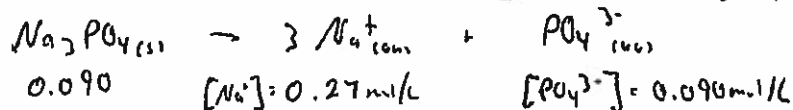
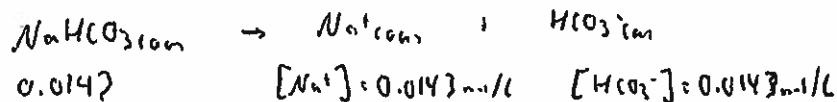


Concentration of Ions in Solution

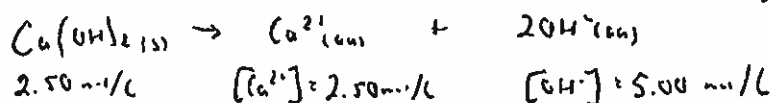
1. Calculate the ion concentrations in a 0.090 mol/L solution of Na_3PO_4 .



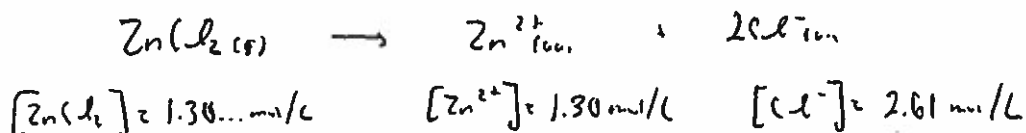
2. Calculate the ion concentrations in a 0.0143 mol/L solution of NaHCO_3 .



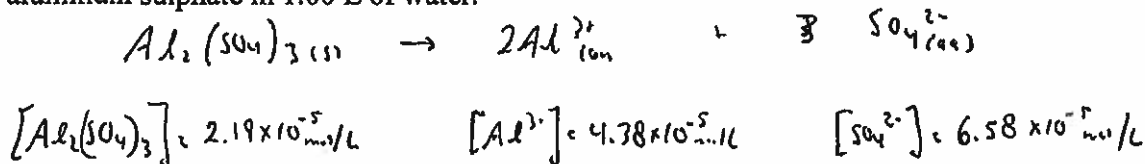
3. Calculate the ion concentrations in a 2.50 mol/L solution of calcium hydroxide.



4. Calculate the ion concentrations in a solution prepared by dissolving 800 g of zinc chloride in 4.50 L of water.



5. Calculate the ion concentrations in a solution prepared by dissolving 7.50 mg of aluminum sulphate in 1.00 L of water.



6. Calculate the concentration of dissolved Na_2CO_3 necessary to give a 0.500 mol/L $\text{CO}_3^{2-}(\text{aq})$ concentration.

$$[\text{Na}_2\text{CO}_3] = 0.500 \text{ mol/L}$$

7. Calculate the concentration of dissolved $(\text{NH}_4)_2\text{SO}_4$ necessary to give a 1.20 mol/L $\text{NH}_4^+(\text{aq})$ concentration.

$$[(\text{NH}_4)_2\text{SO}_4] = 0.600 \text{ mol/L}$$

8. Calculate the concentration of dissolved $\text{K}_2\text{Cr}_2\text{O}_7$ necessary to give a 0.600 mol/L $\text{Cr}_2\text{O}_7^{2-}(\text{aq})$ concentration.

$$[\text{K}_2\text{Cr}_2\text{O}_7] = 0.600 \text{ mol/L}$$

9. What mass of calcium chloride is required to prepare 2.000 L of 0.120 mol/L $\text{Cl}^-(\text{aq})$ solution?

$$m_{\text{CaCl}_2} = 13.3 \text{ g}$$