

$$G_{m,f} = X_A G_{A,l} + X_B G_{B,l}$$

$$= X_A \left(\mu_A^\circ + RT \ln \frac{P_A^\star \cdot X_A}{P^\circ} \right) + X_B \left(\mu_B^\circ + RT \ln \frac{P_B^\star \cdot X_B}{P^\circ} \right)$$

$$G_{m,v} = X_A \left(\mu_A^\circ + RT \ln X_A \right) + X_B \left(\mu_B^\circ + RT \ln X_B \right)$$

$$X_A RT \ln P_A^\star X_A + X_B RT \ln P_B^\star X_B = 0$$



$$\ln P_B = \frac{\Delta H_B}{R} \left(\frac{1}{T_B} - \frac{1}{T} \right)$$

$$\sum n_i d\mu_i + \mu_i dn_i$$

$$\sum n_i d\mu_i = 0$$

$$X_A RT \frac{\Delta H_A}{R} \left(\frac{1}{T_A} - \frac{1}{T} \right) + X_B RT \frac{\Delta H_B}{R} \left(\frac{1}{T_B} - \frac{1}{T} \right)$$