AP CHEMISTRY CHAPTER 16 SAMPLE PROBLEMS

Sample problem 1

Copper (I) bromide has a measured solubility of 2.0 x 10-4 mol/L at 25oC. Calculate its Ksp value

Sample problem 2

Calculate the Ksp value for bismuth sulfide, which has a solubility of 1.0 x 10-15 mol/L at 25oC

Sample problem 3

The Ksp value for copper (II) iodate is 1.4 x 10-7 at 25oC. Calculate its solubility at 25oC

Sample problem 4

Calculate the solubility of solid CaF2 (Ksp = 4.0 x 10-11) in a 0.025 M NaF

Sample problem 5

A solution is prepared by adding 750.0 mL of 4.00 x 10-3 M Ce(NO3)3 to 300.0 mL of 2.00 x 10-2 M KIO3. Will Ce(IO3)3 (Ksp =1.9 x 10-10) precipitate from this solution?

Sample problem 6

A solution is prepared by mixing 150.0 mL of 1.00 x 10-2 M Mg(NO3)2 and 250.0 mL of 0.100 M NaF. Calculate the concentrations of Mg2+ and F- at equilibrium with solid MgF2 (Ksp = 6.4 x 10-9)

Sample problem 7

A solution contains 1.0 x 10-4 M Cu+ and 2.0 x 10-3 M Pb2+. If a source of I- is added gradually to this solution , will PbI2 (Ksp = 1.4 x 10-8) or CuI (Ksp = 5.3 x 10-12) precipitate first. Specify the concentration of I- necessary to begin precipitation of each salt.