

ORIGIN := 1

T := 341.39 P := 1.013 x₁ := 0.448

x₂ := 1 - x₁

$$P_1 := \exp\left(12.2917 - \frac{3803.98}{T - 41.68}\right) = 0.67 \quad P_2 := \exp\left(9.2806 - \frac{2788.51}{T - 52.36}\right) = 0.693$$

$$\gamma_1 := \frac{P}{P_1} = 1.512 \quad \gamma_2 := \frac{P}{P_2} = 1.462$$

$$A := \ln(\gamma_1) \cdot \left(1 + \frac{x_2 \cdot \ln(\gamma_2)}{x_1 \cdot \ln(\gamma_1)}\right)^2 = 1.881 \quad B := \ln(\gamma_2) \cdot \left(1 + \frac{x_1 \cdot \ln(\gamma_1)}{x_2 \cdot \ln(\gamma_2)}\right)^2 = 1.347$$

x₁ := 0.1, 0.2 .. 0.9

$$\gamma_1(x_1) := \exp\left[\frac{1.879}{\left(1 + 1.395 \cdot \frac{x_1}{1 - x_1}\right)^2}\right]$$

$$\gamma_2(x_1) := \exp\left[\frac{1.347}{\left(1 + 0.717 \cdot \frac{1 - x_1}{x_1}\right)^2}\right]$$

x ₁ =
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9

γ ₁ (x ₁) =
4.09
2.809
2.087
1.656
1.388
1.217
1.109
1.044
1.01

γ ₂ (x ₁) =
1.025
1.094
1.207
1.367
1.579
1.853
2.199
2.634
3.176