(P11.1)

Practice 11.1 by two methods, left is shortcut Psat, right is Antoine, both use 2-Parameter Margules

Short-cut VP eqn 9.11

	Tc(K)	Pc(MPa)	w
(1) DEA	496.5	3.71	0.291
(2)Chloroform	536.4	5.37	0.218
T = 341.55		Psat (MPa)	
	(1)	0.159506	
	(2)	0.128425	

Antoine Coeff Method

(1) DEA	7.080932	1202.191	230.5561
(2)Chloroform	6.95465	1170.966	226.232
T = 341.55		Psat (mm)	Psat(MPa)
	(1)	1147.194	0.152947
	(2)	955.6875	0.127415

Calc gamma using azeotrope data

gamma(1) = P/Psat(1)	
gamma(1)	0.626935
gamma(2)	0.778666

Calc gamma using azeotrope data

gamma(1) = P/Psat(1)	
gamma(1)	0.653823
gamma(2)	0.78484

Calc Margules Param using 11.38

A12	-1.2787
A21	-1.55901

Calc Margules Param using 11.38

A12	-1.22896
A21	-1.41114

Calc gamma at x1 = 0.8 using 11.37

x1	0.8
x2	0.2
gamma1	0.933245
gamma2	0.396133

Calc gamma at x1 = 0.8 using 11.37

x1	0.8
x2	0.2
gamma1	0.940697
gamma2	0.426618

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Bubble T calculations

Pcalc = x1*g1*P1sat + x2*g2*P2sat

x1*g1	x2*g2	T	Psat.1	Psat.2	Pcalc
0.746596	0.079227	333.0839	0.123446	0.098902	0.1

(program Psats, guess T until Pcalc = 0.1)

y1=x1*g1*Psat.1/P = 0.921643

Bubble T calculations

Pcalc = x1*g1*P1sat + x2*g2*P2sat

x1*g1	x2*g2	T	Psat.1	Psat.2	Pcalc
0.752558	0.085324	334.2785	0.12142	0.101076	0.1

(program Psats, guess T until Pcalc = 0.1)

y1=x1*g1*Psat.1/P = 0.913758

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