

APPENDIX-III

DATA PROCESSING TABLES IN TERMS OF WEIGHT PERCENT & MOLE FRACTION

Table-W- 1.1
Tie-Line data in terms of Weight Percent & Mole Fraction
System Benzene-Hexane-Dmf-W at 20 °C

Weight Percent								Mole Fraction								
r.Nc	X _{BE}	X _{HE}	X _{DE}	X _{WE}	X _{BR}	X _{HR}	X _{DR}	X _{WR}	X _{BE}	X _{HE}	X _{DE}	X _{WE}	X _{BR}	X _{HR}	X _{DR}	X _{WR}
0%W																
1	5.00	15.00	80.00	0.00	28.00	69.00	5.00	0.000	0.048	0.131	0.821	0.000	0.027	0.914	0.058	0.001
2	10.00	17.00	73.00	0.00	31.50	65.89	5.00	0.000	0.097	0.149	0.075	0.000	0.087	0.855	0.058	0.001
3	12.00	21.00	67.00	0.00	36.00	58.25	5.00	0.000	0.117	0.185	0.697	0.000	0.108	0.834	0.001	0.006
4	17.00	24.00	54.00	0.00	43.00	53.00	6.30	0.000	0.167	0.214	0.619	0.000	0.137	0.790	0.073	0.001
5	22.50	27.00	50.50	0.00	50.00	38.82	10.00	0.000	0.223	0.242	0.534	0.000	0.181	0.705	0.114	0.001
10%W																
6	28.50	12.00	49.05	5.45	17.50	78.45	0.90	0.100	0.233	0.089	0.468	0.211	0.717	0.269	0.010	0.004
7	7.80	11.50	73.35	8.15	32.20	64.06	2.25	0.250	0.053	0.080	0.598	0.269	0.260	0.703	0.026	0.012
8	24.00	11.00	58.50	6.50	42.50	54.10	1.80	0.200	0.193	0.080	0.502	0.226	0.641	0.330	0.020	0.009
9	17.50	12.00	63.45	7.05	60.50	36.55	2.03	0.225	0.138	0.086	0.535	0.241	0.459	0.508	0.023	0.010
10	20.75	11.50	60.98	6.78	68.10	29.30	1.80	0.200	0.165	0.083	0.518	0.234	0.551	0.420	0.020	0.009
20%W																
11	2.70	1.20	76.88	19.22	6.50	91.00	4.00	1.000	0.016	0.006	0.485	0.492	0.207	0.704	0.044	0.045
12	6.70	1.50	73.44	18.36	17.70	79.90	2.00	0.500	0.040	0.008	0.472	0.479	0.450	0.506	0.022	0.022
13	11.50	1.50	69.60	17.40	28.00	69.70	0.80	0.200	0.071	0.008	0.457	0.464	0.618	0.364	0.009	0.009
14	29.00	1.50	55.60	13.90	45.85	51.95	0.80	0.200	0.193	0.009	0.396	0.402	0.855	0.128	0.009	0.009
15	20.25	1.50	62.60	15.65	63.70	34.20	0.80	0.200	0.130	0.009	0.428	0.434	0.738	0.245	0.009	0.009

Table-W-1.2
Tie-Line data in terms of Weight Percent & Mole Fraction
System Benzene-Hexane-Dmf-W at 30 °C

r.Nc	Weight Percent							Mole Fraction								
	X _{BE}	X _{HE}	X _{DE}	X _{WE}	X _{BR}	X _{HR}	X _{DR}	X _{WR}	X _{BE}	X _{HE}	X _{DE}	X _{WE}	X _{BR}	X _{HR}	X _{DR}	X _{WR}
0%W																
1	5.00	18.50	76.50	0.00	1.50	92.50	7.00	0.00	0.048	0.162	0.789	0.000	0.016	0.902	0.081	0.001
2	8.00	21.50	70.50	0.00	4.20	86.00	9.80	0.00	0.078	0.189	0.732	0.000	0.045	0.841	0.113	0.001
3	10.00	25.00	65.00	0.00	8.00	80.00	12.00	0.00	0.098	0.222	0.680	0.000	0.086	0.777	0.137	0.001
4	4.20	19.80	76.50	0.00	1.50	79.00	19.20	0.00	0.040	0.173	0.787	0.000	0.016	0.765	0.218	0.001
5	2.20	23.00	75.00	0.00	1.00	85.50	13.50	0.00	0.021	0.202	0.776	0.000	0.011	0.834	0.155	0.001
6	6.00	20.50	73.50	0.00	4.00	61.96	33.98	0.00	0.058	0.180	0.761	0.000	0.041	0.582	0.376	0.000
10%W																
7	5.00	10.00	76.50	8.50	26.50	69.00	4.05	0.450	0.038	0.068	0.616	0.278	0.278	0.656	0.045	0.021
8	14.00	14.00	60.30	6.70	46.70	49.00	3.87	0.430	0.152	0.101	0.515	0.232	0.481	0.457	0.426	0.019
9	24.00	16.10	53.91	5.99	69.70	27.30	2.70	0.300	0.196	0.119	0.472	0.213	0.707	0.251	0.029	0.013
10	2.70	6.70	81.54	9.06	13.50	85.00	1.35	0.150	0.020	0.045	0.645	0.291	0.146	0.832	0.016	0.007
11	45.20	11.10	39.33	4.37	75.30	22.40	2.07	0.230	0.389	0.087	0.362	0.163	0.761	0.205	0.023	0.011
20%W																
12	3.00	1.25	76.60	19.15	17.00	78.00	4.00	1.000	0.018	0.007	0.484	0.491	0.177	0.734	0.044	0.045
13	7.75	1.00	73.00	18.25	39.00	56.50	3.60	0.900	0.047	0.006	0.471	0.477	0.398	0.523	0.039	0.040
14	8.75	0.75	72.40	18.10	43.00	53.50	2.80	0.700	0.053	0.004	0.468	0.475	0.441	0.497	0.031	0.031
15	20.50	0.50	63.20	15.80	71.00	28.50	0.40	0.100	0.131	0.003	0.430	0.436	0.727	0.264	0.004	0.004
16	14.62	0.50	67.90	16.97	57.00	42.50	0.40	0.100	0.091	0.003	0.450	0.457	0.591	0.400	0.004	0.005

Table-W- 1.3
Tie-Line data in terms of Weight Percent & Mole Fraction
System Toluene-Hexane-Dmf-W at 20°C

Pt.Nc	Weight Percent							Mole Fraction								
	X _{TE}	X _{HE}	X _{DE}	X _{WE}	X _{TR}	X _{HR}	X _{DR}	X _{WR}	X _{TE}	X _{HE}	X _{DE}	X _{WE}	X _{TR}	X _{HR}	X _{DR}	X _{WR}
								0%W								
1	9.75	13.25	77.00	0.00	8.90	84.20	6.90	0.000	0.081	0.117	0.802	0.000	0.083	0.836	0.081	0.001
2	16.00	19.50	64.50	0.00	17.00	74.50	8.50	0.000	0.135	0.176	0.688	0.000	0.158	0.742	0.100	0.001
3	20.50	35.00	44.50	0.00	20.50	69.50	10.00	0.000	0.180	0.328	0.492	0.000	0.191	0.692	0.117	0.001
4	18.00	27.00	55.00	0.00	18.00	72.50	9.50	0.000	0.155	0.248	0.596	0.000	0.120	0.721	0.111	0.001
5	12.87	18.00	64.13	0.00	12.95	79.05	8.00	0.000	0.114	0.170	0.715	0.001	0.120	0.786	0.094	0.001
								20%W								
6	2.00	1.00	77.60	19.40	27.00	68.50	3.60	0.900	0.010	0.005	0.489	0.496	0.247	0.670	0.042	0.042
7	4.00	1.00	76.00	19.00	43.50	50.00	3.20	0.800	0.044	0.007	0.471	0.478	0.587	0.357	0.273	0.028
8	8.50	1.20	72.24	18.06	65.00	32.00	2.40	0.600	0.052	0.006	0.468	0.474	0.766	0.185	0.024	0.025
9	10.00	1.00	71.20	17.80	79.50	18.00	2.00	0.500	0.032	0.006	0.478	0.485	0.509	0.424	0.033	0.034
10	6.25	1.00	74.20	18.55	54.25	42.25	2.80	0.700								

Table-W-1.4

158

Table-W- 1.5
Tie-Line data in terms of Weight Percent & Mole Fraction
System Toluene-Hexane-Dmf-W at 40°C

T.Nc	Weight Percent							Mole Fraction								
	X _{TE}	X _{HE}	X _{DE}	X _{WE}	X _{TR}	X _{HR}	X _{DR}	X _{WR}	X _{TE}	X _{HE}	X _{DE}	X _{WE}	X _{TR}	X _{HR}	X _{DR}	X _{WR}
0%W																
1	12.00	27.00	61.00	0.00	8.50	71.50	20.00	0.000	0.102	0.245	0.653	0.000	0.077	0.694	0.229	0.001
2	10.00	26.00	64.00	0.00	7.00	76.50	16.50	0.000	0.084	0.235	0.681	0.000	0.064	0.746	0.190	0.001
3	6.00	20.00	74.00	0.00	4.00	81.00	15.00	0.000	0.050	0.177	0.773	0.000	0.037	0.790	0.190	0.001
4	7.50	22.00	70.50	0.00	6.00	79.00	15.00	0.000	0.063	0.196	0.741	0.000	0.055	0.772	0.173	0.001
5	11.00	24.00	65.00	0.00	7.70	74.00	18.30	0.000	0.093	0.216	0.691	0.000	0.070	0.220	0.210	0.001
10%W																
7	14.00	3.50	74.25	8.25	52.00	36.50	10.35	1.150	0.091	0.024	0.610	0.248	0.473	0.355	0.119	0.054
8	31.00	4.00	58.50	6.50	69.50	24.00	5.85	0.650	0.218	0.030	0.518	0.234	0.657	0.242	0.070	0.031
9	51.00	2.00	42.30	4.70	86.00	13.00	0.90	0.100	0.391	0.016	0.409	0.184	0.847	0.137	0.011	0.005
10	11.00	5.00	75.60	8.40	31.00	51.00	9.00	1.000	0.071	0.035	0.617	0.278	0.280	0.571	0.103	0.046
11	22.50	3.50	66.60	7.40	60.70	29.30	9.00	1.000	0.152	0.025	0.567	0.256	0.560	0.560	0.105	0.047
20%W																
12	3.00	2.10	75.52	18.88	24.00	74.50	1.20	0.300	0.018	0.011	0.482	0.489	0.255	0.718	0.014	0.014
13	8.00	18.00	72.16	18.04	46.50	51.00	1.20	0.300	0.041	0.010	0.471	0.478	0.442	0.529	0.014	0.015
14	25.00	1.50	58.80	14.70	74.00	23.00	2.40	0.600	0.142	0.009	0.421	0.427	0.707	0.235	0.029	0.029
15	5.00	2.00	74.40	18.60	37.00	58.00	4.00	1.000	0.025	0.011	0.479	0.485	0.339	0.568	0.046	0.047
16	16.00	2.00	65.60	16.40	62.00	35.00	2.40	0.600	0.087	0.012	0.448	0.454	0.588	0.355	0.029	0.029

Table-W-1.6
Tie-Line data in terms of Weight Percent & Mole Fraction
System Xylene-Hexane-Dmf-W at 20°C

n.Nd	Weight Percent							Mole Fraction								
	X _{XE}	X _{HE}	X _{DE}	X _{WE}	X _{XR}	X _{HR}	X _{DR}	X _{WR}	X _{XE}	X _{HE}	X _{DE}	X _{WE}	X _{XR}	X _{HR}	X _{DR}	X _{WR}
								0%W								
1	2.90	13.00	84.10	0.00	1.99	96.15	1.50	0.000	0.077	0.153	0.775	0.001	0.039	0.911	0.050	0.001
2	9.70	15.80	74.50	0.00	8.90	87.80	3.30	0.000	0.094	0.138	0.768	0.000	0.097	0.865	0.038	0.000
3	14.40	19.70	65.90	0.00	16.25	79.80	3.95	0.000	0.140	0.174	0.686	0.000	0.175	0.780	0.045	0.000
4	6.30	14.40	79.30	0.00	5.44	92.15	2.40	0.000	0.061	0.125	0.814	0.000	0.059	0.913	0.028	0.000
5	12.05	17.75	70.20	0.00	10.84	83.80	5.36	0.000	0.117	0.156	0.727	0.000	0.117	0.821	0.062	0.000
								10%W								
6	1.24	3.45	84.76	9.42	8.22	86.50	4.75	0.528	0.009	0.023	0.667	0.301	0.087	0.834	0.054	0.024
7	5.50	3.60	81.81	9.09	36.50	59.15	3.92	0.435	0.041	0.024	0.645	0.291	0.379	0.558	0.043	0.020
8	12.50	3.25	75.83	8.43	66.00	30.95	2.75	0.305	0.094	0.022	0.609	0.275	0.671	0.285	0.030	0.013
9	3.37	4.00	83.37	9.26	22.36	72.54	4.59	0.510	0.025	0.027	0.654	0.295	0.235	0.691	0.051	0.023
10	90.00	5.00	77.40	8.60	51.25	44.75	3.60	0.400	0.420	0.021	0.386	0.174	0.526	0.417	0.039	0.018
								20%W								
11	1.50	0.65	78.36	19.59	35.90	61.00	2.48	0.620	0.009	0.003	0.490	0.497	0.983	0.015	0.001	0.001
12	5.00	0.50	75.60	18.90	70.50	28.00	1.20	0.300	0.030	0.003	0.480	0.487	0.716	0.258	0.013	0.013
13	3.25	0.50	77.00	19.25	53.20	44.00	2.24	0.560	0.019	0.003	0.486	0.492	0.543	0.408	0.024	0.025
14	4.12	0.50	76.30	19.08	61.85	35.95	1.76	0.440	0.024	0.003	0.483	0.490	0.630	0.332	0.019	0.019
15	2.38	0.50	77.70	19.42	44.40	526.00	2.40	0.600	0.014	0.003	0.488	0.495	0.084	0.906	0.005	0.005

Table-W-1.7
Tie-Line data in terms of Weight Percent & Mole Fraction
System Xylene-Hexane-Dmf-W at 30°C

T.Nd	Weight Percent							Mole Fraction								
	X _{XE}	X _{HHE}	X _{DE}	X _{WE}	X _{XR}	X _{HHR}	X _{DR}	X _{WR}	X _{XE}	X _{HHE}	X _{DE}	X _{WE}	X _{XR}	X _{HHR}	X _{DR}	X _{WR}
								0%W								
1	9.70	17.05	73.25	0.00	4.80	91.00	4.20	0.000	0.094	0.150	0.757	0.000	0.052	0.899	0.049	0.000
2	12.70	19.40	67.90	0.00	10.10	85.40	4.50	0.000	0.123	0.171	0.705	0.000	0.109	0.839	0.052	0.000
3	16.80	22.05	60.65	0.00	15.70	78.50	5.30	0.000	0.165	0.197	0.638	0.000	0.170	0.769	0.061	0.000
4	14.30	20.70	65.00	0.00	12.30	84.00	6.00	0.000	0.139	0.183	0.677	0.000	0.130	0.803	0.068	0.000
5	15.30	21.50	63.20	0.00	14.00	78.00	8.00	0.000	0.150	0.191	0.660	0.000	0.150	0.758	0.092	0.000
								10%W								
7	5.00	6.25	79.88	8.88	21.00	73.20	5.22	0.580	0.037	0.042	0.635	0.286	0.220	0.695	0.058	0.026
8	8.50	5.80	77.13	8.57	35.00	59.50	4.95	0.550	0.064	0.039	0.618	0.279	0.362	0.558	0.055	0.025
9	16.50	4.80	70.83	7.87	57.00	38.00	4.50	0.500	0.126	0.033	0.579	0.261	0.579	0.350	0.049	0.022
10	19.20	3.30	69.75	7.75	62.00	33.50	4.41	0.490	0.147	0.023	0.572	0.258	0.625	0.306	0.047	0.021
11	12.50	4.00	75.15	8.35	46.00	48.00	5.40	0.600	0.094	0.027	0.606	0.273	0.470	0.445	0.059	0.027
								20%W								
13	1.20	2.60	76.96	19.24	21.50	70.70	6.24	1.560	0.007	0.014	0.486	0.493	0.217	0.647	0.067	0.068
14	2.90	2.00	76.08	19.02	37.50	56.50	4.80	1.200	0.017	0.011	0.483	0.489	0.379	0.517	0.052	0.052
15	4.70	2.00	74.64	18.66	53.50	41.30	4.16	1.040	0.028	0.011	0.477	0.484	0.535	0.375	0.044	0.045
16	5.40	1.90	74.16	18.54	63.00	32.90	3.28	0.820	0.032	0.010	0.475	0.482	0.631	0.299	0.035	0.036
17	13.00	1.80	68.16	17.04	79.50	17.80	2.16	0.540	0.081	0.010	0.452	0.458	0.793	0.161	0.023	0.023

Table-W-1.8

Run No.	Weight Percent						Mole Fraction									
	X _{HE}	X _{DE}	X _{WE}	X _{HR}	X _{DR}	X _{WR}	10%W					20%W				
							X _{HE}	X _{DE}	X _{WE}	X _{HR}	X _{DR}	X _{WR}	X _{HE}	X _{DE}	X _{WE}	X _{HR}
1	18.00	5.00	69.30	7.70	21.00	63.50	32.00	0.45	0.139	0.035	0.570	0.257	0.183	0.502	0.298	0.017
2	5.00	8.60	77.76	8.64	35.00	22.50	71.85	0.57	0.038	0.059	0.623	0.281	0.260	0.152	0.570	0.018
3	12.00	7.25	72.68	8.08	57.00	41.00	53.70	0.53	0.091	0.050	0.592	0.267	0.370	0.242	0.373	0.015
4	13.50	7.00	71.55	7.95	62.00	52.00	43.30	0.47	0.103	0.049	0.585	0.263	0.394	0.300	0.294	0.013
5	16.50	6.30	69.48	7.72	46.00	54.50	41.00	0.45	0.127	0.044	0.571	0.258	0.326	0.350	0.310	0.014
7	4.10	3.10	74.24	18.56	21.50	29.10	64.10	1.36	0.025	0.017	0.476	0.483	0.176	0.216	0.560	0.048
8	6.20	3.90	72.72	18.18	37.50	41.70	53.50	0.96	0.037	0.021	0.467	0.474	0.274	0.277	0.418	0.030
9	8.20	1.70	72.08	18.02	53.50	61.50	34.80	0.74	0.050	0.009	0.467	0.474	0.357	0.373	0.248	0.021
10	7.20	3.40	71.12	17.78	63.00	51.60	43.50	1.00	0.044	0.019	0.465	0.472	0.392	0.291	0.289	0.027
11	5.15	23.20	73.32	18.33	79.50	35.40	57.90	1.34	0.028	0.114	0.426	0.432	0.443	0.179	0.345	0.032

Table-W-1.9
Tie-Line data in terms of Weight Percent & Mole Fraction
System Benzene-Heptane-Dmf-W at 20°C

Sr.No	Weight Percent							Mole Fraction								
	X_{BE}	X_{HE}	X_{DE}	X_{WE}	X_{BR}	X_{HR}	X_{DR}	X_{WR}	X_{BE}	X_{HE}	X_{DE}	X_{WE}	X_{BR}	X_{HR}	X_{DR}	X_{WR}
	0%W								10%W							
1	2.00	16.00	82.00	0.00	2.20	90.30	7.50	0.000	0.019	0.139	0.841	0.000	0.024	0.889	0.087	0.000
2	3.00	17.05	79.50	0.00	3.70	88.50	7.80	0.000	0.002	0.946	0.052	0.000	0.040	0.870	0.090	0.000
3	5.00	20.00	75.00	0.00	7.80	77.00	15.20	0.000	0.048	0.176	0.776	0.000	0.083	0.744	0.173	0.000
4	4.00	5.00	78.50	0.00	5.75	83.20	11.05	0.000	0.043	0.049	0.908	0.000	0.062	0.811	0.127	0.000
5	4.50	5.00	77.00	0.00	6.77	81.23	12.00	0.000	0.049	0.050	0.901	0.000	0.073	0.790	0.137	0.000
6	13.50	8.00	70.65	7.85	33.75	64.85	1.26	0.140	0.104	0.056	0.580	0.261	0.357	0.622	0.014	0.006
7	9.50	7.20	74.97	8.33	20.00	78.55	1.31	0.145	0.072	0.049	0.606	0.273	0.214	0.764	0.015	0.007
8	25.00	8.15	60.17	6.69	56.50	75.02	1.18	0.131	0.199	0.059	0.512	0.231	0.001	0.999	0.000	0.000
9	17.50	8.02	67.03	7.45	47.50	51.10	1.26	0.140	0.136	0.057	0.557	0.251	0.496	0.484	0.014	0.006
10	21.00	8.10	63.81	7.09	52.50	46.15	1.22	0.135	0.165	0.058	0.536	0.241	0.546	0.435	0.013	0.006

Table-W- 1.10
Tie-Line data in terms of Weight Percent & Mole Fraction
System Benzene-Hept(H')-Dmf(D) -W at 30°C

Sr.Nc	Weight Percent						Mole Fraction									
	X _{BE}	X _{HE}	X _{DE}	X _{WE}	X _{BR}	X _{HR}	X _{DR}	X _{WR}	X _{BE}	X _{HE}	X _{DE}	X _{WE}	X _{BR}	X _{HR}	X _{DR}	X _{WR}
								0%W								
1	12.50	20.20	66.30	0.00	11.50	78.00	10.00	0.000	0.125	0.157	0.718	0.000	0.138	0.734	0.128	0.001
2	5.50	19.00	75.50	0.00	4.50	81.00	14.50	0.000	0.054	0.147	0.799	0.000	0.054	0.759	0.186	0.001
3	9.00	23.00	68.00	0.00	8.00	75.00	14.50	0.000	0.090	0.180	0.729	0.000	0.095	0.690	0.215	0.001
4	2.20	18.30	79.50	0.00	1.00	91.00	8.00	0.000	0.022	0.141	0.837	0.000	0.012	0.881	0.106	0.001
5	3.85	19.00	77.15	0.00	2.75	86.75	10.50	0.000	0.038	0.146	0.815	0.000	0.034	0.828	0.138	0.000
								10%W								
6	14.00	10.80	67.68	7.52	24.10	71.00	4.41	0.490	0.110	0.066	0.568	0.256	0.279	0.642	0.055	0.025
7	19.50	14.00	59.85	6.65	42.50	54.00	2.70	0.300	0.158	0.089	0.519	0.234	0.482	0.472	0.032	0.015
8	30.50	15.00	49.05	5.45	51.20	45.40	3.06	0.340	0.258	0.099	0.443	0.200	0.561	0.388	0.036	0.016
9	16.75	12.50	63.68	7.08	33.20	63.20	3.15	0.350	0.134	0.078	0.543	0.245	0.380	0.564	0.039	0.174
10	25.00	14.50	54.45	6.05	46.85	50.65	2.25	0.250	0.207	0.094	0.482	0.217	0.522	0.440	0.027	0.012
								20%W								
11	14.75	4.00	65.00	16.25	54.75	43.25	1.60	0.400	0.094	0.020	0.440	0.447	0.596	0.367	0.019	0.019
12	5.50	4.50	72.00	18.00	24.00	74.00	1.60	0.400	0.034	0.021	0.469	0.476	0.282	0.678	0.020	0.020
13	11.50	5.00	66.80	16.70	43.50	55.50	0.80	0.200	0.072	0.025	0.449	0.455	0.483	0.480	0.019	0.019
14	18.00	4.00	62.40	15.60	66.00	31.00	2.40	0.600	0.116	0.020	0.429	0.435	0.692	0.254	0.027	0.027
15	31.00	3.00	52.80	13.20	71.50	24.00	3.60	0.900	0.211	0.016	0.384	0.389	0.730	0.191	0.039	0.040

Table-W- 1.11
Tie-Line data in terms of Weight Percent & Mole Fraction
System Benzene-Heptane-Dmf-W at 40°C

r.Nc	Weight Percent							Mole Fraction												
	X _{BE}	X _{HTE}	X _{DE}	X _{WE}	X _{BR}	X _{HFR}	X _{DR}	X _{WR}	X _{BE}	X _{HTE}	X _{DE}	X _{WE}	X _{BR}	X _{HFR}	X _{DR}	X _{WR}				
	0%W							10%W							20%W					
1	3.00	17.00	80.00	0.00	2.00	90.00	8.00	0.000	0.030	0.130	0.840	0.000	0.025	0.869	0.106	0.001				
2	5.00	20.00	75.00	0.00	3.00	86.00	11.00	0.000	0.050	0.155	0.795	0.000	0.037	0.819	0.144	0.001				
3	8.20	24.00	67.80	0.00	4.20	83.40	12.40	0.000	0.083	0.188	0.729	0.000	0.051	0.788	0.161	0.001				
4	9.00	26.00	65.00	0.00	5.00	81.50	13.50	0.000	0.091	0.205	0.703	0.000	0.060	0.765	0.174	0.001				
5	13.00	29.50	67.50	0.00	6.50	79.00	14.50	0.000												
10%W																				
8	10.50	10.70	70.92	7.88	17.00	74.76	7.42	0.824	0.082	0.065	0.589	0.265	0.196	0.672	0.091	0.041				
9	23.00	11.60	58.86	6.54	37.50	55.95	5.90	0.655	0.187	0.073	0.510	0.230	0.416	0.483	0.070	0.031				
10	37.00	11.00	46.80	5.20	57.20	39.60	2.88	0.320	0.313	0.073	0.423	0.191	0.618	0.334	0.033	0.015				
11	16.75	10.70	65.30	7.26	27.25	65.05	6.93	0.770	0.133	0.066	0.552	0.249	0.307	0.572	0.084	0.038				
12	30.00	11.50	52.65	5.85	47.35	47.65	4.50	0.500	0.249	0.074	0.467	0.210	0.518	0.406	0.053	0.024				
20%W																				
13	7.50	4.00	70.80	17.70	38.00	57.00	4.00	1.000	0.046	0.019	0.464	0.471	0.417	0.488	0.047	0.048				
14	23.00	2.00	60.00	15.00	65.00	32.00	2.40	0.600	0.150	0.010	0.417	0.423	0.683	0.262	0.027	0.027				
15	34.00	1.50	51.60	12.90	80.00	17.50	2.00	0.500	0.233	0.008	0.377	0.382	0.817	0.139	0.022	0.022				
16	15.25	2.80	65.56	16.39	51.50	44.50	3.20	0.800	0.096	0.014	0.442	0.448	0.553	0.373	0.037	0.037				
17	28.50	1.00	56.40	14.10	72.50	24.80	2.16	0.540	0.189	0.005	0.400	0.406	0.751	0.200	0.024	0.024				

Table-W- 1.12
Tie-Line data in terms of Weight Percent & Mole Fraction
System Benzene-Oct-Dmf-W at 20°C

T.Nc	Weight Percent							Mole Fraction								
	X _{BE}	X _{OE}	X _{DE}	X _{WE}	X _{BR}	X _{OR}	X _{DR}	X _{WR}	X _{BE}	X _{OE}	X _{DE}	X _{WE}	X _{BR}	X _{OR}	X _{DR}	X _{WR}
0%W																
1	3.90	7.25	88.85	0.00	4.00	94.05	1.95	0.000	0.038	0.048	0.914	0.000	0.057	0.913	0.030	0.001
2	9.50	9.70	81.10	0.00	10.07	87.27	2.66	0.000	0.093	0.063	0.844	0.000	0.139	0.822	0.039	0.001
3	11.00	10.10	73.90	0.00	18.00	78.70	3.30	0.000								
4	18.00	13.70	68.60	0.00	23.60	72.80	3.60	0.000	0.179	0.091	0.729	0.000	0.305	0.644	0.050	0.001
5	20.10	14.80	65.10	0.00	29.00	67.10	3.90	0.000	0.201	0.101	0.697	0.000	0.367	0.580	0.053	0.001
6	23.50	16.90	59.60	0.00	33.80	62.08	4.12	0.000	0.238	0.117	0.645	0.000	0.419	0.526	0.055	0.001
10%W																
7	12.50	4.90	74.34	8.26	29.00	64.90	0.99	0.110	0.095	0.026	0.606	0.273	0.370	0.610	0.014	0.006
8	7.50	4.70	79.02	8.78	20.50	78.40	0.99	0.110	0.056	0.024	0.634	0.286	0.271	0.709	0.014	0.006
9	5.00	4.50	81.45	9.05	17.00	81.89	1.00	0.111	0.038	0.023	0.647	0.292	0.228	0.751	0.014	0.006
10	10.00	4.80	76.68	8.52	24.00	79.90	0.99	0.110	0.076	0.025	0.620	0.279	0.313	0.667	0.014	0.006
11	15.00	4.90	72.09	8.01	33.80	65.17	0.93	0.103	0.115	0.026	0.592	0.267	0.424	0.559	0.013	0.005
20%W																
12	8.85	0.70	72.36	18.09	44.50	54.48	0.82	0.204	0.054	0.003	0.469	0.475	0.533	0.446	0.011	0.010
13	2.10	0.52	77.90	19.48	15.00	83.95	0.84	0.210	0.012	0.002	0.489	0.496	0.202	0.774	0.012	0.012
14	3.70	0.62	76.54	19.13	25.00	73.97	0.82	0.206	0.022	0.003	0.484	0.491	0.323	0.654	0.011	0.012
15	14.00	0.85	68.12	17.03	64.00	35.01	0.79	0.198	0.087	0.004	0.452	0.458	0.714	0.267	0.009	0.010
16	22.00	0.85	61.72	15.43	75.00	24.03	0.78	0.194	0.142	0.004	0.424	0.430	0.806	0.177	0.009	0.009

Table-W- 1.13
Tie-Line data in terms of Weight Percent & Mole Fraction
System Benzene-Oct-Dmf-W at 30°C

T.Nc	Weight Percent							Mole Fraction								
	X _{BE}	X _{OE}	X _{DE}	X _{WE}	X _{BR}	X _{OR}	X _{DR}	X _{WR}	X _{BE}	X _{OE}	X _{DE}	X _{WE}	X _{BR}	X _{OR}	X _{DR}	X _{WR}
								0%W								
1	12.70	12.30	75.00	0.00	12.00	84.55	3.45	0.000	0.125	0.083	0.791	0.000	0.163	0.786	0.050	0.001
2	16.50	14.10	69.40	0.00	14.50	81.50	3.75	0.000	0.166	0.096	0.737	0.000	0.195	0.752	0.053	0.001
3	18.80	15.20	66.00	0.00	20.80	74.70	4.50	0.000	0.188	0.104	0.707	0.000	0.271	0.666	0.063	0.001
4	21.20	16.10	62.70	0.00	25.00	69.69	5.31	0.000	0.214	0.111	0.675	0.000	0.319	0.608	0.072	0.001
5	23.50	17.50	59.00	0.00	29.80	63.70	6.50	0.000	0.238	0.121	0.640	0.000	0.371	0.542	0.087	0.001
								10%W								
6	7.50	5.95	77.90	8.66	16.70	81.80	1.35	0.150	0.057	0.031	0.629	0.283	0.224	0.749	0.019	0.009
7	12.80	7.00	72.18	8.02	26.80	72.68	1.37	0.152	0.099	0.037	0.596	0.269	0.332	0.640	0.019	0.008
8	17.80	7.55	67.19	7.47	34.40	64.04	1.40	0.156	0.140	0.041	0.565	0.255	0.431	0.556	0.008	0.038
9	27.40	7.97	58.17	6.46	49.70	48.65	1.49	0.165	0.223	0.044	0.505	0.228	0.584	0.390	0.018	0.008
10	32.01	7.75	54.23	6.03	58.50	39.80	1.53	0.170	0.264	0.044	0.477	0.215	0.664	0.309	0.019	0.008
								20%W								
11	7.00	2.56	72.39	18.10	34.50	64.45	0.88	0.220	0.043	0.009	0.471	0.478	0.429	0.548	0.012	0.012
12	11.20	2.85	68.76	17.19	52.10	46.85	0.84	0.210	0.070	0.012	0.456	0.462	0.606	0.373	0.010	0.011
13	20.00	3.15	61.48	15.37	72.10	26.95	0.76	0.190	0.130	0.014	0.425	0.431	0.788	0.202	0.004	0.004
14	9.10	2.80	70.48	17.62	43.30	55.65	0.84	0.210	0.056	0.012	0.463	0.469	0.521	0.458	0.011	0.010
15	15.60	3.00	65.12	16.28	62.30	36.65	0.84	0.210	0.099	0.013	0.441	0.447	0.699	0.281	0.010	0.010

Table-W-1.14
Tie-Line data in terms of Weight Percent & Mole Fraction
System Benzene-Oct-Dmf-W at 40°C

r.Nc	Weight Percent							Mole Fraction								
	X _{BE}	X _{OE}	X _{DE}	X _{WE}	X _{BR}	X _{OR}	X _{DR}	X _{WR}	X _{BE}	X _{OE}	X _{DE}	X _{WE}	X _{BR}	X _{OR}	X _{DR}	X _{WR}
	0%W							10%W								
1	9.50	11.81	78.69	0.00	7.50	88.85	3.65	0.000	0.093	0.079	0.827	0.000	0.104	0.842	0.054	0.001
2	10.80	12.50	76.70	0.00	8.30	87.95	3.75	0.000	0.107	0.084	0.809	0.000	0.115	0.830	0.055	0.001
3	17.40	16.00	66.60	0.00	14.50	80.93	4.57	0.000								
4	19.20	16.86	73.30	0.00	16.00	79.28	4.72	0.000	0.175	0.110	0.715	0.000	0.194	0.740	0.065	0.001
5	24.00	21.00	55.00	0.00	24.00	69.00	7.00	0.000	0.247	0.148	0.605	0.000	0.305	0.600	0.095	0.001
10%W																
6	11.00	5.00	75.60	8.40	11.00	85.00	3.60	0.400	0.084	0.026	0.614	0.277	0.147	0.778	0.052	0.023
7	17.00	7.00	68.40	7.60	20.00	76.00	3.60	0.400	0.133	0.037	0.572	0.258	0.258	0.670	0.050	0.022
8	30.00	9.00	54.90	6.10	31.00	64.00	4.50	0.500	0.247	0.051	0.484	0.218	0.379	0.535	0.059	0.027
9	41.00	9.00	45.00	5.00	42.00	52.00	5.40	0.600	0.351	0.053	0.413	0.185	0.489	0.414	0.067	0.030
10	51.00	6.00	38.70	4.30	52.00	41.50	5.85	0.650	0.443	0.036	0.359	0.162	0.581	0.317	0.070	0.032
20%W																
11	5.00	4.10	72.08	18.02	11.80	85.50	2.16	0.540	0.030	0.017	0.473	0.480	0.158	0.780	0.031	0.031
12	7.50	4.10	70.72	17.68	20.30	76.60	2.48	0.620	0.046	0.017	0.465	0.472	0.260	0.571	0.034	0.035
13	12.50	2.30	68.16	17.04	31.90	65.00	2.48	0.620	0.078	0.010	0.453	0.459	0.391	0.544	0.032	0.033
14	14.00	1.70	67.44	16.86	36.40	60.00	2.88	0.720	0.087	0.007	0.450	0.456	0.435	0.491	0.037	0.037
15	10.00	3.00	69.60	17.40	26.10	70.40	2.80	0.700	0.062	0.013	0.460	0.466	0.325	0.600	0.037	0.038

Table-W-2.1
Tie-Line data in terms of Weight Percent & Mole Fraction
System Benzene-Hexane-DmsO-W at 20°C

r.Nc	Weight Percent						Mole Fraction									
	X _{BE}	X _{HE}	X _{DE}	X _{WE}	X _{BR}	X _{HR}	X _{DR}	X _{WR}	X _{BE}	X _{HE}	X _{DE}	X _{WE}	X _{BR}	X _{HR}	X _{DR}	X _{WR}
								0%W								
1	18.14	6.50	17.90	0.00	23.00	75.00	4.20	0.000	0.173	0.056	0.770	0.000	0.244	0.722	0.034	0.000
2	22.00	7.00	0.00	0.00	33.00	65.50	0.00	0.000	0.211	0.061	0.728	0.000	0.351	0.632	0.017	0.000
3	24.00	7.00			41.50	56.00	0.00	0.000	0.231	0.061	0.708	0.000	0.437	0.535	0.028	0.000
4	27.00	6.00	20.60	0.00	45.00	51.97	4.86	0.000	0.260	0.052	0.688	0.000	0.472	0.494	0.034	0.000
5	31.00	7.95	23.90	0.00	51.00	46.00	4.11	0.000	0.291	0.068	0.642	0.000	0.532	0.435	0.033	0.000
6	23.00	5.79	0.50	0.00	36.00	62.00	0.75	0.000	0.220	0.050	0.729	0.000	0.381	0.596	0.023	0.000
								10%W								
7	3.00	1.00	9.99	1.11	20.00	78.00	0.50	0.056	0.000	0.007	0.685	0.309	0.214	0.756	0.021	0.009
8	13.00	1.00	16.11	1.79	35.00	63.00	0.41	0.045	0.097	0.007	0.618	0.278	0.369	0.602	0.020	0.009
9	12.00	1.00	22.50	2.50	48.50	49.00	0.27	0.030	0.089	0.007	0.623	0.281	0.503	0.461	0.025	0.011
10	36.00	1.00	26.10	2.90	61.00	32.00	0.23	0.025	0.288	0.007	0.485	0.219	0.611	0.291	0.067	0.030
11	51.50	1.00	0.00	0.00	81.50	14.00	0.00	0.000	0.321	0.006	0.464	0.209	0.811	0.126	0.043	0.019
								20%W								
12	1.00	0.02	1.76	0.44	24.30	74.20	0.24	0.060	0.006	0.000	0.494	0.500	0.258	0.715	0.014	0.014
13	2.00	0.02	3.20	0.80	47.50	50.50	0.20	0.050	0.012	0.000	0.491	0.497	0.491	0.473	0.018	0.018
14	5.00	0.02	4.16	1.04	77.00	21.00	0.16	0.040	0.030	0.000	0.482	0.488	0.774	0.191	0.017	0.017
15	6.50	0.02	5.20	1.30	89.00	10.00	0.12	0.030	0.039	0.000	0.477	0.484	0.981	0.000	0.009	0.010

Table-W- 2.2
Tie-Line data in terms of Weight Percent & Mole Fraction
System Benzene-Hexane-DmsO-W at 30°C

r.Nc	Weight %							Mole Fraction								
	X _{BE}	X _{HE}	X _{DE}	X _{WE}	X _{BR}	X _{HR}	X _{DR}	X _{WR}	X _{BE}	X _{HE}	X _{DE}	X _{WE}	X _{BR}	X _{HR}	X _{DR}	X _{WR}
0 % w																
1	8.00	2.00	90.00	0.00	15.00	82.00	3.00	0.00	0.080	0.011	0.909	0.000	0.162	0.805	0.033	0.001
2	15.70	4.80	79.50	0.00	25.61	73.00	1.39	0.00	0.158	0.044	0.798	0.000	0.275	0.710	0.015	0.001
3	23.80	6.50	69.70	0.00	37.10		2.79	0.00	0.238	0.059	0.701	0.000	0.393	0.578	0.029	0.001
4	36.80	8.00	55.20	0.00	44.70	48.10	0.00	0.00	0.371	0.073	0.556	0.000	0.468	0.456	0.753	0.001
5	44.50	16.30	39.20	0.00	50.40	36.00	13.60	0.00	0.452	0.150	0.398	0.000	0.521	0.338	0.141	0.000
6	19.50	5.00	74.50	0.00	31.00	70.00	4.00	0.00	0.440	0.146	0.414	0.000	0.516	0.335	0.149	0.000
7	4.00	4.00	92.00	0.00	16.50	81.00	2.50	0.00	0.038	0.003	0.647	0.312	0.178	0.801	0.015	0.007
10 % w																
8	5.00	5.00	85.05	9.45	16.50	82.00	1.35	0.15								
9	8.75	0.75	81.45	9.05	30.25	68.00	1.58	0.18	0.067	0.005	0.626	0.302	0.321	0.654	0.017	0.008
10	11.50	0.90	79.74	8.86	40.50	58.10	1.26	0.14	0.089	0.006	0.611	0.294	0.426	0.554	0.013	0.006
11	15.00	1.00	75.60	8.40	55.50	42.50	1.80	0.20	0.113	0.007	0.607	0.274	0.573	0.398	0.020	0.009
12	17.50	1.00	73.35	8.15	67.00	31.00	1.80	0.20	0.134	0.007	0.580	0.279	0.619	0.356	0.017	0.008
13	10.00	0.80	80.28	8.92	36.00	63.00	0.90	0.10	0.077	0.006	0.619	0.298	0.381	0.605	0.010	0.005
20 % w																
14	0.40	0.10	79.60	19.90	13.50	85.50	0.80	0.20	0.002	0.001	0.478	0.519	0.146	0.836	0.009	0.009
15	0.80	0.10	79.28	19.82	25.70	73.20	0.88	0.22	0.005	0.001	0.477	0.517	0.274	0.708	0.009	0.010
16	1.70	0.10	78.56	19.64	46.50	53.20	0.24	0.06	0.010	0.001	0.475	0.515	0.488	0.506	0.003	0.003
17	2.20	0.20	78.08	19.52	67.20	32.00	0.56	0.14	0.013	0.001	0.473	0.513	0.690	0.299	0.006	0.006
18	1.20	0.10	78.96	19.74	36.00	62.50	1.20	0.30	0.007	0.001	0.476	0.516	0.378	0.595	0.013	0.014

Tie-Line data in terms of Weight Percent & Mole Fraction

System Benzene-Hexane-DmsO-W at 40°C

T.Nc	Weight Percent							Mole Fraction								
	X _{BE}	X _{HE}	X _{DE}	X _{WE}	X _{BR}	X _{HR}	X _{DR}	X _{WR}	X _{BE}	X _{HE}	X _{DE}	X _{WE}	X _{BR}	X _{HR}	X _{DR}	X _{WR}
	0 % w															
1	7.500	4.000	88.500	0.00	15.000	80.000	5.00	0.00	0.0754	0.03647	0.8881	0.0000	0.162	0.784	0.054	0.000
2	16.000	4.000	89.000	0.00	26.600	70.560	2.77	0.00	0.147	0.033	0.819	0.000	0.285	0.685	0.030	0.000
3	25.500	7.500	67.000	0.00	33.000	63.000	4.00	0.00	0.2571	0.06858	0.6743	0.0000	0.351	0.607	0.042	0.000
4	34.500	8.600	56.90	0.00	38.000	59.000	3.00	0.00	0.3481	0.0787	0.5732	0.0000	0.402	0.566	0.032	0.000
10 % w																
5	10.500	2.000	78.30	8.70	34.500	64.300	1.08	0.12	0.082	0.014	0.610	0.294	0.365	0.618	0.011	0.006
6	18.000	4.000	75.15	8.35	49.300	49.800	0.90	0.10	0.136	0.027	0.565	0.272	0.515	0.471	0.009	0.005
7	15.000	2.000	74.70	8.30	42.200	56.800	0.90	0.10	0.118	0.014	0.586	0.282	0.444	0.542	0.009	0.005
8	6.000	2.000	82.80	9.20	15.000	84.000	0.90	0.10	0.046	0.014	0.634	0.306	0.162	0.823	0.010	0.005
9	23.700	4.000	65.07	7.23	56.500	40.000	1.35	0.15	0.192	0.029	0.525	0.253	0.596	0.383	0.014	0.007
20 % w																
10	1.300	0.100	78.96	19.74	14.300	84.300	1.12	0.28	0.008	0.001	0.476	0.516	0.154	0.821	0.012	0.013
11	2.300	0.100	78.00	19.50	35.500	63.500	0.80	0.20	0.014	0.001	0.473	0.513	0.375	0.608	0.008	0.009
12	8.200	0.100	71.60	17.90	50.300	49.000	0.56	0.14	0.052	0.001	0.454	0.493	0.524	0.463	0.006	0.006
13	0.600	0.050	79.44	19.86	7.200	91.500	1.04	0.26	0.004	0.000	0.478	0.518	0.078	0.899	0.011	0.012
14	1.800	0.100	78.48	19.62	25.000	73.000	1.60	0.40	0.011	0.001	0.474	0.514	0.264	0.700	0.017	0.018

Table-W- 2.4
Tie-Line Data in terms of Weight Percent & Mole Fraction
System Toulene-Hexane-DmsO-W at 20°C

Sr.No	Weight Percent							Mole Fraction								
	X _{TE}	X _{HE}	X _{DE}	X _{WE}	X _{TR}	X _{HR}	X _{DR}	X _{WR}	X _{TE}	X _{HE}	X _{DE}	X _{WE}	X _{TR}	X _{HR}	X _{DR}	X _{WR}
								0 % w								
1	13.00	5.00	82.00	0.00	27.00	70.50	2.50	0.00	0.113	0.046	0.840	0.000	0.256	0.715	0.028	0.001
2	25.00	5.00	70.00	0.00	57.00	38.50	4.50	0.00	0.221	0.047	0.731	0.001	0.551	0.398	0.051	0.001
3	30.50	9.50	60.00	0.00	56.00	26.00	17.00	0.00								
3	18.00	5.00	77.00	0.00	43.00	54.00	3.00	0.00	0.158	0.047	0.795	0.000	0.412	0.553	0.004	0.001
4	16.50	5.00	78.50	0.00	35.10	62.20	2.70	0.00	0.144	0.047	0.809	0.000	0.335	0.634	0.030	0.001
5	21.80	5.00	73.20	0.00	50.00	46.00	4.00	0.00	0.192	0.047	0.760	0.001	0.481	0.473	0.045	0.001
								10 % w								
6	7.50	0.50	82.80	9.20	60.00	32.10	7.11	0.79	0.049	0.004	0.639	0.308	0.562	0.322	0.079	0.038
7	9.50	0.50	81.00	9.00	68.00	28.10	3.51	0.39	0.063	0.004	0.630	0.304	0.653	0.288	0.040	0.019
8	12.00	0.10	79.11	8.79	82.00	17.50	0.45	0.05	0.080	0.001	0.621	0.299	0.808	0.184	0.005	0.003
9	5.00	0.10	85.41	9.49	49.00	44.20	6.12	0.68	0.032	0.001	0.653	0.314	0.458	0.442	0.068	0.325
10	3.50	0.10	86.76	9.64	37.00	58.10	4.32	0.48	0.023	0.001	0.659	0.318	0.347	0.583	0.048	0.023
								20 % w								
11	1.00	0.01	79.19	19.80	29.00	70.00	0.80	0.20	0.005	0.000	0.477	0.518	0.274	0.707	0.009	0.010
12	2.00	0.01	78.39	19.60	65.00	33.50	1.20	0.30	0.010	0.000	0.478	0.512	0.626	0.345	0.014	0.015
13	2.20	0.01	78.23	19.56	69.50	29.00	1.20	0.30	0.011	0.000	0.474	0.514	0.672	0.300	0.014	0.015
14	3.50	0.01	76.95	19.24	84.00	14.50	1.20	0.30	0.018	0.000	0.471	0.511	0.812	0.151	0.014	0.015
15	1.50	0.01	78.79	19.70	47.00	51.50	1.20	0.30	0.008	0.000	0.476	0.516	0.448	0.524	0.014	0.015

Table-W- 2.5
Tie-Line Data in terms of Weight Percent & Mole Fraction
System Toulene-Hexane-DmsO-W at 30°C

Weight Percent								Mole Fraction								
r.Nc	X _{TE}	X _{HE}	X _{DE}	X _{WE}	X _{TR}	X _{HR}	X _{DR}	X _{WR}	X _{TE}	X _{HE}	X _{DE}	X _{WE}	X _{TR}	X _{HR}	X _{DR}	X _{WR}
0 % w																
1	16.50	4.00	79.50	0.00	28.00	70.00	2.00	0.00	0.144	0.037	0.818	0.000	0.266	0.711	0.022	0.001
2	10.50	5.00	84.50	0.00	12.00	84.50	3.50	0.00	0.091	0.046	0.862	0.000	0.113	0.838	0.039	0.001
3	23.40	4.00	74.60	0.00	47.00	49.00	4.00	0.00								
4	12.00	5.00	83.00	0.00	16.25	82.25	1.50	0.00	0.104	0.046	0.849	0.000	0.154	0.830	0.017	0.001
5	14.50	4.00	81.50	0.00	24.00	74.00	2.00	0.00	0.126	0.037	0.836	0.000	0.227	0.750	0.022	0.001
6	18.50	4.00	77.50	0.00	32.00	64.00	4.00	0.00	0.162	0.037	0.800	0.000	0.304	0.651	0.045	0.001
10 % w																
7	4.30	1.50	84.78	9.42	23.00	74.00	2.70	0.30	0.028	0.010	0.649	0.313	0.215	0.741	0.030	0.014
8	5.00	1.50	84.15	9.35	43.00	55.00	1.80	0.20	0.033	0.010	0.646	0.311	0.410	0.360	0.020	0.010
9	6.75	1.30	82.76	9.20	63.00	34.00	2.70	0.30	0.044	0.009	0.639	0.308	0.820	0.349	0.031	0.015
10	15.00	2.00	74.70	8.30	89.50	15.00	1.35	0.15	0.102	0.015	0.597	0.287	0.820	0.157	0.016	0.008
11	13.00	2.00	76.50	8.50	73.00	24.50	2.25	0.25	0.087	0.014	0.606	0.292	0.708	0.254	0.026	0.012
20 % w																
12	0.80	0.32	79.10	19.78	23.00	75.00	1.60	0.40	0.004	0.002	0.477	0.517	0.215	0.749	0.018	0.019
13	1.50	0.30	78.56	19.64	44.00	54.00	1.60	0.40	0.008	0.002	0.475	0.515	0.416	0.546	0.018	0.019
14	2.00	0.20	78.24	19.56	66.00	32.00	1.60	0.40	0.010	0.001	0.474	0.514	0.634	0.329	0.018	0.020
15	2.50	0.10	77.92	19.48	84.00	15.00	0.80	0.20	0.013	0.001	0.471	0.513	0.824	0.157	0.009	0.010
16	1.10	0.32	78.86	19.72	34.00	65.50	0.40	0.10	0.006	0.002	0.476	0.516	0.324	0.667	0.005	0.005

Table-W- 2.6
Tie-Line Data in terms of Weight Percent & Mole Fraction
System Toulene-Hexane-Dmso-W at 40°C

Weight Percent										Mole Fraction							
T.Nc	X _{TE}	X _{HE}	X _{DE}	X _{WE}	X _{TR}	X _{HR}	X _{DR}	X _{WR}		X _{TE}	X _{HE}	X _{DE}	X _{WE}	X _{TR}	X _{HR}	X _{DR}	X _{WR}
0 % w																	
1	22.00	6.00	72.00	0.00	25.00	73.00	2.00	0.00	0.194	0.057	0.749	0.001	0.237	0.740	0.022	0.001	
2	25.50	8.00	70.24	0.00	35.00	64.00	1.00	0.00									
3	30.00	7.50	62.50	0.00	45.50	50.70	3.80	0.00	0.268	0.072	0.659	0.001	0.490	0.520	0.043	0.001	
4	33.00	9.60	57.39	0.00	51.00	43.50	5.50	0.00	0.297	0.093	0.610	0.001	0.490	0.447	0.062	0.001	
5	23.30	7.50	69.20	0.00	30.80	67.20	2.00	0.00	0.206	0.071	0.722	0.001	0.293	0.684	0.023	0.001	
6	27.50	7.94	64.55	0.00	40.50	57.28	2.21	0.00	0.245	0.075	0.679	0.001	0.388	0.587	0.025	0.001	
10 % w																	
8	9.73	0.77	80.55	8.95	42.00	53.00	4.50	0.50	0.064	0.005	0.628	0.302	0.394	0.532	0.050	0.024	
9	14.00	0.50	76.95	8.55	58.00	33.50	7.65	0.85	0.094	0.004	0.609	0.293	0.541	0.334	0.084	0.041	
10	21.36	0.44	70.38	7.82	82.00	13.00	4.50	0.50	0.148	0.003	0.573	0.276	0.790	0.134	0.051	0.025	
11	12.00	2.00	77.40	8.60	51.00	43.00	5.40	0.60	0.080	0.014	0.611	0.029	0.479	0.432	0.060	0.029	
13	17.60	1.40	72.90	8.10	71.00	18.50	9.45	1.05	0.120	0.010	0.587	0.283	0.662	0.184	0.104	0.050	
20 % w																	
12	2.60	0.38	77.62	19.40	23.50	74.00	2.00	0.50	0.013	0.002	0.473	0.512	0.219	0.736	0.022	0.024	
13	4.35	0.20	76.32	19.08	45.00	51.00	3.20	0.80	0.023	0.001	0.469	0.508	0.419	0.508	0.035	0.038	
14	6.20	0.23	74.94	18.73	63.00	33.00	3.20	0.80	0.033	0.001	0.464	0.503	0.594	0.332	0.036	0.039	
15	3.62	0.38	76.80	19.20	34.25	63.00	2.20	0.55	0.019	0.002	0.470	0.509	0.320	0.629	0.024	0.026	

Table-W-2.7

175

Table-W-2.8

176

Table-W- 2.9
Tie-Line Data in terms of Weight Percent & Mole Fraction
System Xylene-Hexane-DmsO-W at 40°C

r.No	Weight Percent										Mole Fraction					
	X _{XE}	X _{HE}	X _{DE}	X _{WE}	X _{XR}	X _{HR}	X _{DR}	X _{WR} 0 % w	X _{XE}	X _{HE}	X _{DE}	X _{WE}	X _{XR}	X _{HR}	X _{DR}	X _{WR}
1	10.60	1.79	87.60	0.00	19.40	77.29	3.31	0.00	0.080	0.017	0.903	0.000	0.163	0.801	0.036	0.001
2	12.50	2.00	85.50	0.00	23.50	74.50	3.00	0.00	0.095	0.019	0.886	0.000	0.195	0.771	0.034	0.001
3	14.00	3.16	82.84	0.00	29.50	66.15	4.35	0.00	0.107	0.030	0.863	0.001	0.252	0.697	0.051	0.001
4	16.00	3.00	79.00	0.00	35.00	60.00	5.00	0.00								
5	19.20	1.30	79.50	0.00	47.50	48.00	4.50	0.00	0.149	0.012	0.838	0.001	0.421	0.524	0.054	0.001
6	18.25	2.05	79.69	0.00	41.00	54.09	4.91	0.00	0.141	0.020	0.839	0.001	0.359	0.583	0.058	0.001
10 % w																
7	1.70	1.26	87.34	9.70	5.00	90.05	4.46	0.50	0.010	0.009	0.663	0.319	0.040	0.888	0.485	0.023
8	2.50	1.00	86.85	9.65	8.60	86.70	4.23	0.47	0.014	0.007	0.661	0.318	0.069	0.862	0.046	0.022
9	4.00	0.55	85.91	9.55	18.00	75.60	5.76	0.64	0.023	0.004	0.657	0.316	0.294	0.516	0.128	0.062
10	2.10	1.15	87.08	9.68	6.80	88.40	4.32	0.48	0.012	0.008	0.662	0.319	0.055	0.875	0.047	0.023
11	3.25	0.70	86.45	9.61	13.30	91.70	4.50	0.50	0.018	0.005	0.659	0.318	0.026	0.901	0.049	0.024

Table-W- 2.10
Tie-Line Data in terms of Weight Percent & Mole Fraction
System Benzene- Hep-Dmso -W at 20°C

Sr.No	Weight Percent						Mole Fraction								
	X _{HE}	X _{DE}	X _{WE}	X _{XR}	X _{HR}	X _{DR}	X _{WR}	X _{XE}	X _{HE}	X _{DE}	X _{WE}	X _{XR}	X _{HR}	X _{DR}	X _{WR}
							0 % w								
1	12.00	84.600	0.00	23.00	74.70	0.00	0.00	0.114	0.029	0.857	0.000	0.247	0.727	0.026	0.000
2	17.90	79.900	0.00	30.00	67.45	0.00	0.00	0.167	0.036	0.797	0.000	0.319	0.651	0.029	0.000
3	20.60	79.500	0.00	42.70	43.70	0.30	0.00	0.197	0.042	0.761	0.000	0.495	0.460	0.045	0.000
4	23.90	74.540	0.00	49.00	46.35	0.45	0.00	0.229	0.036	0.736	0.000	0.510	0.438	0.052	0.000
							10 % w								
5	0.50	98.750	0.00	15.70	81.68	0.23	0.03	0.004	0.005	0.684	0.308	0.168	0.793	0.027	0.012
6	6.10	93.250	0.00	26.60	70.05	0.36	0.04	0.045	0.004	0.656	0.295	0.281	0.670	0.034	0.015
7	11.10	88.340	0.00	37.30	58.50	0.00	0.00	0.082	0.004	0.630	0.284	0.388	0.551	0.042	0.019
8	17.90	81.650	0.00	48.60	46.49	0.00	0.00	0.135	0.003	0.594	0.268	0.498	0.432	0.048	0.022
9	25.00	74.700	0.00	59.10	35.65	0.00	0.00	0.193	0.002	0.555	0.250	0.598	0.327	0.051	0.023
10	29.00	70.750	0.00	66.70	28.20	0.00	0.00	0.227	0.002	0.532	0.240	0.671	0.257	0.049	0.022
							20 % w								
11	2.20	97.500	0.00	7.10	91.90	0.00	0.00	0.013	0.002	0.489	0.496	0.077	0.904	0.009	0.009
12	4.00	95.750	0.00	20.00	78.90	0.00	0.00	0.024	0.001	0.484	0.491	0.214	0.766	0.010	0.010
13	5.20	94.600	0.00	30.00	68.80	1.20	0.00	0.031	0.001	0.481	0.487	0.318	0.661	0.011	0.011
14	6.50	93.350	0.00	44.50	54.20	0.00	0.00	0.039	0.001	0.477	0.483	0.464	0.513	0.012	0.012
15	7.50	92.400	0.00	52.10	46.40	1.52	0.38	0.045	0.001	0.474	0.481	0.538	0.435	0.013	0.013
16	5.85	94.000	0.00	37.25	61.45	2.12	0.53	0.035	0.001	0.479	0.485	0.391	0.585	0.012	0.012

Table-W- 2.11

179

Table-W- 2.12
Tie-Line Data in terms of Weight Percent & Mole Fraction
System Benzene-Hept-Dmso-W at 40°C

r.Nc	Weight Percent							Mole Fraction																
	X_{BE}	X_{HE}	X_{DE}	X_{WE}	X_{BR}	X_{HR}	X_{DR}	X_{WR}	X_{BE}	X_{HE}	X_{DE}	X_{WE}	X_{BR}	X_{HR}	X_{DR}	X_{WR}								
	0 % w							10 % w									20 % w							
1	14.00	7.00	79.00	0.00	20.50	72.50	7.00	0.00	0.1424	0.0555	0.8021	0.000	0.244	0.672	0.083	0.001								
2	17.50	8.00	74.50	0.00	30.00	64.00	6.00	0.00	0.1784	0.0636	0.7580	0.000	0.349	0.581	0.070	0.001								
3	20.00	9.00	71.00	0.00	43.00	49.00	8.00	0.00	0.2043	0.0717	0.7240	0.000	0.482	0.428	0.090	0.001								
4	30.00	10.00	60.00	0.00	52.00	32.00	16.00	0.00	0.3071	0.0798	0.6131	0.000	0.559	0.268	0.172	0.001								
5	26.00	10.00	64.00	0.00	48.00	41.80	9.20	0.00	0.2861	0.0798	0.6540	0.000	0.533	0.36	0.1071	0.001								
6	15.90	7.65	76.44	0.00	25.50	67.10	7.39	0.00	0.1619	0.0608	0.7773	0.000	0.299	0.614	0.087	0.001								
7	5.50	1.40	83.79	9.31	7.52	88.88	3.24	0.36	0.0421	0.0084	0.6406	0.3089	0.0921	0.8492	0.0396	0.0191								
8	9.00	1.25	80.78	8.98	16.50	80.00	3.15	0.35	0.0695	0.0075	0.6227	0.3003	0.1975	0.7468	0.0376	0.0182								
9	18.50	1.00	72.45	8.05	40.50	56.35	2.84	0.32	0.1463	0.0062	0.5718	0.2758	0.4569	0.4958	0.0319	0.0154								
10	30.50	0.90	61.74	6.86	66.70	30.55	2.48	0.28	0.2488	0.0057	0.5029	0.2425	0.7081	0.2530	0.0262	0.0127								
11	24.50	0.90	67.14	7.46	53.60	43.55	2.57	0.29	0.1967	0.0056	0.5381	0.2595	0.5867	0.3718	0.0280	0.0135								
12	0.90	1.20	78.28	19.57	12.60	84.20	2.56	0.64	0.0055	0.0057	0.4742	0.5146	0.1507	0.7856	0.0306	0.0332								
13	5.00	1.50	74.80	18.70	8.00	89.00	2.40	0.60	0.0309	0.0072	0.4613	0.5006	0.0971	0.8423	0.0291	0.0315								
14	8.00	1.50	72.40	18.10	19.00	78.10	2.32	0.58	0.0500	0.0073	0.4521	0.4906	0.2242	0.7188	0.0273	0.0297								
15	15.00	1.50	66.80	16.70	39.00	58.20	2.24	0.56	0.0866	0.0075	0.4296	0.4662	0.4379	0.5097	0.0251	0.0272								
16	21.00	1.50	62.00	15.50	57.00	40.30	2.16	0.54	0.1389	0.0077	0.4093	0.4441	0.6134	0.3383	0.0232	0.0252								
17	18.00	1.50	64.40	16.10	48.00	49.30	2.16	0.54	0.1175	0.0076	0.4196	0.4553	0.5278	0.4228	0.0237	0.0257								

Table-W- 2.13
Tie-Line Data in terms of Weight Percent & Mole Fraction
System Benzene- Oct-Dmso -W at 20 °C

Weight Percent								Mole Fraction								
T.Nc	X _{BE}	X _{OE}	X _{DYE}	X _{WE}	X _{BR}	X _{OR}	X _{DR}	X _{WR}	X _{BE}	X _{OE}	X _{DE}	X _{WE}	X _{BR}	X _{OR}	X _{DR}	X _{WR}
0 % w																
1	1.00	1.00	98.00	0.00	19.00	80.35	0.65	0.00	0.010	0.007	0.983	0.000	0.255	0.736	0.009	0.001
2	2.80	1.20	96.00	0.00	29.30	70.15	0.55	0.00	0.028	0.008	0.963	0.000	0.376	0.616	0.007	0.001
3	8.00	1.50	92.50	0.00	42.00	57.32	0.68	0.00	0.079	0.010	0.911	0.000	0.538	0.478	0.008	0.001
4	16.00	2.70	81.80	0.00	43.50	55.75	0.75	0.00	0.161	0.015	0.523	0.000	0.528	0.463	0.009	0.001
5	31.50	4.00	64.50	0.00	53.00	41.00	6.00	0.00	0.319	0.028	0.653	0.000	0.609	0.322	0.069	0.001
6	3.70	1.43	94.87	0.00	33.50	65.43	1.07	0.00	0.037	0.010	0.953	0.000	0.423	0.564	0.014	0.001
10 % w																
7	5.00	0.01	85.44	9.49	49.50	50.00	0.45	0.05	0.038	0.000	0.649	0.313	0.587	0.405	0.005	0.003
8	8.50	0.14	82.22	9.14	59.00	40.50	0.45	0.05	0.065	0.001	0.630	0.304	0.675	0.317	0.005	0.003
9	17.00	0.12	74.59	8.29	67.00	32.26	0.67	0.07	0.133	0.001	0.584	0.282	0.744	0.245	0.007	0.004
10	34.00	0.07	59.34	6.59	78.00	19.80	1.98	0.22	0.279	0.000	0.486	0.234	0.826	0.143	0.021	0.010
11	6.75	0.08	83.85	9.32	54.25	40.75	0.45	0.05	0.052	0.000	0.640	0.308	0.696	0.336	0.005	0.003
20 % w																
12	4.15	0.30	76.44	19.11	76.00	23.55	0.36	0.09	0.025	0.001	0.467	0.506	0.819	0.173	0.004	0.004
13	1.10	0.45	78.76	19.69	57.00	42.55	0.36	0.09	0.007	0.002	0.476	0.516	0.656	0.335	0.004	0.005
14	2.80	0.35	77.48	19.37	71.00	28.55	0.36	0.09	0.017	0.002	0.471	0.511	0.778	0.214	0.004	0.004
15	5.50	0.25	75.40	18.85	81.00	18.55	0.36	0.09	0.034	0.001	0.463	0.502	0.858	0.134	0.004	0.004
16	1.95	0.40	78.92	19.73	64.00	35.55	0.36	0.09	0.017	0.0016	0.4732	0.5135	0.719	0.273	0.004	0.004

Table-W-2.14
Tie-Line Data in terms of Weight Percent & Mole Fraction
System Benzene- Oct-Dmso -W at 30 °C

	Weight Percent							Mole Fraction								
	X _{BE}	X _{OE}	X _{DE}	X _{WE}	X _{BR}	X _{OR}	X _{DR}	X _{WR}	X _{BE}	X _{OE}	X _{DE}	X _{WE}	X _{BR}	X _{OR}	X _{DR}	X _{WR}
								0 % w								
1	10.50	1.90	95.10	0.00	31.00	67.60	1.40	0.00	0.092	0.015	0.893	0.000	0.330	0.654	0.016	0.000
2	16.00	2.65	81.55	0.00	37.30	61.10	1.60	0.00	0.152	0.023	0.826	0.000	0.395	0.587	0.018	0.000
3	10.15	2.00	93.40	0.00	31.50	67.08	1.42	0.00	0.091	0.016	0.893	0.000	0.336	0.648	0.016	0.000
4	23.00	3.15	73.85	0.00	45.00	53.20	1.80	0.00	0.222	0.018	0.760	0.000	0.473	0.507	0.020	0.000
5	30.60	4.40	65.00	0.00	52.50	45.60	1.90	0.00	0.310	0.031	0.659	0.000	0.613	0.364	0.022	0.000
6	1.00	1.80	97.20	0.00	23.50	75.40	1.10	0.00	0.010	0.012	0.977	0.000	0.308	0.677	0.014	0.000
								10 % w								
7	2.00	0.20	88.02	9.78	27.50	71.65	0.77	0.09	0.015	0.001	0.664	0.320	0.354	0.631	0.010	0.005
8	11.50	0.11	79.55	8.84	52.00	47.35	0.59	0.07	0.0889	0.0006	0.6142	0.2862	0.543	0.448	0.007	0.003
9	30.00	0.09	62.92	6.99	66.50	32.65	0.77	0.09	0.243	0.001	0.510	0.246	0.739	0.248	0.009	0.004
10	40.00	0.05	53.96	6.00	72.00	26.55	1.31	0.15	0.334	0.000	0.450	0.217	0.782	0.197	0.014	0.007
11	20.75	0.10	70.43	7.83	59.25	39.85	0.81	0.09	0.164	0.001	0.564	0.271	0.676	0.311	0.009	0.004
								20 % w								
12	1.30	0.05	78.92	19.73	43.00	56.40	0.48	0.12	0.008	0.000	0.476	0.516	0.521	0.467	0.006	0.006
13	3.00	0.04	77.57	19.39	55.00	44.60	0.32	0.08	0.018	0.000	0.471	0.510	0.638	0.354	0.004	0.004
14	4.50	0.03	76.38	19.09	64.00	35.60	0.32	0.08	0.028	0.000	0.473	0.499	0.719	0.274	0.004	0.004
15	8.50	0.02	73.18	18.30	71.00	28.25	0.60	0.15	0.053	0.000	0.454	0.493	0.780	0.212	0.001	0.007
16	2.15	0.05	78.24	19.56	49.00	50.50	0.40	0.10	0.013	0.000	0.474	0.513	0.581	0.409	0.005	0.005

Table-W-2.15
Tie-Line Data in terms of Weight Percent & Mole Fraction
System Benzene-Oct-DmsO -W at 40 °C

	Weight Percent							Mole Fraction								
	X _{BE}	X _{OE}	X _{DE}	X _{WE}	X _{BR}	X _{OR}	X _{DR}	X _{WR} 0 % w	X _{BE}	X _{OE}	X _{DE}	X _{WE}	X _{BR}	X _{OR}	X _{DR}	X _{WR}
1	5.35	0.79	93.85	0.00	24.70	74.62	0.67	0.00	0.054	0.005	0.941	0.000	0.323	0.668	0.009	0.001
2	18.20	1.97	79.82	0.00	44.00	55.21	0.79	0.00	0.183	0.014	0.803	0.000	0.533	0.457	0.010	0.001
3	36.50	6.37	57.12	0.00	52.20	32.26	15.53	0.00	0.3729	0.0444	0.5826	0.0000	0.5817	0.2455	0.1728	0.0000
4	3.00	2.55	94.45	0.00	19.50	79.15	1.35	0.00	0.030	0.018	0.952	0.000	0.260	0.722	0.018	0.001
5	17.50	2.95	79.55	0.00	31.50	66.65	1.85	0.00	0.4007	0.0204	0.8026	0.000	0.4007	0.5797	0.0191	0.001
6	21.30	3.15	75.55	0.00	35.50	62.65	1.85	0.00	0.215	0.022	0.763	0.000	0.443	0.534	0.023	0.001
10 % w																
8	1.70	0.24	88.25	9.81	18.00	79.84	1.94	0.22	0.013	0.001	0.665	0.321	0.238	0.723	0.026	0.013
9	19.40	0.20	72.36	8.04	56.50	42.25	1.13	0.13	0.153	0.001	0.571	0.275	0.649	0.332	0.013	0.060
10	7.00	0.22	83.50	9.28	36.50	61.80	1.53	0.17	0.054	0.001	0.638	0.307	0.451	0.522	0.019	0.009
11	4.35	0.22	85.89	9.54	27.20	70.75	1.80	0.20	0.033	0.001	0.652	0.292	0.347	0.618	0.024	0.011
12	13.20	0.20	77.94	8.66	46.50	52.00	1.35	0.15	0.103	0.001	0.605	0.292	0.553	0.423	0.016	0.008
20 % w																
13	2.09	0.11	78.24	19.56	42.00	57.20	0.64	0.16	0.013	0.001	0.474	0.513	0.509	0.474	0.008	0.008
14	3.80	0.07	76.88	19.22	54.00	45.35	0.52	0.13	0.023	0.000	0.469	0.508	0.627	0.360	0.006	0.007
15	10.00	0.08	71.36	17.84	71.00	28.51	0.39	0.10	0.063	0.000	0.450	0.487	0.778	0.135	0.004	0.005
16	7.04	0.05	74.32	18.58	83.50	16.10	0.32	0.08	0.043	0.000	0.459	0.498	0.877	0.116	0.003	0.004