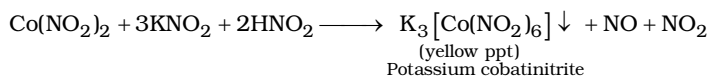
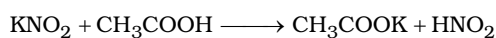
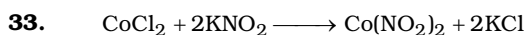
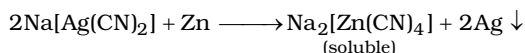
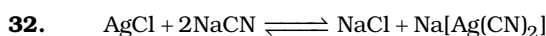
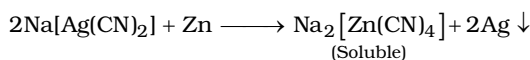
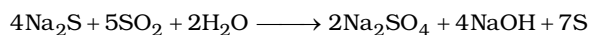
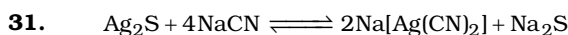
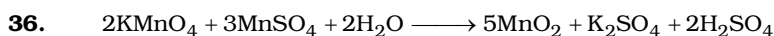
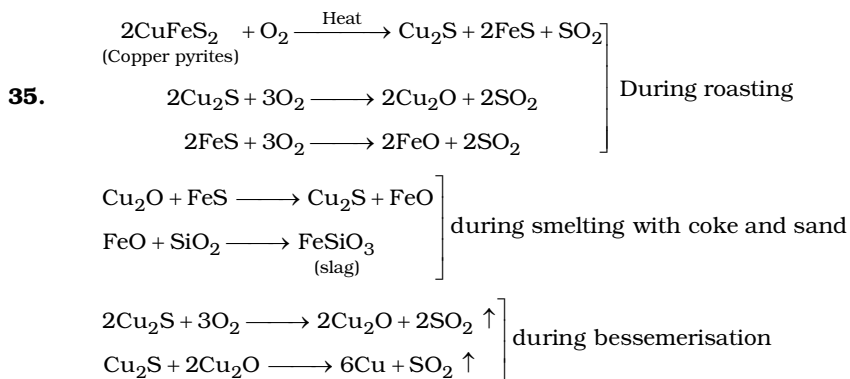


Daily Tutorial Sheet 3

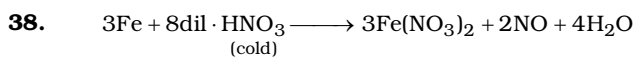
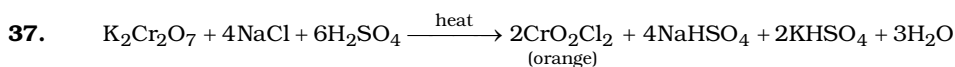
JEE Advanced (Archive)



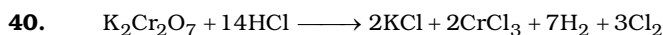
34.(CD) Co^{2+} [in aqueous solution of $\text{Co}(\text{NO}_2)_2$] and Cr^{3+} (in CrCl_3) have the outer configuration as d^7 and d^3 respectively. Since both Co^{2+} and Cr^{3+} have incompletely filled d-orbitals so the aqueous solutions of $\text{Co}(\text{NO}_3)_2$ and CrCl_3 are coloured (d – d transitions are possible).

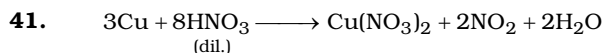


This reaction is used for estimation of manganese.

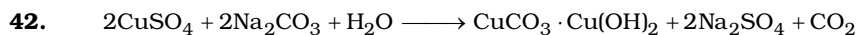


39. Cu^{2+} is reduced to Cu^+ by I^- and thus CuI_2 gets converted to Cu_2I_2 . This change cannot be brought about by Cl^- .

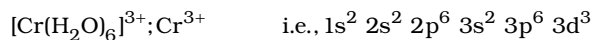




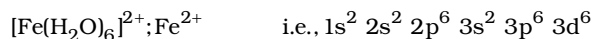
For molar ratio of 2 : 1 of NO and NO₂, we will have



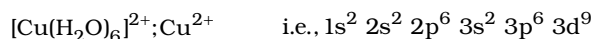
43.(B) The oxidation states of various metals are



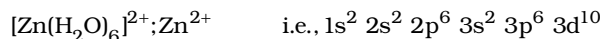
i.e., 3 unpaired electrons



i.e., 4 unpaired electrons



i.e., 1 unpaired electron



i.e., no unpaired electron.

Thus, highest paramagnetism will be shown by $[\text{Fe}(\text{H}_2\text{O})_6]^{2+}$ in which we have 4 unpaired *d*-electrons (maximum number of unpaired electrons).

44.(BC) Brass contains 60 - 80% Cu and 40 - 20% Zn.

Gun metal contains 87% Cu and 3% Zn and 10% Sn.

