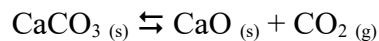


Problema609: Achar o valor de ΔG° e da constante de equilibrio K_p a 298 K usando os datos termodinámicos das táboas para a reacción: $\text{CaCO}_3 (s) \rightleftharpoons \text{CaO} (s) + \text{CO}_2 (g)$



$$\begin{aligned} \Delta G^\circ &= \sum n_p \cdot \Delta G^\circ_{\text{produtos}} - \sum n_r \cdot \Delta G^\circ_{\text{reactivos}} = \Delta G^\circ(\text{CaO} (s)) + \Delta G^\circ(\text{CO}_2 (g)) - \Delta G^\circ(\text{CaCO}_3 (s)) = \\ &= (-604,2\text{kJ}) + (-394,6\text{kJ}) - (-1128,8\text{kJ}) = \underline{130,0\text{kJ}} \end{aligned}$$

$$\Delta G^\circ = -RT \ln K$$

$$K = e^{\frac{-\Delta G^\circ}{RT}} = e^{\frac{-130.000\text{J}}{8,314\text{J/mol}\cdot\text{K}\cdot 298\text{K}}} = \underline{1,63 \cdot 10^{-23}}$$