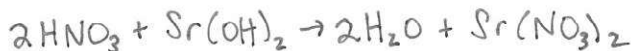


**Multiple Choice Practice:**

1. A sample of an unknown chloride compound was dissolved in water, and then titrated with excess  $\text{Pb}(\text{NO}_3)_2$  to create a precipitate. After drying, it is determined there are 0.0050 mol of precipitate present. What mass of chloride is present in the original sample?

- a. 0.177 g      **(b.)** 0.355 g      c. 0.522 g      d. 0.710 g

$$0.0050 \text{ mol PbCl}_2 \times \frac{2 \text{ Cl}^-}{1 \text{ PbCl}_2} \times \frac{35.45 \text{ g Cl}^-}{1 \text{ mol Cl}^-} = 0.3545 \text{ g}$$



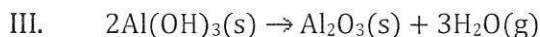
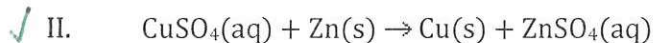
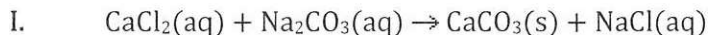
2. 0.60 M  $\text{HNO}_3$  was used to neutralize 15 mL of 0.30 M  $\text{Sr}(\text{OH})_2$ . What volume of  $\text{HNO}_3$  was needed?

- a. 7.5 mL      **(b.)** 15.0 mL      c. 22.5 mL      d. 30.0 mL

$$15 \text{ mL} \times 0.30 \text{ M} = 4.5 \text{ mmol Sr}(\text{OH})_2 \times \frac{2 \text{ HNO}_3}{1 \text{ Sr}(\text{OH})_2} = 9.0 \text{ mmol HNO}_3$$

$$\left. \begin{array}{l} \\ \\ \\ \\ \\ \end{array} \right\} \frac{9.0 \text{ mmol}}{0.6 \text{ M}} = 15 \text{ mL}$$

3. Which of the chemical reactions described below is/are an example of a redox reaction(s)?



- a. I only      **(b.)** II only      c. II and III only      d. I and III only

4. A student mixed equimolar amounts of  $\text{Cu}(\text{NO}_3)_2(\text{aq})$  and  $\text{LiOH}(\text{aq})$ , and a blue precipitate formed. Which reaction below shows the correct net ionic equation for this reaction?

