Supporting Information to Paper

Interactions of Volatile Organic Compounds with the Ionic Liquid 1-Butyl-1-methylpyrrolidinium Dicyanamide

by

Aleš Blahut and Vladimír Dohnal

Table S1. Experimental Infinite Dilution Activity Coefficients γ_1^{∞} of 30 Organic Solutes in [BMPYR][DCA] Obtained Using Three Different Columns

solute	318.15 K			323.15 K			333.15 K			343.15 K			353.15 K		
	col. 1	col. 2	col. 3	col. 1	col. 2	col. 3	col. 1	col. 2	col. 3	col. 1	col. 2	col. 3	col. 1	col. 2	col. 3
heptane	77.9	74.3	75.9	75.3	71.9	73.4	70.5	67.5	68.8	66.1	63.5	64.5	62.1	59.8	60.8
octane	117	111	115	113	107	111	105	99.9	103	97.1	93.1	95.4	90.7	87.6	89.2
oct-1-ene	47.8	46.8	47.3	46.8	45.8	46.2	44.7	44.0	44.4	42.8	42.1	42.3	41.1	40.7	40.6
cyclohexane	21.4	21.0	21.0	20.8	20.5	20.4	19.7	19.5	19.5	18.8	18.5	18.4	17.9	17.8	17.6
methylcyclohexane	33.0	32.2	32.3	32.1	31.5	31.5	30.3	29.8	29.9	28.7	28.3	28.3	27.4	27.1	26.9
ethylcyclohexane	50.6	49.6	50.1	48.8	47.9	48.4	45.5	44.8	45.1	42.6	42.0	42.1	39.9	39.3	39.5
benzene	1.41	1.41	1.40	1.43	1.43	1.41	1.46	1.47	1.45	1.50	1.51	1.48	1.53	1.54	1.51
toluene	2.19	2.18	2.15	2.22	2.21	2.18	2.27	2.26	2.23	2.32	2.31	2.28	2.37	2.36	2.33
ethylbenzene	3.52	3.53		3.54	3.56		3.59	3.61		3.64	3.66		3.68	3.70	
m-xylene	3.48	3.45		3.51	3.48		3.57	3.55		3.62	3.60		3.68	3.66	
methanol	0.347	0.340		0.347	0.341		0.348	0.343		0.349	0.345		0.349	0.346	
ethanol	0.553	0.546		0.548	0.542		0.540	0.535		0.533	0.528		0.527	0.523	
propan-1-ol	0.691	0.685		0.683	0.677		0.670	0.666		0.657	0.654		0.649	0.646	
propan-2-ol	0.774	0.768		0.764	0.758		0.749	0.744		0.735	0.731		0.726	0.722	
2,5-dioxahexane	1.20	1.16	1.19	1.25	1.21	1.23	1.33	1.30	1.31	1.41	1.38	1.39	1.48	1.46	1.45
diisopropyl ether	18.3	17.4	17.9	18.4	17.5	17.9	18.3	17.7	18.0	18.3	17.7	17.9	18.2	17.7	17.8

Table S1. Experimental Infinite Dilution Activity Coefficients γ_1^∞ of 30 Organic Solutes in [BMPYR][DCA] Obtained Using Three Different Columns. Continued

solute	318.15 K			323.15 K			333.15 K			343.15 K			353.15 K		
	col. 1	col. 2	col. 3	col. 1	col. 2	col. 3	col. 1	col. 2	col. 3	col. 1	col. 2	col. 3	col. 1	col. 2	col. 3
t-butylmethyl ether	6.14	5.96	6.04	6.21	6.06	6.11	6.35	6.24	6.28	6.46	6.37	6.37	6.58	6.54	6.48
tetrahydrofuran	1.38	1.35	1.35	1.40	1.37	1.37	1.44	1.41	1.41	1.47	1.45	1.44	1.51	1.49	1.47
methyl acetate	1.53	1.51	1.50	1.55	1.53	1.52	1.58	1.56	1.54	1.61	1.59	1.57	1.65	1.62	1.61
ethyl acetate	2.34	2.33	2.32	2.36	2.35	2.34	2.41	2.40	2.38	2.44	2.44	2.41	2.48	2.48	2.44
acetone	0.914	0.901	0.900	0.927	0.914	0.912	0.950	0.940	0.935	0.973	0.963	0.954	0.996	0.987	0.975
butanone	1.27	1.26	1.25	1.28	1.27	1.26	1.33	1.32	1.31	1.34	1.33	1.31	1.37	1.36	1.34
dimethyl carbonate	1.27	1.26	1.25	1.28	1.27	1.26	1.30	1.30	1.28	1.32	1.32	1.30	1.34	1.33	1.31
dichloromethane	0.545	0.542	0.536	0.562	0.559	0.552	0.596	0.593	0.585	0.628	0.625	0.616	0.661	0.657	0.647
chloroform	0.393	0.392	0.387	0.414	0.412	0.407	0.456	0.454	0.449	0.500	0.498	0.491	0.544	0.541	0.534
halothane	0.568	0.570	0.567	0.605	0.609	0.604	0.693	0.698	0.691	0.775	0.782	0.772	0.865	0.873	0.861
tetrachloromethane	2.04	2.04	2.04	2.11	2.12	2.11	2.25	2.26	2.24	2.37	2.39	2.37	2.50	2.52	2.49
nitromethane	0.594	0.591		0.596	0.595		0.605	0.603		0.610	0.608		0.615	0.614	
acetonitrile	0.676	0.664		0.681	0.671		0.685	0.676		0.687	0.682		0.690	0.685	
thiophene	0.856	0.853	0.844	0.873	0.870	0.861	0.905	0.903	0.893	0.937	0.934	0.922	0.969	0.966	0.952

col. 1: length 0.65 m, m_{IL} = 1.448 g
col. 2: length 1.2 m, m_{IL} = 1.811 g
col. 3: length 1.7 m, m_{IL} = 4.166 g