

$K_{sp} = 1.8 \times 10^{-10}$ $K \ll 1$ $K = \frac{[Prod]^{coeff}}{[React]^{coeff}}$

Favors react
Not much (if any)
product is formed.

$AgCl(s) \xrightarrow{(H_2O)} Ag^+(aq) + Cl^-(aq)$

Plug in $K = \frac{[Ag^+][Cl^-]}{1} = 1.8 \times 10^{-10}$ M ratio

$(x)(x) = 1.8 \times 10^{-10}$

$x = 1.34 \times 10^{-5}$ 0.0000134M

Apr 11-8:43 AM

$Li_2CO_3(s) \rightarrow 2Li^+ + CO_3^{2-}$

Soluble Salt \oplus $x = 0.15M$ $2x$ $2(0.15)$ 0.30 $x \leftarrow M$ RATIO

$K = \frac{[Li^+]^2 [CO_3^{2-}]}{1} = (0.3)^2 (0.15) = 0.0135$

- ① Balance eqn
- ② Molar Ratio "x"
- ③ Plug in to "K" expression.

Apr 11-9:03 AM

③

$$\text{PbI}_2 (s) \xrightarrow{(H_2O)} \text{Pb}^{+2} (aq) + 2 \text{I}^{-} (aq)$$

1.3×10^{-3} (crossed out)
 1.3×10^{-3} (crossed out)
 2.6×10^{-3} (circled 2x)
 M RATIO

$$K = [\text{Pb}^{+2}] [\text{I}^{-}]^2 = 8.5 \times 10^{-9}$$

$$= (x) (2x)^2 = 8.5 \times 10^{-9}$$

$$4x^3 = 8.5 \times 10^{-9}$$

$$x = 1.3 \times 10^{-3}$$

$\sqrt[3]{x} = x^{\frac{1}{3}}$
 $\sqrt[3]{y^2} = y^{\frac{2}{3}}$
 Power / root

Apr 11-9:15 AM

④

$$\text{Ag}_2\text{CrO}_4 (s) \rightarrow 2 \text{Ag}^{+1} (aq) + \text{CrO}_4^{-2} (aq)$$

7.2×10^{-5} (crossed out)
 $14.4 \times 10^{-5} \rightarrow 1.44 \times 10^{-4}$ (circled 2x)
 7.2×10^{-5} (crossed out)
 M RATIO

$$K = [\text{Ag}^{+1}]^2 [\text{CrO}_4^{-2}]$$

$$(1.44 \times 10^{-4})^2 (7.2 \times 10^{-5}) = 1.49 \times 10^{-12}$$

Apr 11-9:28 AM

⑤ $AgCl(s) \rightarrow Ag^+_{(aq)} + Cl^-_{(aq)}$

X
X
X
M ratio

$K = \frac{[Ag^+][Cl^-]}{1} = 1.7 \times 10^{-10}$

$K = (x)(x) = 1.7 \times 10^{-10}$
 $x = 1.3 \times 10^{-5}$

$x = 1.3 \times 10^{-5} M$
 $\frac{1.3 \times 10^{-5} \text{ moles}}{1 L} = \frac{6.5 \times 10^{-6} \text{ mole}}{0.5 L}$

Apr 11-9:35 AM

q22 ① $SrCrO_4(s)$ $\frac{1.2g}{1L}$ Find K_{sp}

$SrCrO_4(s) \rightarrow Sr^{+2}_{(aq)} + CrO_4^{-2}_{(aq)}$

5.9×10^{-3}
X
X
M ratio

$K_{sp} = [Sr^{+2}][CrO_4^{-2}]$
 $K_{sp} = (5.9 \times 10^{-3})(5.9 \times 10^{-3})$
 $K_{sp} = 3.46 \times 10^{-5}$

$1.2g SrCrO_4$	1 mole $SrCrO_4$
1L	$204g SrCrO_4$

$5.9 \times 10^{-3} M$

Apr 11-9:42 AM

HW EQ p 22 #34, p 24 #6

Test ~~WEP~~ EQ plus

dilution + $\Delta T = (K \cdot m) \cdot i$ Math Q.
 Moles start = moles end
 $M \cdot V = M \cdot V$ } $\begin{matrix} \uparrow \text{sp} \\ \uparrow \\ \downarrow \end{matrix}$ $\begin{matrix} \uparrow \\ \uparrow \\ \uparrow \end{matrix}$ # ions.

Apr 11-10:01 AM