

$$X_{\text{NaCl}} = \frac{\# \text{ mol NaCl}}{\# \text{ mol NaCl} + \# \text{ mol H}_2\text{O}}$$

↓
1 mol

$$X_{\text{NaCl}} = 4.24 \times 10^{-2}$$

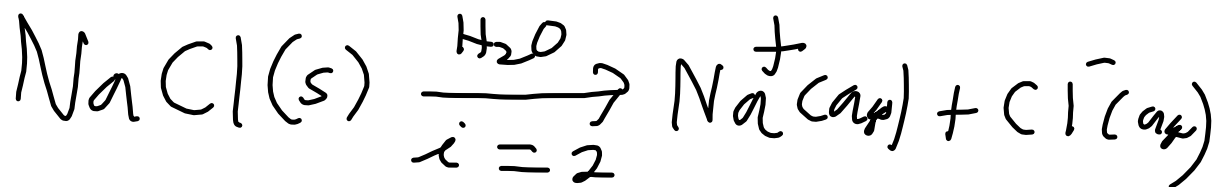
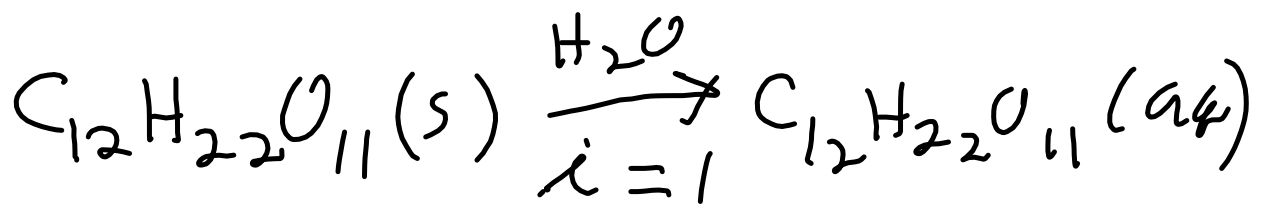
molality = ?

$$\begin{array}{r} 1.0000 \text{ mol total} \\ - 0.0424 \text{ mol NaCl} \\ \hline 0.9576 \text{ mol H}_2\text{O} \end{array}$$

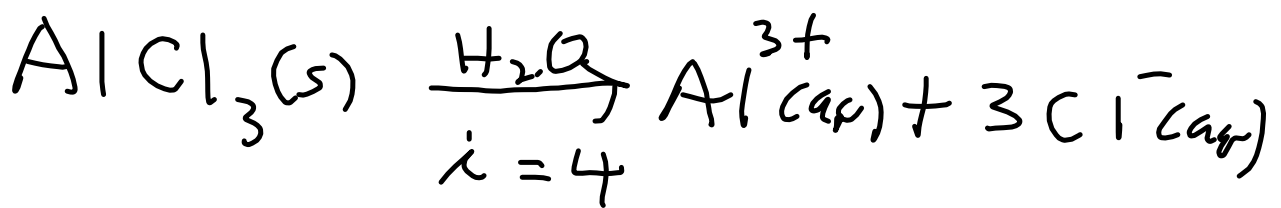
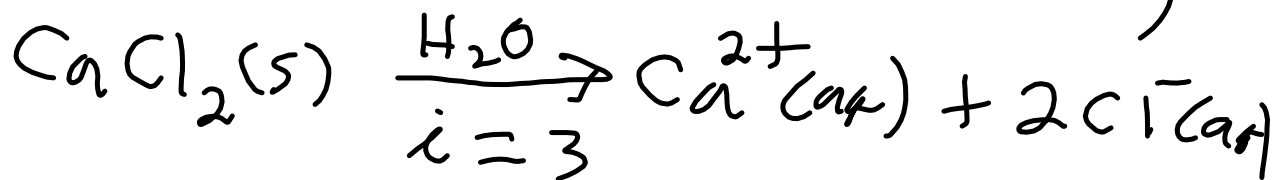
$$\text{Molality} = \frac{\# \text{ mol NaCl}}{\# \text{ kg H}_2\text{O}}$$

COLLIGATIVE PROPERTIES

Properties of a solution that depend on the concentration of solute particles, but not on their chemical identity.

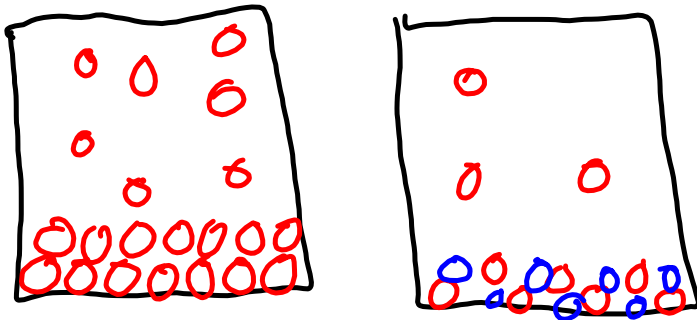


van't Hoff factor (i)



Some Colligative Properties

1. Vapor Pressure Lowering



2. Boiling Point Elevation
3. Freezing Point Depression