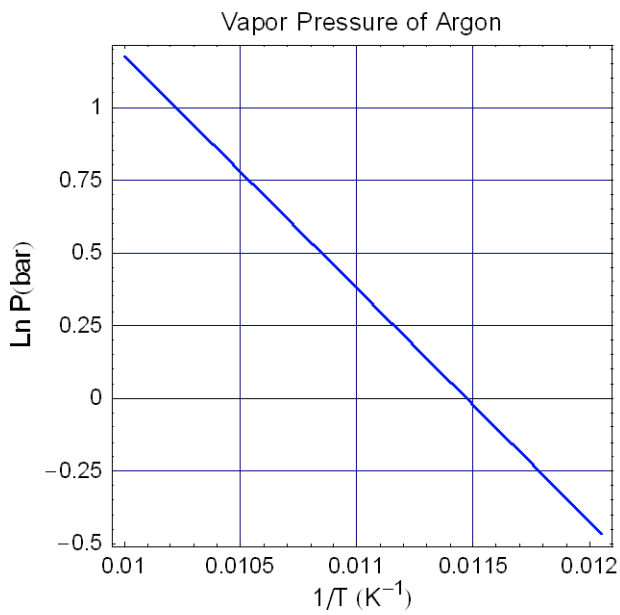
Vapor Pressure [5]



Modified Clausius-Clapeyron Equation:

$$\ln\frac{P}{P_C} = \frac{T_C}{T}(At + Bt^{1.5} + Ct^2 + Dt^{4.5})$$

$$t = (1 - T/T_C)$$

P = vapor pressure in bar

T = temperature in K

$T_C,\ P_C$ = $150.687K, 48.63\ bar$

$for\ T_T \le T \le T_C,\quad A = -5.940\,978\,5,\quad B = 1.355\,388\,8,\quad C = -0.464\,976\,07\quad D = -1.539\,904\,3$

Density [5]

Polynomial approximant:

$$\ln\frac{\rho_{LIQUID}}{\rho_C} = At^{0.334} + Bt^{2/3} + Ct^{7/3} + Dt^4$$

$$t = (1 - T/T_C)$$

ρ_{LIQUID} = density in g/cm^3

T = temperature in K

$T_C, \rho_C = 150.687K, 0.5356$ g/cm^3

$for\ T_T \le T \le T_C,\quad A = 1.500\,426\,2,\quad B = -0.313\,812\,90,\quad C = 0.086\,461\,622\quad D = -0.041\,477\,525$