

Example 10.1

Result

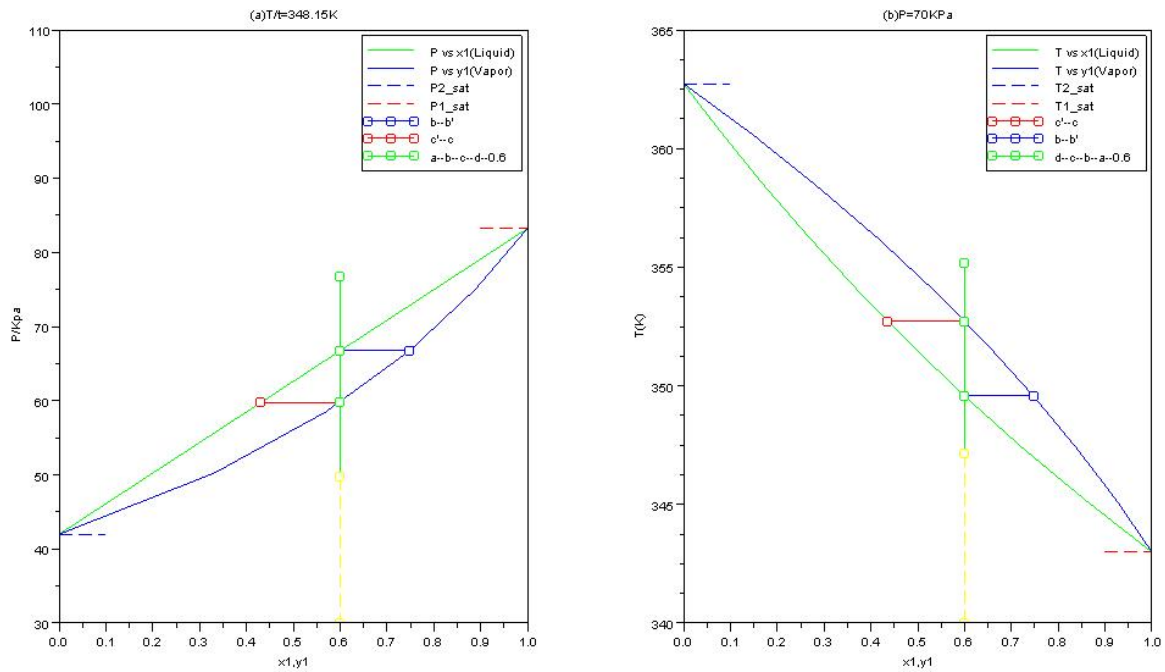


Figure 10.1 Pxy Raoult's law

Explanations Of graph

x_1	y_1	P/P_{Ka}
0.	0.	41.98
0.2	0.3313	50.23
0.4	0.5692	58.47
0.6	0.7483	66.72
0.8	0.888	74.96
1.	1.	83.21

This is the liquid-phase composition at point c'

x1	y1	T/t(K/C`)
1.	1.	342.99
0.738	0.849	347.15
0.516	0.676	351.15
0.318	0.474	355.15
0.142	0.239	359.15
0.	0.	362.73

Hence by iteration Temp(Temp at b) at x1=0.6 is

349.57

K

Hence by iteration P1_sat at x1=0.6 is

87.17

KPa

Composition of Vapor(b`) at x1=0.6

0.7472

Hence by iteration Temp(Temp at b) at y1=0.6 is

352.73

K

Hence by iteration P1_sat at y1=0.6 is

96.54

KPa

Composition of liquid(c`) at y1=0.6

0.4351