	xi	A	B	C	P*
Benzene	0.4	9.2806	2788.51	-52.36	0.138105
Toluene	0.3	9.3935	3096.52	-53.67	0.041706
m-Xylene	0.3	9.5188	3366.99	-58.04	0.012318
					P

lnP*=A-B/(T+C) in bars
T in Kelvin
T (K) 300

Determine the bubble point pressure and vapor composition at equili
with a liquid composition BTX of (0.4, 0.3, 0.3) at 300 K

xiP*	
0.055242	
0.012512	
0.003695	
0.071449	**0**

brium

lnP*=A-B/(T+C) in bars
T in Kelvin
P (bar) **0.071449**

	Testimate	xi	xiT
T=B/(A-lnP*)-C	286.3078	0.4	114.5231
	311.0213	0.3	93.3064
	334.986	0.3	100.4958

T estimate (K) **308.3254**

Determine the bubble point temperature and vapor composition at equilibrium with a liquid composition BTX of (0.4, 0.3, 0.3) at 0.07145 bar

	xi	A
Benzene	0.4	9.2806
Toluene	0.3	9.3935
m-Xylene	0.3	9.5188

Take benzene as our key
P* = P*,old/sumyi
Testimate new =

	xi	A
Benzene	0.4	9.2806
Toluene	0.3	9.3935
m-Xylene	0.3	9.5188

P* = P*,old/Σytotal 0.138169
Testimate new = 300.0102

	xi	A
Benzene	0.4	9.2806
Toluene	0.3	9.3935
m-Xylene	0.3	9.5188

B	C	P*	xiP*	yi=xiP*/P
2788.51	-52.36	0.199191	0.079676	1.115145
3096.52	-53.67	0.062904	0.018871	0.264119
3366.99	-58.04	0.019569	0.005871	0.082166
		P	**0.104418**	**1.46143**

0.136299
299.7107

B	C	P*	xiP*	yi=xiP*/P
2788.51	-52.36	0.136299	0.054519	0.763051
3096.52	-53.67	0.041094	0.012328	0.172544
3366.99	-58.04	0.012115	0.003634	0.050867
		P	**0.070482**	**0.986461**

B	C	P*	xiP*	yi=xiP*/P
2788.51	-52.36	0.138169	0.055268	0.773523
3096.52	-53.67	0.041727	0.012518	0.175204
3366.99	-58.04	0.012325	0.003698	0.051751
		P	**0.071484**	**1.000478**

	xi	A	B	C	P*
Benzene	0.4	9.2806	2788.51	-52.36	0.138105
Toluene	0.3	9.3935	3096.52	-53.67	0.041706
m-Xylene	0.3	9.5188	3366.99	-58.04	0.012318
					P

lnP*=A-B/(T+C) in bars
T in Kelvin
T (K) 300

Determine the bubble point pressure and vapor composition at equili
with a liquid composition BTX of (0.4, 0.3, 0.3) at 300 K

xiP*	yi=xiP*/P	K
0.055242	0.773166	1.932914
0.012512	0.175113	0.58371
0.003695	0.051721	0.172404
0.071449	**1**	

a13
11.21155

brium

	yi	A	B	C	P*
Benzene	0.4	9.2806	2788.51	-52.36	0.138105
Toluene	0.3	9.3935	3096.52	-53.67	0.041706
m-Xylene	0.3	9.5188	3366.99	-58.04	0.012318
					P

lnP*=A-B/(T+C) in bars
T in Kelvin
T (K) 300

Determine the dew point pressure and liquid composition at equilibriu
with a vapor composition BTX of (0.4, 0.3, 0.3) at 300 K

yi/P*	xi=yiP/P*	K
2.896337	0.084089	4.756892
7.193255	0.20884	1.436509
24.35432	0.707072	0.424285
0.029033	**1**	

a13
11.21155

ɹm

lnP*=A-B/(T+C) in bars
T in Kelvin

P (bar)	**1**		
	Testimate	yi	yiT
T=B/(A-lnP*)-C	352.8266	0.2	70.56531
	383.315	0.4	153.326
	417.0616	0.4	166.8246
T estimate (K)		**390.7159**	

	yi	A
Benzene	0.2	9.2806
Toluene	0.4	9.3935
o-Xylene	0.4	9.4954

Take benzene as our key
P* = P*,old*sumxi
Testimate new =

	yi	A
Benzene	0.2	9.2806
Toluene	0.4	9.3935
m-Xylene	0.4	9.5188

P* = P*,old*sumxi
Testimate new =

	yi	A
Benzene	0.2	9.2806
Toluene	0.4	9.3935
m-Xylene	0.4	9.5188

P* = P*,old*sumxi
Testimate new =

	yi	A
Benzene	0.2	9.2806
Toluene	0.4	9.3935
m-Xylene	0.4	9.5188

P* = P*,old*sumxi
Testimate new =

	yi	A
Benzene	0.2	9.2806
Toluene	0.4	9.3935
m-Xylene	0.4	9.5188

B	C	P*	yi/P*	xi=yiP/P*
2788.51	-52.36	2.827093	0.070744	0.070744
3096.52	-53.67	1.229079	0.325447	0.325447
3395.57	-59.46	0.46992	0.85121	0.85121
		P	**0.801667**	**1.2474**

3.526517
400.042

B	C	P*	yi/P*	xi=yiP/P*
2788.51	-52.36	3.526517	0.056713	0.056713
3096.52	-53.67	1.574017	0.254127	0.254127
3366.99	-58.04	0.721702	0.554246	0.554246
		P	**1.155955**	**0.865086**

3.050739
393.8709

B	C	P*	yi/P*	xi=yiP/P*
2788.51	-52.36	3.050739	0.065558	0.065558
3096.52	-53.67	1.338387	0.298867	0.298867
3366.99	-58.04	0.602269	0.664155	0.664155
		P	**0.972214**	**1.02858**

3.137928
395.0535

B	C	P*	yi/P*	xi=yiP/P*
2788.51	-52.36	3.137928	0.063736	0.063736
3096.52	-53.67	1.381262	0.28959	0.28959
3366.99	-58.04	0.623836	0.641194	0.641194
		P	**1.00551**	**0.99452**

3.120733
394.8223

B	C	P*	yi/P*	xi=yiP/P*
2788.51	-52.36	3.120733	0.064088	0.064088
3096.52	-53.67	1.372796	0.291376	0.291376
3366.99	-58.04	0.619571	0.645608	0.645608
		P	**0.99893**	**1.001071**