CONCEPT: IONIC STRENGTH

Consider the dissociation of silver bromide, AgBr, in purified water.

$$AgBr\ (s) \rightleftharpoons Ag^{+}\ (aq) + Br^{-}\ (aq) \qquad K_{sp} = 1.34 \times 10^{-12}$$

Adding 0.10 M NaBr or 0.25 M $AgC_2H_3O_2$ cause the overall solubility of AgBr to _____ as a result of the _____.

$$AgBr\ (s) \rightleftharpoons Ag^{+}\ (aq) + Br^{-}\ (aq)$$

Adding 0.01 M $NaClO_4$ causes the overall solubility of AgBr to _____ as a result of the ***ionic strength***, which is just a measurement of all the ions in the aqueous solution.

$$AgBr\ (s) \rightleftharpoons Ag^{+}\ (aq) + Br^{-}\ (aq)$$

Ionic strength represents interactions between the ions in water and the ions of a solution.

$$\mu = \frac{1}{2}\Sigma\, c_i z_i^2 = \frac{1}{2}(c_1 z_1^2 + c_2 z_2^2 + ...)$$

EXAMPLE: Calculate the ionic strength of the following ionic compound.

0.010 M $CuSO_3$

CONCEPT: IONIC STRENGTH CALCULATIONS

EXAMPLE 1: Calculate the ionic strength for the following ionic compound.

0.030 M $Al_2(CO_3)_3$

EXAMPLE 2: What is the ionic strength of a solution that is 0.1 M Na_3PO_4 and 0.05 M Na_2HPO_4?

PRACTICE: Calculate the ionic strength for the following ionic compound.

0.04 M SnO_2