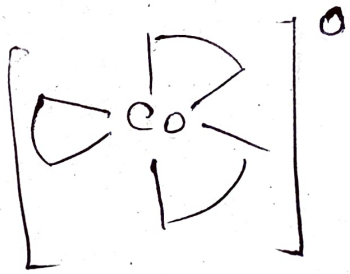


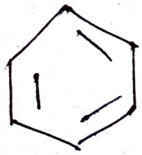
5,6 → chelating agent



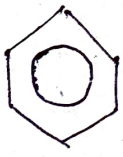
$[Co^{III}(gly)_3]^0$



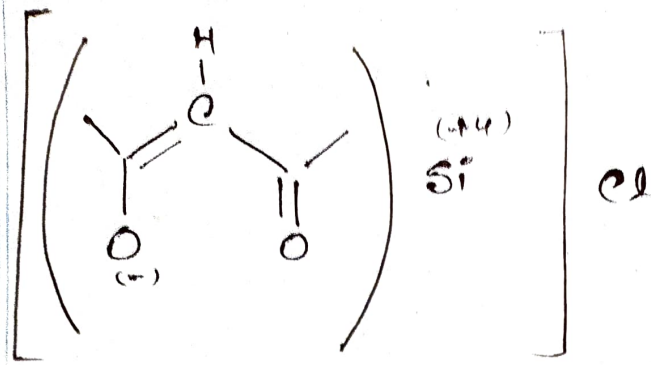




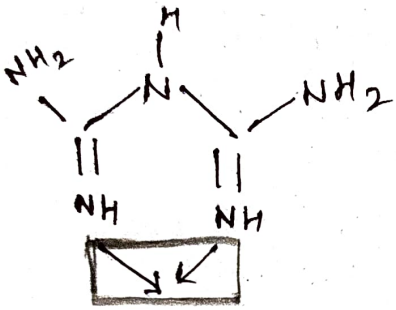
every bonds are of same length
that's why it can be written as →



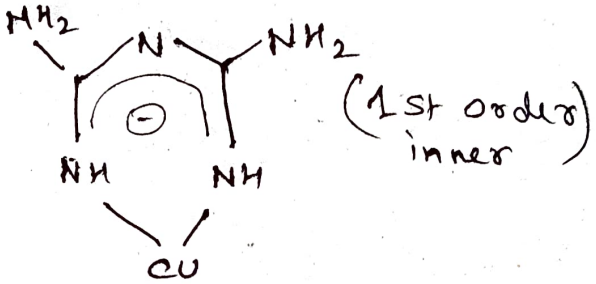
Second order



$Na[Co(acac)_2(NO_2)_2]^{\ominus}$



Bignaride



(1st order inner

$C_2H_5H_7 \longrightarrow C_2N_5^{\ominus}H_6$

HCl

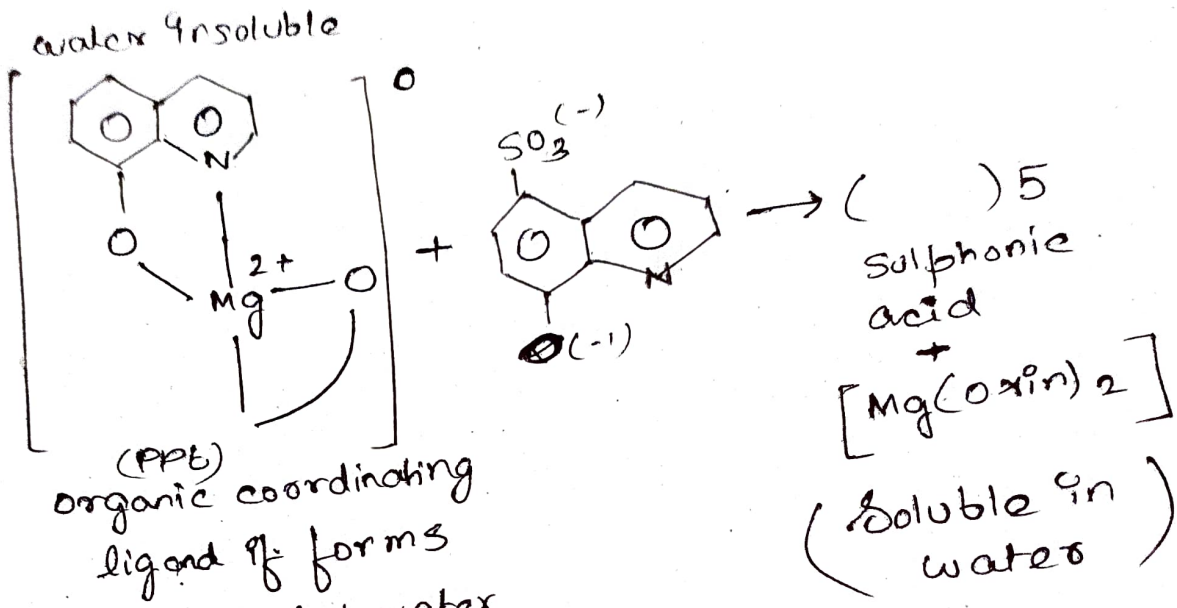
$[Cu(C_2N_5H_7)_2]Cl_2$

(water soluble)

conversion of 1st order non electrolytic comp into a cationic comp is know as 3rd order inner metallic complex

organic sequestering agent

dmg



(8 hydroxy quinoline)

(Soluble in water)

organic coordinating ligand if forms a stable but water soluble metal chelate, then the ligand is called an organic sequestering agent and the metal ion is said to be sequestered or masked