

Kyanite–Sillimanite Equilibrium

Kyanite = Sillimanite

$$dG_{\text{ky}} = -S_{\text{ky}} dT + V_{\text{ky}} dp$$

$$dG_{\text{si}} = -S_{\text{si}} dT + V_{\text{si}} dp$$

$$d(G_{\text{si}} - G_{\text{ky}}) = 0 = -(S_{\text{si}} - S_{\text{ky}})dT + (V_{\text{si}} - V_{\text{ky}}) dp$$

$$d\Delta G = 0 = -\Delta S dT + \Delta V dp$$

$$\frac{dp}{dT} = \frac{\Delta S}{\Delta V}$$

The Clapeyron Equation