

4.8 In order to compute composition, in weight percent, of a 5 at% Cu-95 at% Pt alloy, we employ Equation 4.7 as

$$\begin{aligned}
 C_{\text{Cu}} &= \frac{C'_{\text{Cu}} A_{\text{Cu}}}{C'_{\text{Cu}} A_{\text{Cu}} + C'_{\text{Pt}} A_{\text{Pt}}} \times 100 \\
 &= \frac{(5)(63.55 \text{ g/mol})}{(5)(63.55 \text{ g/mol}) + (95)(195.08 \text{ g/mol})} \times 100 \\
 &= 1.68 \text{ wt\%}
 \end{aligned}$$

$$\begin{aligned}
 C_{\text{Pt}} &= \frac{C'_{\text{Pt}} A_{\text{Pt}}}{C'_{\text{Cu}} A_{\text{Cu}} + C'_{\text{Pt}} A_{\text{Pt}}} \times 100 \\
 &= \frac{(95)(195.08 \text{ g/mol})}{(5)(63.55 \text{ g/mol}) + (95)(195.08 \text{ g/mol})} \times 100 \\
 &= 98.32 \text{ wt\%}
 \end{aligned}$$