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$$RT \ln \frac{P_r}{P_0} = \frac{2\tilde{\gamma} V_m}{r} = \frac{2\tilde{\gamma} M}{\rho r}$$

by Clausius–Clapeyron eq'n

$$\left(\frac{\partial \ln P}{\partial T}\right)_V = -\frac{\Delta H_{vap}}{RT^2}$$

$$\ln \frac{P_r}{P_0} = \frac{\Delta H_{vap}}{R}\left(\frac{1}{T_1} - \frac{1}{T_2}\right)$$

$$\Rightarrow R \ln \frac{P_r}{P_0} = \Delta H_{vap}\left(\frac{1}{T_1} - \frac{1}{T_2}\right)$$

$$\Rightarrow RT \ln \frac{P_r}{P_0} = T\Delta H_{vap}\left(\frac{1}{T_1} - \frac{1}{T_2}\right) = \frac{2 \times \tilde{\gamma} V_m}{r} = \frac{2\tilde{\gamma} M}{\rho r}$$

$$\Rightarrow 373\,(K) \times 2250 \left(\frac{N \cdot m}{g}\right) \times 18 \left(\frac{g}{mol}\right) \times \left(\frac{1}{373} - \frac{1}{T_2}\right) \left(\frac{1}{K}\right)$$

$$= \frac{2 \times 59 \times 10^{-3} \left(\frac{N}{m}\right) \times \frac{18}{1000000} \left(\frac{g/mol}{g/m^3}\right)}{5 \times 10^{-8} (m)}$$

$$\Rightarrow T_2 = 373.39\ K \quad \Delta T = 0.39\ K \doteq 0.4\ K$$ ※