$ORIGIN := 1$

$A := \begin{pmatrix} 10.0311 \\ 9.2806 \end{pmatrix}$ $B := \begin{pmatrix} 2940.46 \\ 2788.51 \end{pmatrix}$ $C := \begin{pmatrix} -35.93 \\ -52.36 \end{pmatrix}$

$P := 1.013$ $R := 8.314$ $y := \begin{pmatrix} 0.65 \\ 0.35 \end{pmatrix}$

$$\gamma(x, T) := \left| \begin{array}{l} \lambda_{12} \leftarrow 1991.5 \\ \lambda_{21} \leftarrow -569.94 \\ V_1 \leftarrow 87.6 \\ V_2 \leftarrow 95.4 \\ \Lambda_{12} \leftarrow \dfrac{V_2}{V_1} \cdot \exp\left(\dfrac{-\lambda_{12}}{R \cdot T}\right) \\ \Lambda_{21} \leftarrow \dfrac{V_1}{V_2} \cdot \exp\left(\dfrac{-\lambda_{21}}{R \cdot T}\right) \\ \gamma_1 \leftarrow \exp\left[-\left[\ln\left(x_1 + \Lambda_{12} \cdot x_2\right) + x_2 \cdot \left(\dfrac{\Lambda_{21}}{x_2 + \Lambda_{21} \cdot x_1} - \dfrac{\Lambda_{12}}{x_1 + \Lambda_{12} \cdot x_2}\right)\right]\right] \\ \gamma_2 \leftarrow \exp\left[-\left[\ln\left(x_2 + \Lambda_{21} \cdot x_1\right) + x_1 \cdot \left(\dfrac{\Lambda_{12}}{x_1 + \Lambda_{12} \cdot x_2} - \dfrac{\Lambda_{21}}{x_2 + \Lambda_{21} \cdot x_1}\right)\right]\right] \\ \begin{pmatrix} \gamma_1 \\ \gamma_2 \end{pmatrix} \end{array} \right.$$

$$T := \sum_{i=1}^{2} \left[y_i \cdot \left(\frac{B_i}{A_i - \ln(P)} - C_i \right) \right] = 337.773$$

$i := 1 .. 2$

$$x_i := \frac{P \cdot y_i}{\exp\left(A_i - \dfrac{B_i}{C_i + T}\right)}$$

Given

$$P \cdot y_1 = \exp\left(A_1 - \frac{B_1}{C_1 + T}\right) \cdot x_1 \cdot \gamma(x, T)_1$$

$$P \cdot y_2 = \exp\left(A_2 - \frac{B_2}{C_2 + T}\right) \cdot x_2 \cdot \gamma(x, T)_2$$

$$x_1 + x_2 = 1$$

$$\begin{pmatrix} x \\ T \end{pmatrix} := \text{Find}(x, T)$$

$$x = \begin{pmatrix} 0.461 \\ 0.539 \end{pmatrix} \qquad T = 336.763$$