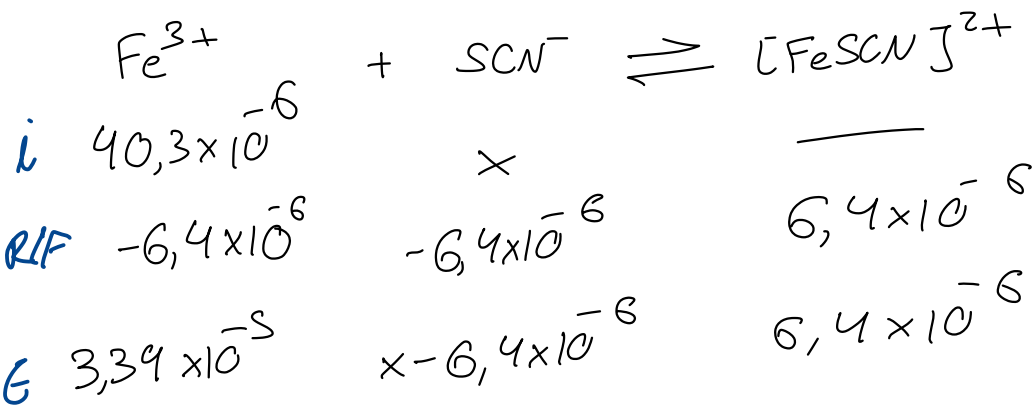


Gabarito Homework 1

1) Concentração de Fe^{3+} :

$$\begin{array}{l} 55,80 \text{ g} - 1 \text{ mol} \\ 2,25 \times 10^{-3} \text{ g} - x \text{ mol} \end{array} \left\{ \begin{array}{l} x = 4,03 \times 10^{-5} \text{ mol} \\ \therefore [Fe^{3+}] = 40,3 \mu\text{M} \end{array} \right. \quad \downarrow$$

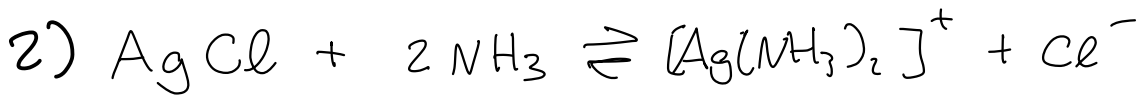


$$K_F = \frac{6,4 \times 10^{-6}}{3,4 \times 10^{-5} (x - 6,4 \times 10^{-6})} = 1,4 \times 10^2$$

$$1,4 \times 10^2 = \frac{6,4 \times 10^{-6}}{3,4 \times 10^{-5} x - 2,17 \times 10^{-10}}$$

$$4,76 \times 10^{-3} x - 3,04 \times 10^{-8} = 6,4 \times 10^{-6}$$

$$x = 1,35 \times 10^{-3} = [SCN^{-}] \quad \downarrow$$



$$K_f'' = K_{ps} \cdot K_1 \cdot K_2$$

$$K_f'' = \frac{[\text{Ag}(\text{NH}_3)_2^+] \cdot [\text{Cl}^-]}{[\text{NH}_3]^2} \Rightarrow \frac{S^2}{[\text{NH}_3]^2}$$

$$\text{Para } S = 0,1 \text{ M} \Rightarrow K_f'' = 1,96 \times 10^{-3} = \frac{0,01}{[\text{NH}_3]^2}$$

$$\therefore [\text{NH}_3] = 2,26 \text{ mol} \cdot \text{L}^{-1}$$

↳ o cálculo é da quantidade de NH_3 no equilíbrio, após a reação.

A quantidade de mols necessária deve levar em conta o total de NH_3 (equilíbrio + reagido)

Da estequiometria, 0,1 mols de $[\text{Ag}(\text{NH}_3)_2]^+$ requer 0,2 mols de NH_3

$$\therefore [\text{NH}_3]_{\text{adicionada}} = 2,46 \text{ mols}$$