

Qual o valor de $G - G^0$ p/ $n=1$ mol gás ideal a 10^{-3} Torr e T do qual de P_1 a P_2

$$\Delta G = nRT \ln(P_2/P_1) = nRT \ln\left(\frac{V_1}{V_2}\right)$$

temos $P_1 = 1 \text{ atm} = 760 \text{ Torr}$ (padrão)

$P_2 = 10^{-3} \text{ Torr}$

$$\Delta G = G - G^0 = (1 \text{ mol})(8,314 \text{ J K}^{-1} \text{ mol}^{-1})(298 \text{ K}) \ln\left(\frac{1,00 \times 10^{-3}}{760}\right)$$

$$\Delta G = -33,55 \text{ kJ} \quad \text{expansão}$$

SI $\Delta H = \Delta U + \Delta pV = \Delta U + \Delta nRT = \Delta nRT$; $S = nRT \ln(V_2/V_1)$ $\Delta G = \Delta H - T\Delta S$