

Problema0423: Representa el ciclo de Born-Haber y calcula la energía de red del $\text{KCl}_{(s)}$.

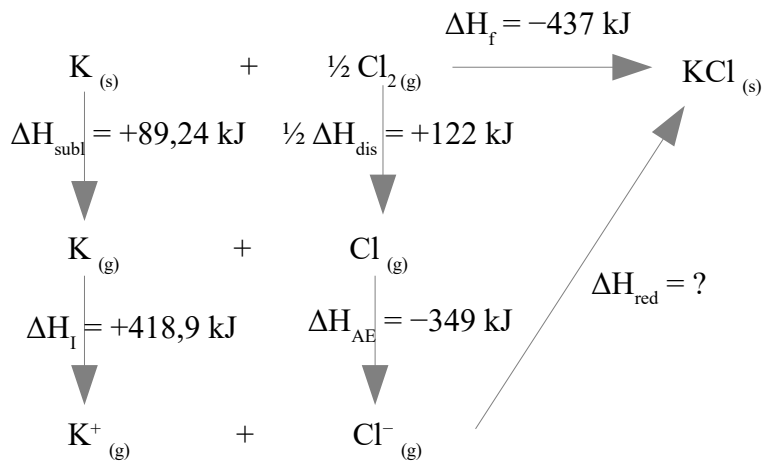
Datos: $\Delta H_{\text{formación}}[\text{KCl}_{(s)}] = -437 \text{kJ} \cdot \text{mol}^{-1}$

$\Delta H_{\text{sublimación}}[\text{K}_{(s)}] = 89,24 \text{kJ} \cdot \text{mol}^{-1}$

$\Delta H_{\text{disociación}}[\text{Cl}_{2(g)}] = 244 \text{kJ} \cdot \text{mol}^{-1}$

$\Delta H_{\text{ionización}}[\text{K}_{(g)}] = 418,9 \text{kJ} \cdot \text{mol}^{-1}$

$\Delta H_{\text{afinidad electrónica}}[\text{Cl}_{(g)}] = -349 \text{kJ} \cdot \text{mol}^{-1}$



$$\Delta H_f = \Delta H_{\text{subl}} + \frac{1}{2} \Delta H_{\text{dis}} + \Delta H_I + \Delta H_{\text{AE}} + \Delta H_{\text{red}}$$

$$\Delta H_{\text{red}} = \Delta H_f - \Delta H_{\text{subl}} - \frac{1}{2} \Delta H_{\text{dis}} - \Delta H_I - \Delta H_{\text{AE}}$$

$$\Delta H_{\text{red}} = -437 \text{kJ} - 89,24 \text{kJ} - 122 \text{kJ} - 418,9 \text{kJ} - (-349 \text{kJ}) = \underline{\underline{-718 \text{kJ}}}$$