**Compounds of 3d metals**

1. Write one preparation of : i) K2Cr2O7 ii) KMnO4 iii) sodium nitroprusside iv) Na3[Co(NO2)]
2. Give the structure, oxidation state and hybridization of the metal:
3. K4[Fe(CN)6] ii) Na2Fe(CN)5 NO iii) [Co(NH3)6]Cl3
4. What are peroxo compounds of chromium? Draw the structure of any two and discuss the oxidation state of chromium in CrO5; CrO42- and K2Cr2O7.
5. What happens when:
6. potassium ferrocyanide reacts with chlorine ( K4[Fe(CN)6] + Cl2 )
7. potassium ferrocyanide reacts with ferric chloride (K4[Fe(CN)6] + FeCl3)
8. potassium ferrocyanide reacts with copper sulphate K4[Fe(CN)6] + CuSO4
9. sodium cobaltinitrite reacts with potassium chloride ( Na3[Co(NO2)] + KCl )
10. potassium dichromate reacts with potassium iodide( K2Cr2O7 + KI )
11. acidified potassium permanganate reacts with oxalic acid (KMnO4 + (COOH)2)
12. potassium dichromate reacts with concentrated sulphuric acid

(K4[Fe(CN)6] + Conc. H2SO4 )

1. sodium nitroprusside is added to Na2S
2. sodium nitroprusside is added to silver nitrate solution
3. acidified potassium dichromate reacts with (K2Cr2O7 (acidic) + SO2 )