

CH 223 – Worksheet 3

1. The K_{sp} for Ag_2SO_3 is 1.5×10^{-14} . Calculate the solubility of Ag_2SO_3 a) in pure water and b) in 0.01 M RbSO_3 ?
2. Will Ag_2SO_4 ($K_{sp} = 1.5 \times 10^{-5}$) precipitate when 100 mL of 0.050 M AgNO_3 is mixed with 10 mL of $5.0 \times 10^{-2} \text{ M Na}_2\text{SO}_4$ solution?
3. (a) What is the charge of the complex formed by a platinum (II) metal ion surrounded by two ammonia molecules and two bromide ions? (b) Write a formula for this complex?
4. (a) What is the difference between a monodentate ligand and a bidentate ligand? (b) how many bidentate ligands are necessary to fill the coordination sphere of a six coordinate complex?
5. Indicate the coordination number of the metal and the oxidation number of the metal in each of the following complexes: (a) $K_4[Fe(CN)_6]$, (b) $[Co(en)_2(C_2O_4)]^+$, (c) $[Ni(CN)_5]^{3-}$.