

MSL-8

Classification of ligands

(a) On the basis of denticity → 1. Monodentate

i) Neutral ligands

H_2O aqua

PH_3 Phosphine

NH_3 Ammine

CO Carbonyl

CS thiocarbonyl

O_2 dioxygen

ii) Cationic ligand

O_2^+ Oxygenium

NO^+ Nitrosylum

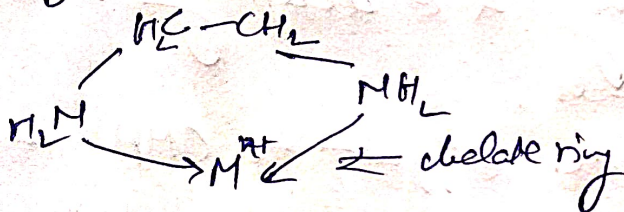
iii) Anionic ligands

F^- Fluoro

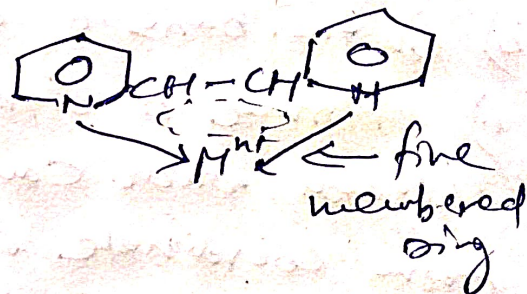
Cl^- Chloro

2. Bidentate

i) Ethylenediamine (en)



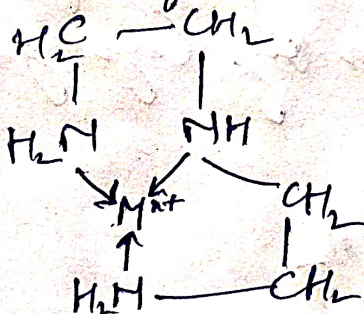
Dipyridyl (dipy)



3. Polydentate ligands

i) Diethylenetriamine (dien)

Denticity = 3
No. of rings = 2



ii) (trien) - triethylenetetramine

Denticity = 4
Chelate rings = 3
Neutral

iii) Ethylenediaminetetraacetate (EDTA)

Denticity = 6
Chelate rings = 5

