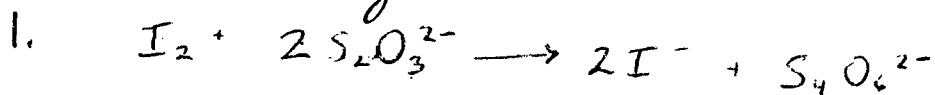


# Electrochemistry #3



$$\text{mols } \text{S}_2\text{O}_3^{2-} = 20.0 \text{ mL} \times 0.20 \text{ M} = 4.00 \text{ mmol}$$

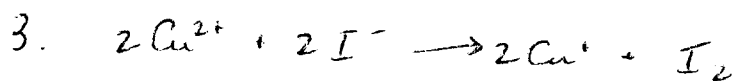
$$\text{mols } \text{I}_2 = 4.00 \text{ mmol} \times \frac{1 \text{ mol } \text{I}_2}{2 \text{ mol } \text{S}_2\text{O}_3^{2-}} = 2.00 \text{ mmol}$$

$$[\text{I}_2] = \frac{2.00 \text{ mmol}}{35.0 \text{ mL}} = 0.057 \text{ M}$$



$$\text{mols } \text{MnO}_4^- = 50.0 \text{ mL} \times 0.25 \text{ M} = 12.5 \text{ mmols}$$

$$\text{mols } \text{H}_2\text{O}_2 = 12.5 \text{ mmols} \times \frac{5 \text{ mol } \text{H}_2\text{O}_2}{2 \text{ mol } \text{MnO}_4^-} = 31.25 \text{ mmol} \quad (\text{or } 3.1 \times 10^{-2} \text{ mol})$$

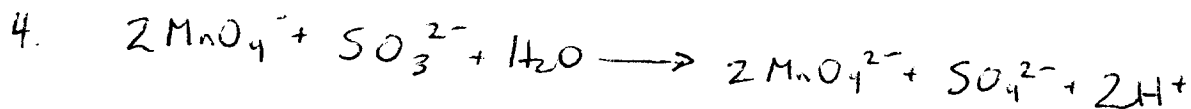


$$\text{mols } \text{S}_2\text{O}_3^{2-} = 35.0 \text{ mL} \times 0.20 \text{ M} = 7.00 \text{ mmols}$$

$$\text{mols } \text{I}_2 = 7.00 \text{ mmols} \times \frac{1 \text{ mol } \text{I}_2}{2 \text{ mol } \text{S}_2\text{O}_3^{2-}} = 3.50 \text{ mmols}$$

$$\text{mols } \text{Cu}^{2+} = 3.50 \text{ mmols} \times \frac{2 \text{ mol } \text{Cu}^{2+}}{1 \text{ mol } \text{I}_2} = 7.00 \text{ mmols}$$

$$[\text{Cu}(\text{NO}_3)_2] = \frac{7.00 \text{ mmols}}{25.0 \text{ mL}} = 0.28 \text{ M}$$



$$\text{mols } \text{MnO}_4^- = 35.0 \text{ mL} \times 0.020 \text{ M} = 0.700 \text{ mmols}$$

$$\text{mols } \text{SO}_3^{2-} = 0.700 \text{ mmols} \times \frac{1 \text{ mol } \text{SO}_3^{2-}}{2 \text{ mol } \text{MnO}_4^-} = 0.350 \text{ mmols}$$

$$[\text{H}_2\text{SO}_3] = \frac{0.350 \text{ mmols}}{25.0 \text{ mL}} = 0.014 \text{ M}$$