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Table S-1. Experimental and predicted infinite dilution activity coefficients of solute in non-aqueous solute/solvent systems.

System	T(K)	γ^{∞}_{exp}	Ref.	γ^{∞} (1)	γ^{∞} (2)	γ^{∞} (3)	γ^{∞} (4)	γ^{∞} (5)	γ^{∞} (6)
n-pentane/ethanol	298	9.00	10	6.06	6.09	5.65	6.63	6.61	8.55
n-pentane/ethanol	323	8.30	15	5.78	5.67	5.28	6.21	6.31	7.80
n-pentane/ethanol	343	7.80	15	5.56	5.34	5.01	5.69	6.08	7.03
cyclohexane/ethanol	298	9.50	10	7.35	7.38	6.86	6.26	8.14	9.30
cyclohexane/ethanol	323	6.80	10	7.01	6.88	6.42	5.87	7.78	8.17
cyclohexane/ethanol	363	6.40	10	6.50	6.11	5.80	4.77	7.23	6.45
ethanol/cyclohexane	313	29.90	10	28.05	28.69	9.20	23.41	34.24	45.65
ethanol/cyclohexane	323	24.30	16	24.97	24.33	8.57	20.58	30.33	33.45
ethanol/cyclohexane	333	19.10	16	22.39	20.86	8.03	18.00	27.06	25.02
ethanol/cyclohexane	343	15.10	16	20.23	18.09	7.55	15.69	24.35	19.16
ethanol/cyclohexane	353	11.70	16	18.41	15.84	7.14	13.62	22.07	15.01
n-heptane/ethanol	313	15.34	16	9.34	9.23	8.37	10.85	11.77	11.64
n-heptane/ethanol	333	14.21	12	8.87	8.54	7.80	9.90	11.20	10.33
ethanol/n-heptane	298	49.01	12	26.40	29.15	8.05	26.58	34.33	48.46
ethanol/n-heptane	313	39.94	10	21.88	22.34	7.19	22.13	28.21	32.79
ethanol/n-heptane	333	16.27	12	17.51	16.30	6.28	17.05	22.36	20.44
ethanol/n-heptane	373	7.30	12	12.10	9.69	5.03	9.50	15.20	8.96
n-decane/ethanol	298	28.00	10	17.52	17.64	15.42	24.56	29.76	21.76
n-decane/ethanol	323	20.20	10	16.05	15.52	13.63	21.81	27.37	18.43
n-decane/ethanol	343	17.50	10	14.97	13.92	12.39	18.66	25.58	15.21
n-decane/ethanol	363	15.00	10	13.96	12.43	11.31	14.84	23.89	11.89
n-hexadecane/ethanol	298	77.00	10	46.65	47.15	38.34	109.54	170.93	65.89
n-hexadecane/ethanol	323	46.00	10	40.80	38.72	31.71	91.23	150.25	50.97
n-hexadecane/ethanol	343	33.50	10	36.62	32.75	27.39	71.78	135.35	37.90
n-hexadecane/ethanol	363	27.50	10	32.88	27.52	23.78	50.48	121.90	25.89
ethanol/n-hexadecane	298	40.00	10	17.02	18.79	5.19	20.42	28.24	30.27
ethanol/n-hexadecane	333	13.50	10	11.29	10.51	4.05	13.10	18.39	12.77
n-eicosane/ethanol	323	70.00	10	70.17	65.78	51.43	234.83	464.99	100.23

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Table S-1(Continued)

System	T(K)	γ^{∞}_{exp}	Ref.	γ^{∞} (1)	γ^{∞} (2)	γ^{∞} (3)	γ^{∞} (4)	γ^{∞} (5)	γ^{∞} (6)
n-eicosane/ethanol	343	52.00	10	61.42	53.52	42.92	174.73	408.82	69.51
n-eicosane/ethanol	363	40.00	10	53.78	43.17	36.07	113.19	359.30	43.41
ethanol/n-eicosane	333	12.00	10	9.64	8.97	3.46	11.93	16.96	11.21
ethanol/n-eicosane	373	5.30	10	6.65	5.33	2.77	6.65	11.53	4.91
n-heptane/n-propanol	333	6.34	11	5.78	5.62	2.74	6.05	6.46	6.60
n-heptane/n-propanol	353	5.89	11	5.53	5.25	2.76	5.47	6.19	5.90
n-propanol/n-heptane	333	16.00	11	14.48	13.54	4.63	13.82	17.46	17.76
n-propanol/n-heptane	353	8.95	11	11.97	10.36	4.37	10.59	14.31	11.76
cyclohexane/n-butanol	349	3.85	16	3.34	3.25	2.87	2.86	3.43	3.57
cyclohexane/n-butanol	360	3.70	16	3.29	3.17	2.82	2.76	3.38	3.43
cyclohexane/n-butanol	370	3.61	16	3.24	3.10	2.77	2.64	3.33	3.30
n-butanol/cyclohexane	313	28.13	16	17.90	18.34	6.11	15.07	20.66	32.96
n-butanol/cyclohexane	323	21.46	16	16.02	15.68	5.73	13.35	18.39	24.34
n-butanol/cyclohexane	333	16.47	16	14.45	13.55	5.41	11.79	16.50	18.40
n-butanol/cyclohexane	343	13.31	16	13.13	11.85	5.12	10.40	14.93	14.27
n-butanol/cyclohexane	353	11.05	16	12.01	10.47	4.87	9.15	13.60	11.35
n-heptane/n-butanol	353	5.13	11	4.12	3.94	3.34	4.02	4.36	4.49
n-heptane/n-butanol	373	4.76	11	3.95	3.70	3.19	3.60	4.20	4.01
n-butanol/n-heptane	298	37.10	10	18.14	19.98	5.74	17.58	21.51	36.22
n-butanol/n-heptane	333	13.60	10	12.26	11.49	4.59	11.58	14.27	15.80
n-butanol/n-heptane	353	9.30	11	10.19	8.87	4.13	8.97	11.75	10.59
n-butanol/n-heptane	373	5.62	11	8.66	7.08	3.78	6.86	9.91	7.39
n-pentanol/cyclohexane	313	22.11	16	14.67	15.03	5.12	12.63	16.95	28.85
n-pentanol/cyclohexane	323	16.73	16	13.16	12.90	4.82	11.22	15.12	21.35
n-pentanol/cyclohexane	333	12.77	16	11.89	11.19	4.56	9.94	13.60	16.19
n-pentanol/cyclohexane	343	10.48	16	10.83	9.82	4.34	8.80	12.33	12.61
n-pentanol/cyclohexane	353	8.12	16	9.94	8.70	4.14	7.78	11.25	10.08
n-pentanol/n-nonane	353	9.32	11	8.54	7.47	3.56	7.59	9.91	8.53
n-pentanol/n-nonane	373	5.61	11	7.29	6.00	3.27	5.88	8.39	6.04

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Table S-1(Continued)

System	T(K)	γ^{∞}_{exp}	Ref.	γ^{∞} (1)	γ^{∞} (2)	γ^{∞} (3)	γ^{∞} (4)	γ^{∞} (5)	γ^{∞} (6)
n-hexane/acetone	298	6.62	1	5.67	5.95	6.77	6.55	7.81	6.11
n-hexane/acetone	303	6.19	1	5.65	5.75	6.63	6.26	7.62	5.85
n-hexane/acetone	308	6.06	1	5.46	5.55	6.49	5.99	7.44	5.61
n-hexane/acetone	313	5.61	1	5.36	5.37	6.35	5.74	7.27	5.38
n-hexane/acetone	318	5.42	1	5.27	5.19	6.22	5.51	7.11	5.17
acetone/n-hexane	298	6.68	1	6.28	5.74	6.84	5.62	6.01	6.32
acetone/n-hexane	303	6.38	1	6.05	5.49	6.59	5.33	5.82	6.00
acetone/n-hexane	313	5.78	1	5.65	5.02	6.13	4.81	5.47	5.45
n-heptane/acetone	298	8.72	1	6.65	7.03	8.14	8.21	10.15	7.11
n-heptane/acetone	303	8.26	1	6.51	6.75	7.94	7.80	9.88	6.78
n-heptane/acetone	313	7.23	1	6.24	6.24	7.57	7.06	9.36	6.16
n-heptane/acetone	333	4.60	10	5.76	5.38	6.91	5.89	8.46	5.16
n-heptane/acetone	363	3.60	10	5.15	4.38	6.09	4.65	7.38	4.05
acetone/n-heptane	298	6.73	1	5.92	5.41	6.44	5.44	5.85	5.89
acetone/n-heptane	308	5.95	1	5.51	4.95	5.99	4.90	5.49	5.34
acetone/n-heptane	333	4.90	10	4.70	4.04	5.09	3.88	4.76	4.27
acetone/n-heptane	373	3.50	10	3.83	3.09	4.11	2.86	3.95	3.16
n-octane/acetone	308	8.91	1	7.31	7.47	9.12	9.13	12.36	7.44
n-octane/acetone	318	7.74	1	6.98	6.85	8.65	8.19	11.65	6.70
acetone/n-octane	298	6.72	1	5.57	5.10	6.07	5.27	5.70	5.55
acetone/n-decane	298	6.50	10	4.96	4.54	5.40	4.94	5.39	5.02
acetone/n-decane	303	4.50	10	3.94	3.38	4.26	3.53	4.38	3.63
acetone/n-decane	313	3.10	10	3.21	2.59	3.45	2.60	3.64	2.69
acetone/n-hexadecane	298	6.10	10	3.67	3.35	3.99	4.18	4.63	3.99
acetone/n-hexadecane	333	4.20	10	2.91	2.50	3.15	2.98	3.76	2.89
acetone/n-hexadecane	373	3.10	10	2.37	1.91	2.55	2.20	3.12	2.14
n-pentane/2-butanone	298	3.66	10	3.38	3.41	3.71	6.42	3.68	3.86
n-pentane/2-butanone	333	2.99	10	3.06	2.92	3.36	2.83	3.31	3.22
n-pentane/2-butanone	363	2.67	10	2.87	2.60	3.11	2.47	3.06	2.81
2-butanone/n-hexane	298	5.00	10	5.36	4.88	5.72	4.62	4.81	5.54
2-butanone/n-hexane	333	3.70	10	4.33	3.75	4.60	3.42	3.99	4.15
2-butanone/n-hexane	373	2.80	10	3.58	2.95	3.79	2.60	3.38	3.18
n-heptane/2-butanone	298	4.35	10	4.57	4.63	5.18	4.87	5.46	4.92
n-heptane/2-butanone	333	3.46	10	4.04	3.77	4.53	3.79	4.74	3.86
n-heptane/2-butanone	363	2.87	10	3.68	3.23	4.09	3.16	4.26	3.22
2-butanone/n-heptane	298	4.80	10	5.14	4.69	5.49	4.52	4.73	5.18
2-butanone/n-heptane	333	3.50	10	4.15	3.60	4.41	3.34	3.92	3.88
2-butanone/n-heptane	373	2.60	10	3.44	2.83	3.63	2.55	3.32	3.00
n-decane-2-butanone	298	6.04	10	6.41	6.53	7.61	7.93	9.50	7.02

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Table S-1(Continued)

System	T(K)	γ^{∞}_{exp}	Ref.	γ^{∞} (1)	γ^{∞} (2)	γ^{∞} (3)	γ^{∞} (4)	γ^{∞} (5)	γ^{∞} (6)
n-decane-2-butanone	333	3.95	10	5.42	4.94	6.34	5.63	7.83	5.03
n-decane-2-butanone	363	3.16	10	4.77	3.99	5.51	4.39	6.77	3.92
2-butanone/n-decane	298	4.80	10	4.46	4.07	4.76	4.19	4.44	4.47
2-butanone/n-decane	333	3.50	10	3.60	3.12	3.83	3.10	3.68	3.35
2-butanone/n-decane	373	2.80	10	2.98	2.45	3.15	2.36	3.11	2.57
2-butanone/n-hexadecane	298	4.20	10	3.41	3.10	3.64	3.62	3.89	3.62
2-butanone/n-hexadecane	333	2.90	10	2.75	2.38	2.92	2.68	3.23	2.71
2-butanone/n-hexadecane	373	2.30	10	2.27	1.87	2.41	2.04	2.73	2.08
3-pentanone/n-heptane	298	3.70	10	2.77	2.58	2.85	3.59	2.52	3.48
3-pentanone/n-heptane	333	2.90	10	2.40	2.17	2.47	2.76	2.23	2.77
3-pentanone/n-heptane	373	2.30	10	2.12	1.87	2.18	2.19	2.01	2.25
cyclohexane/acetic acid	298	21.83	6	10.25	6.20	4.36	7.39	-	14.44
cyclohexane/acetic acid	318	18.09	6	9.56	6.16	4.23	6.66	-	12.36
acetic acid/cyclohexane	298	21.59	6	12.54	10.58	2.25	10.80	-	13.11
acetic acid/cyclohexane	318	22.38	6	10.59	10.29	2.19	9.80	-	11.28
n-heptane/acetic acid	298	23.50	6	16.28	8.23	5.10	14.09	-	14.31
n-heptane/acetic acid	318	20.49	6	14.80	8.16	4.90	12.22	-	12.45
acetic acid/n-heptane	298	11.03	6	10.24	8.64	1.84	10.14	-	11.47
acetic acid/n-heptane	318	12.18	6	8.65	8.40	1.79	9.20	-	10.45
cyclohexane/propionic acid	298	5.14	6	5.47	4.18	2.53	4.38	-	6.25
cyclohexane/propionic acid	318	4.58	6	5.18	4.15	2.48	4.11	-	5.70
propionic acid/cyclohexane	298	13.00	6	9.74	8.74	2.00	8.44	-	10.49
propionic acid/cyclohexane	318	12.33	6	8.32	8.51	1.96	7.75	-	9.10
n-heptane/propionic acid	298	6.27	6	7.77	5.40	2.74	7.07	-	6.53
n-heptane/propionic acid	318	6.75	6	7.23	5.35	2.66	6.49	-	6.08
propionic acid/n-heptane	298	11.94	6	8.29	7.44	1.70	8.08	-	9.37
propionic acid/n-heptane	318	10.13	6	7.07	7.24	1.67	7.42	-	8.64
acetone/methanol	298	2.03	10	1.96	2.27	2.73	2.15	2.00	2.06
acetone/methanol	333	1.82	10	1.87	1.91	2.50	1.91	2.04	1.85
acetone/methanol	373	1.66	10	1.79	1.62	2.30	1.70	2.06	1.65
2-butanone/methanol	298	2.36	10	2.18	2.52	3.09	2.54	2.35	2.28
2-butanone/methanol	333	2.13	10	2.07	2.07	2.82	2.28	2.45	2.07
2-butanone/methanol	373	1.96	10	1.97	1.71	2.59	2.03	2.50	1.85
3-pentanone/methanol	298	3.27	10	3.00	3.41	3.84	4.01	3.48	3.23
3-pentanone/methanol	333	2.80	10	2.85	2.70	3.52	3.60	3.68	2.94
3-pentanone/methanol	373	2.45	10	2.70	2.16	3.22	3.15	3.80	2.63
3-heptanone/methanol	298	5.59	10	4.19	4.84	5.76	7.01	6.50	4.69
3-heptanone/methanol	333	4.41	10	3.92	3.50	5.17	6.19	6.95	4.19
3-heptanone/methanol	373	3.59	10	3.63	2.59	4.62	5.25	7.23	3.64

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Table S-1(Continued)

System	T(K)	γ^{∞}_{exp}	Ref.	γ^{∞} (1)	γ^{∞} (2)	γ^{∞} (3)	γ^{∞} (4)	γ^{∞} (5)	γ^{∞} (6)
5-nonanone/methanol	333	7.20	10	5.33	4.50	7.57	11.28	13.86	6.31
5-nonanone/methanol	373	5.20	10	4.81	3.04	6.56	9.17	14.40	5.26
acetone/ethanol	298	2.32	10	2.38	2.25	2.40	2.44	2.51	2.46
acetone/ethanol	305	2.14	10	2.33	2.19	2.35	2.34	2.44	2.34
acetone/ethanol	321	1.96	10	2.22	2.06	2.25	2.15	2.31	2.12
acetone/1-butanol	298	2.52	10	2.05	1.91	2.22	2.28	1.73	2.34
acetone/1-octanol	298	2.58	10	1.73	1.59	2.07	2.13	1.29	2.18
acetone/1-octanol	333	1.84	10	1.50	1.29	1.82	1.58	1.20	1.60
acetone/1-octanol	373	1.41	10	1.34	1.07	1.61	1.28	1.14	1.25
2-butanone/ethanol	298	2.62	10	2.57	2.41	2.51	2.60	2.72	2.59
2-butanone/1-butanol	298	1.98	10	2.10	1.96	2.19	2.25	1.70	2.32
2-butanone/1-butanol	333	1.64	10	1.88	1.68	1.97	1.80	1.55	1.81
2-butanone/1-butanol	373	1.42	10	1.69	1.43	1.79	1.50	1.43	1.45
2-butanone/1-octanol	298	2.30	10	1.72	1.58	1.98	2.00	1.19	2.09
2-butanone/1-octanol	333	1.78	10	1.52	1.31	1.76	1.53	1.12	1.58
2-butanone/1-octanol	373	1.46	10	1.36	1.11	1.58	1.26	1.07	1.26
3-pentanone/1-octanol	298	2.12	10	1.46	1.37	1.52	1.90	1.06	2.06
3-pentanone/1-octanol	333	1.56	10	1.33	1.20	1.40	1.50	1.02	1.63
3-pentanone/1-octanol	373	1.24	10	1.23	1.07	1.30	1.25	1.00	1.34
3-heptanone/1-butanol	298	2.67	10	2.39	2.29	2.20	2.74	2.08	2.76
3-heptanone/1-butanol	333	2.09	10	2.21	2.06	2.02	2.28	1.96	2.26
3-heptanone/1-butanol	373	1.72	10	2.04	1.82	1.87	1.88	1.86	1.81
n-hexane/DMF	293	19.11	7	13.87	29.89	15.42	-	16.00	16.73
n-hexane/DMF	333	12.00	7	12.40	9.49	12.57	-	11.43	10.95
DMF/n-hexane	303	32.62	7	55.74	60.61	21.40	-	3.90	27.23
DMF/n-hexane	313	27.19	7	48.96	38.78	19.38	-	3.78	23.68
cyclohexane/DMF	333	19.09	7	9.22	7.36	9.32	-	8.47	7.92
DMF/n-heptane	333	17.30	7	36.93	16.19	15.44	-	3.50	16.60
n-octane/DMF	293	32.78	7	25.28	67.54	28.95	-	33.24	26.46
n-octane/DMF	333	18.39	7	21.91	15.56	22.28	-	21.63	15.36
DMF/n-octane	313	17.80	7	44.50	35.25	17.61	-	3.62	19.75
DMF/n-octane	333	14.40	7	35.14	15.40	14.69	-	3.42	15.28
n-nonane/DMF	293	38.98	7	33.43	99.49	38.78	-	47.64	33.31
n-nonane/DMF	333	23.10	7	28.54	19.52	29.07	-	29.57	18.19
DMF/n-nonane	313	16.69	7	42.29	33.49	16.74	-	3.54	18.39
DMF/n-nonane	333	13.69	7	33.40	14.64	13.96	-	3.34	14.23
n-decane/DMF	333	24.80	7	36.79	24.24	37.55	-	40.33	21.56
DMF/n-decane	313	15.09	7	40.20	31.84	15.90	-	3.46	17.26
DMF/n-decane	333	12.59	7	31.75	13.92	13.27	-	3.26	13.35

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Table S-1(Continued)

System	T(K)	γ^{∞}_{exp}	Ref.	γ^{∞} (1)	γ^{∞} (2)	γ^{∞} (3)	γ^{∞} (4)	γ^{∞} (5)	γ^{∞} (6)
DMF/n-undecane	313	14.30	7	38.24	30.29	15.13	-	3.38	16.30
DMF/n-undecane	333	11.60	7	30.20	13.24	12.63	-	3.19	12.61
benzene/n-heptane	331	1.37	15	1.42	1.43	1.06	1.39	1.34	1.44
benzene/n-heptane	350	1.33	15	1.39	1.35	1.07	1.32	1.33	1.36
benzene/n-heptane	366	1.27	15	1.37	1.30	1.07	1.27	1.32	1.30
benzene/n-octane	328	1.39	15	1.34	1.35	1.00	1.37	1.30	1.36
benzene/n-octane	348	1.30	15	1.31	1.28	1.00	1.30	1.29	1.28
benzene/n-octane	388	1.20	15	1.27	1.16	1.02	1.19	1.27	1.16
benzene/n-hexadecane	293	1.11	15	0.92	0.98	0.64	1.28	1.04	1.09
benzene/n-hexadecane	298	1.06	15	0.91	0.97	0.64	1.25	1.04	1.07
benzene/n-hexadecane	303	1.05	15	0.90	0.95	0.65	1.22	1.04	1.05
benzene/n-hexadecane	312	1.04	15	0.89	0.93	0.65	1.18	1.04	1.02
benzene/n-hexadecane	313	1.00	15	0.89	0.92	0.65	1.18	1.03	1.01
benzene/n-hexadecane	317	1.00	15	0.89	0.91	0.65	1.16	1.03	1.00
benzene/n-hexadecane	323	0.99	15	0.88	0.90	0.65	1.14	1.03	0.98
benzene/n-hexadecane	333	0.89	15	0.87	0.87	0.65	1.10	1.03	0.95
benzene/n-hexadecane	343	0.62	15	0.86	0.85	0.66	1.07	1.02	0.92
benzene/n-hexadecane	363	0.59	15	0.85	0.81	0.66	1.02	1.02	0.87
benzene/n-octadecane	303	1.00	15	0.83	0.87	0.59	1.17	0.99	0.99
benzene/n-octadecane	305	1.00	15	0.83	0.87	0.59	1.16	0.99	0.98
benzene/n-octadecane	308	0.99	15	0.82	0.86	0.59	1.15	0.99	0.97
benzene/n-octadecane	313	0.96	15	0.82	0.85	0.60	1.13	0.99	0.95
benzene/n-octadecane	323	0.93	15	0.81	0.82	0.60	1.09	0.98	0.92
benzene/n-octadecane	333	0.91	15	0.80	0.80	0.60	1.06	0.98	0.89
benzene/n-octadecane	353	0.83	15	0.78	0.76	0.60	1.00	0.97	0.84
benzene/n-eicosane	326	0.90	15	0.74	0.75	0.55	1.04	0.94	0.86
benzene/n-eicosane	347	0.85	15	0.73	0.71	0.56	0.98	0.93	0.80
benzene/n-eicosane	367	0.82	15	0.71	0.68	0.56	0.93	0.93	0.76
benzene/n-docosane	323	0.82	15	0.69	0.71	0.51	1.01	0.90	0.82
benzene/n-docosane	333	0.80	15	0.69	0.69	0.51	0.98	0.90	0.79
benzene/n-docosane	341	0.78	15	0.68	0.67	0.52	0.95	0.90	0.78
benzene/n-tetracosane	323	0.78	15	0.65	0.66	0.48	0.97	0.87	0.78
benzene/n-tetracosane	328	0.77	15	0.64	0.65	0.48	0.95	0.87	0.77
benzene/n-tetracosane	333	0.76	15	0.64	0.64	0.48	0.94	0.86	0.75
benzene/n-tetracosane	338	0.75	15	0.64	0.63	0.48	0.93	0.86	0.74
benzene/n-tetracosane	349	0.75	15	0.63	0.61	0.48	0.90	0.86	0.72
benzene/n-tetracosane	357	0.73	15	0.62	0.60	0.48	0.88	0.86	0.70
benzene/n-octacosane	323	0.71	15	0.57	0.58	0.42	0.90	0.81	0.71
benzene/n-octacosane	338	0.68	15	0.56	0.56	0.42	0.87	0.80	0.68

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Table S-1(Continued)

System	T(K)	γ^{∞}_{exp}	Ref.	γ^{∞} (1)	γ^{∞} (2)	γ^{∞} (3)	γ^{∞} (4)	γ^{∞} (5)	γ^{∞} (6)
benzene/n-octacosane	348	0.66	15	0.55	0.54	0.43	0.84	0.80	0.66
benzene/n-octacosane	353	0.65	15	0.55	0.53	0.43	0.83	0.80	0.65
benzene/n-octacosane	373	0.63	15	0.54	0.51	0.43	0.80	0.79	0.62
benzene/n-triacontane	349	0.63	15	0.52	0.51	0.40	0.81	0.77	0.63
benzene/n-triacontane	357	0.61	15	0.52	0.50	0.40	0.80	0.77	0.62
benzene/n-dotriacontane	323	0.64	15	0.51	0.52	0.38	0.85	0.76	0.66
benzene/n-dotriacontane	348	0.60	15	0.48	0.48	0.38	0.79	0.75	0.61
benzene/n-hexatriacontane	349	0.56	15	0.45	0.44	0.34	0.75	0.71	0.57
benzene/n-hexatriacontane	353	0.55	15	0.45	0.43	0.34	0.74	0.71	0.56
benzene/n-hexatriacontane	357	0.54	15	0.44	0.43	0.34	0.73	0.71	0.55
toluene/n-hexadecane	312	1.05	15	1.01	1.02	0.71	1.09	1.54	1.01
toluene/n-hexadecane	317	1.04	15	1.00	0.99	0.71	1.08	1.52	1.00
toluene/n-hexadecane	333	0.90	15	0.98	0.93	0.72	1.04	1.47	0.96
toluene/n-hexadecane	343	0.65	15	0.97	0.90	0.72	1.02	1.44	0.94
toluene/n-hexadecane	363	0.62	15	0.95	0.87	0.72	1.07	1.39	0.90
toluene/n-octadecane	303	0.96	15	0.94	1.00	0.66	1.05	1.51	0.97
toluene/n-octadecane	313	0.92	15	0.93	0.94	0.66	1.02	1.47	0.95
toluene/n-octadecane	323	0.90	15	0.92	0.89	0.66	1.00	1.43	0.93
toluene/n-octadecane	333	0.89	15	0.91	0.86	0.66	0.98	1.40	0.90
toluene/n-eicosane	326	0.89	15	0.85	0.81	0.61	0.94	1.37	0.87
toluene/n-eicosane	347	0.86	15	0.83	0.77	0.62	0.91	1.31	0.83
toluene/n-eicosane	367	0.85	15	0.81	0.74	0.62	0.90	1.27	0.80
toluene/n-tetracosane	334	0.81	15	0.73	0.69	0.54	0.88	1.25	0.77
toluene/n-tetracosane	344	0.77	15	0.73	0.67	0.54	0.87	1.23	0.75
toluene/n-tetracosane	349	0.76	15	0.72	0.67	0.54	0.87	1.21	0.74
toluene/n-tetracosane	353	0.76	15	0.72	0.66	0.54	0.87	1.20	0.74
toluene/n-tetracosane	355	0.76	15	0.72	0.66	0.54	0.86	1.20	0.74
toluene/n-tetracosane	357	0.76	15	0.72	0.65	0.54	0.86	1.19	0.73
toluene/n-tetracosane	361	0.76	15	0.71	0.65	0.54	0.86	1.19	0.73
toluene/n-octacosane	353	0.67	15	0.64	0.59	0.48	0.81	1.12	0.68
toluene/n-octacosane	373	0.67	15	0.62	0.56	0.48	0.80	1.09	0.65
toluene/n-triacontane	349	0.64	15	0.60	0.56	0.45	0.80	1.10	0.65
toluene/n-triacontane	353	0.64	15	0.60	0.55	0.45	0.79	1.09	0.65
toluene/n-triacontane	357	0.64	15	0.60	0.55	0.45	0.79	1.08	0.64
toluene/n-triacontane	361	0.63	15	0.60	0.55	0.46	0.78	1.08	0.64
toluene/n-hexatriacontane	349	0.58	15	0.52	0.48	0.39	0.73	1.01	0.59
toluene/n-hexatriacontane	353	0.56	15	0.52	0.48	0.39	0.73	1.000	0.58
toluene/n-hexatriacontane	357	0.56	15	0.52	0.47	0.39	0.72	1.00	0.58
toluene/n-hexatriacontane	361	0.56	15	0.51	0.47	0.39	0.72	0.99	0.57

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Table S-1(Continued)

System	T(K)	γ^{∞}_{exp}	Ref.	γ^{∞} (1)	γ^{∞} (2)	γ^{∞} (3)	γ^{∞} (4)	γ^{∞} (5)	γ^{∞} (6)
n-hexane/chloroform	320	1.79	15	1.85	1.80	1.26	1.70	1.74	1.81
n-hexane/chloroform	332	1.66	15	1.80	1.76	1.24	1.63	1.70	1.73
chloroform/n-hexane	301	1.58	15	1.48	1.50	1.15	1.61	1.40	1.59
chloroform/n-hexane	315	1.53	15	1.45	1.46	1.14	1.53	1.38	1.51
chloroform/n-hexane	332	1.48	15	1.42	1.41	1.13	1.46	1.35	1.44
chloroform/n-hexane	340	1.42	15	1.40	1.39	1.12	1.43	1.34	1.40
chloroform/n-heptane	293	1.47	15	1.41	1.44	1.09	1.62	1.37	1.54
chloroform/n-octane	293	1.43	15	1.33	1.36	1.03	1.57	1.33	1.45
chloroform/n-hexadecane	293	1.10	15	0.88	0.90	0.68	1.27	1.08	1.06
chloroform/n-hexadecane	303	1.06	15	0.86	0.88	0.67	1.22	1.06	1.02
chloroform/n-hexadecane	313	1.01	15	0.85	0.86	0.67	1.18	1.05	0.99
chloroform/n-octadecane	303	1.00	15	0.79	0.80	0.62	1.16	1.02	0.96
chloroform/n-octadecane	313	0.97	15	0.78	0.79	0.61	1.12	1.00	0.93
chloroform/n-octadecane	323	0.93	15	0.77	0.77	0.61	1.09	0.99	0.90
chloroform/n-eicosane	326	0.89	15	0.71	0.71	0.56	1.03	0.95	0.84
chloroform/n-eicosane	347	0.83	15	0.69	0.68	0.55	0.98	0.93	0.79
chloroform/n-eicosane	367	0.80	15	0.68	0.66	0.55	0.94	0.92	0.75
chloroform/n-tetracosane	324	0.76	15	0.62	0.62	0.49	0.96	0.88	0.77
chloroform/n-tetracosane	343	0.73	15	0.60	0.60	0.48	0.91	0.86	0.73
chloroform/n-tetracosane	353	0.72	15	0.60	0.59	0.48	0.89	0.86	0.71
n-hexane/CCl_4	293	1.33	15	1.08	1.18	2.90	1.20	1.12	1.35
CCl_4/n-hexane	301	1.20	15	1.11	1.19	1.94	1.12	1.06	1.23
CCl_4/n-hexane	315	1.20	15	1.11	1.19	1.89	1.10	1.06	1.21
CCl_4/n-hexane	332	1.19	15	1.11	1.17	1.83	1.08	1.06	1.18
CCl_4/n-hexane	340	1.16	15	1.10	1.16	1.81	1.07	1.06	1.18
n-heptane/CCl_4	328	1.27	15	1.04	1.20	2.79	1.12	1.11	1.21
n-heptane/CCl_4	349	1.15	15	1.05	1.18	2.61	1.08	1.11	1.17
CCl_4/n-heptane	293	1.20	15	1.07	1.13	1.89	1.11	1.04	1.18
CCl_4/n-octane	293	1.17	15	1.02	1.08	1.80	1.09	1.01	1.12
CCl_4/n-octane	328	1.11	15	1.02	1.08	1.69	1.04	1.02	1.07
cyclohexane/CCl_4	293	1.12	15	1.13	1.22	2.60	1.18	1.16	1.09
cyclohexane/CCl_4	318	1.11	15	1.14	1.26	2.42	1.13	1.15	1.08
cyclohexane/CCl_4	330	1.10	15	1.14	1.26	2.34	1.11	1.15	1.07
cyclohexane/CCl_4	341	1.09	15	1.14	1.25	2.28	1.10	1.15	1.06
cyclohexane/CCl_4	346	1.10	15	1.14	1.25	2.25	1.09	1.15	1.06
CCl_4/n-hexadecane	313	0.80	15	0.71	0.76	1.21	0.88	0.85	0.83
CCl_4/n-hexadecane	320	0.80	15	0.71	0.75	1.19	0.87	0.85	0.82
CCl_4/n-hexadecane	327	0.78	15	0.70	0.75	1.18	0.86	0.85	0.81
CCl_4/n-hexadecane	333	0.78	15	0.70	0.75	1.16	0.86	0.85	0.81

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Table S-1(Continued)

System	T(K)	γ^{∞}_{exp}	Ref.	γ^{∞} (1)	γ^{∞} (2)	γ^{∞} (3)	γ^{∞} (4)	γ^{∞} (5)	γ^{∞} (6)
CCl_4/n-octadecane	303	0.77	15	0.65	0.70	1.13	0.85	0.81	0.79
CCl_4/n-octadecane	313	0.76	15	0.65	0.70	1.11	0.84	0.81	0.78
CCl_4/n-octadecane	323	0.75	15	0.65	0.70	1.09	0.83	0.82	0.77
CCl_4/n-eicosane	329	0.77	15	0.60	0.64	1.00	0.79	0.78	0.73
CCl_4/n-eicosane	338	0.75	15	0.60	0.64	0.99	0.78	0.78	0.73
CCl_4/n-eicosane	348	0.74	15	0.60	0.62	0.97	0.78	0.78	0.72
CCl_4/n-tetracosane	324	0.65	15	0.53	0.56	0.89	0.74	0.73	0.67
CCl_4/n-tetracosane	333	0.63	15	0.53	0.56	0.87	0.73	0.73	0.66
CCl_4/n-tetracosane	343	0.62	15	0.53	0.55	0.86	0.72	0.73	0.66
CCl_4/n-tetracosane	353	0.61	15	0.53	0.54	0.84	0.72	0.73	0.65
CCl_4/n-octacosane	353	0.58	15	0.47	0.48	0.75	0.67	0.68	0.60
CCl_4/n-octacosane	373	0.59	15	0.47	0.46	0.73	0.66	0.68	0.59
CCl_4/n-octacosane	393	0.58	15	0.46	0.44	0.71	0.65	0.68	0.59
n-pentane/phenol	298	12.70	15	6.12	7.49	7.97	7.21	9.04	12.02
n-pentane/phenol	307	12.00	15	5.98	7.16	7.71	6.63	8.84	11.22
n-pentane/phenol	323	10.90	15	5.74	6.61	7.29	5.65	8.50	9.93
n-hexane/phenol	298	15.20	15	7.79	9.85	10.58	9.92	12.43	15.56
n-hexane/phenol	303	14.10	15	7.67	9.56	10.35	9.40	12.26	14.89
n-hexane/phenol	318	13.89	15	7.34	8.76	9.73	7.94	11.74	13.03
n-hexane/phenol	323	13.00	15	7.23	8.52	9.55	7.48	11.58	12.46
n-hexane/phenol	343	12.85	15	6.83	7.63	8.87	5.80	10.93	10.41
n-hexane/phenol	358	12.10	15	6.56	7.04	8.43	4.69	10.47	9.10
n-hexane/phenol	373	11.69	15	6.30	6.50	8.04	3.74	10.04	7.95
n-heptane/phenol	298	18.80	15	9.70	12.68	13.76	13.52	16.98	20.14
n-heptane/phenol	307	17.30	15	9.41	11.93	13.17	12.10	16.50	18.39
n-heptane/phenol	323	15.39	15	8.91	10.74	12.24	9.80	15.66	15.62
n-heptane/phenol	343	14.83	15	8.36	9.48	11.25	7.33	14.67	12.72
n-heptane/phenol	358	13.46	15	9.79	8.65	10.62	5.76	13.97	10.90
n-heptane/phenol	373	12.81	15	7.62	7.90	10.06	4.44	13.30	9.34
n-octane/phenol	313	24.61	15	11.23	14.35	16.24	14.82	21.85	21.94
n-octane/phenol	321	23.20	15	10.90	13.54	15.59	13.15	21.22	20.01
n-octane/phenol	328	19.98	15	10.62	12.87	15.06	11.80	20.68	18.46
n-octane/phenol	343	16.96	15	10.06	11.58	14.05	9.20	19.57	15.53
n-octane/phenol	358	15.10	15	9.54	10.45	13.16	7.02	18.52	13.05
n-octane/phenol	373	14.15	15	9.06	9.45	12.39	5.25	17.54	10.97
n-nonane/phenol	313	28.19	15	13.51	17.74	20.34	19.50	29.39	27.79
n-nonane/phenol	321	26.79	15	13.07	16.62	19.44	17.08	28.45	25.10
cyclohexane/phenol	298	8.71	15	5.17	6.30	6.69	6.89	7.59	8.07
cyclohexane/phenol	303	7.67	15	5.11	6.15	6.57	6.59	7.50	7.87

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Table S-1(Continued)

System	T(K)	γ^{∞}_{exp}	Ref.	γ^{∞} (1)	γ^{∞} (2)	γ^{∞} (3)	γ^{∞} (4)	γ^{∞} (5)	γ^{∞} (6)
cyclohexane/phenol	323	7.20	15	4.86	5.58	6.14	5.44	7.15	7.14
cyclohexane/phenol	358	7.10	15	4.48	4.75	5.53	3.67	6.57	6.08
cyclohexane/phenol	373	6.97	15	4.32	4.45	5.31	3.04	6.34	5.69
cycloheptane/phenol	328	8.85	15	6.03	6.98	7.88	6.75	9.64	9.27
cycloheptane/phenol	343	7.88	15	5.78	6.44	7.47	5.58	9.25	8.55
cycloheptane/phenol	358	7.42	15	5.55	5.96	7.10	4.54	8.87	7.90
cycloheptane/phenol	373	7.30	15	5.34	5.51	6.78	3.63	8.50	7.31
methyl cyclopentane/phenol	318	9.60	15	4.91	5.69	6.22	5.70	7.21	6.40
methyl cyclopentane/phenol	328	8.60	15	4.79	5.43	6.02	5.15	7.04	6.08
methyl cyclopentane/phenol	343	8.27	15	4.62	5.07	5.75	4.38	6.79	5.64
methyl cyclopentane/phenol	358	7.70	15	4.46	4.74	5.51	3.67	6.55	5.23
methyl cyclopentane/phenol	373	7.64	15	4.32	4.43	5.30	3.03	6.32	4.86
methyl cyclohexane/phenol	313	13.30	15	6.27	7.57	8.32	8.02	10.02	8.90
methyl cyclohexane/phenol	321	12.79	15	6.13	7.24	8.06	7.32	9.80	8.49
methyl cyclohexane/phenol	328	10.57	15	6.01	6.96	7.85	6.74	9.61	8.15
methyl cyclohexane/phenol	333	10.20	15	5.93	6.78	7.71	6.34	9.47	7.91
methyl cyclohexane/phenol	338	10.18	15	5.85	6.60	7.58	5.95	9.35	7.69
methyl cyclohexane/phenol	343	9.44	15	5.77	6.42	7.44	5.57	9.22	7.47
methyl cyclohexane/phenol	358	8.64	15	5.54	5.94	7.08	4.53	8.84	6.85
methyl cyclohexane/phenol	373	8.45	15	5.32	5.50	6.76	3.63	8.48	6.30
ethyl cyclohexane/phenol	313	15.80	15	7.76	9.62	10.71	10.66	13.66	11.51
ethyl cyclohexane/phenol	321	14.90	15	7.56	9.14	10.34	9.60	13.31	10.87
ethyl cyclohexane/phenol	328	12.28	15	7.39	8.74	10.03	8.73	13.01	10.34
ethyl cyclohexane/phenol	343	10.64	15	7.05	7.97	9.44	7.03	12.40	9.30
ethyl cyclohexane/phenol	358	9.79	15	6.73	7.29	8.92	5.55	11.82	8.38
ethyl cyclohexane/phenol	373	9.03	15	6.44	6.67	8.46	4.30	11.27	7.56
2-pentene/DMF	293	7.00	7	7.12	7.40	5.51	-	7.73	6.72
2-pentene/DMF	313	6.30	7	6.72	6.20	5.12	-	6.77	6.05
2-pentene/DMF	333	5.70	7	6.37	5.16	4.78	-	6.04	5.49
1-hexene/DMF	293	9.60	7	9.39	8.77	6.73	-	10.54	7.76
1-hexene/DMF	313	7.70	7	8.76	7.53	6.18	-	9.05	6.91
1-hexene/DMF	333	6.70	7	8.19	6.38	5.71	-	7.92	6.22
1-heptene/DMF	293	12.20	7	12.76	13.39	9.02	-	15.23	9.87
1-heptene/DMF	313	8.90	7	11.82	10.57	8.17	-	12.76	8.53
1-heptene/DMF	333	8.10	7	10.98	8.26	7.46	-	10.92	7.46
1-octene/DMF	293	15.50	7	17.07	20.07	11.97	-	21.91	12.52
1-octene/DMF	313	12.60	7	15.70	14.58	10.70	-	17.90	10.49
1-octene/DMF	333	10.20	7	14.48	10.53	9.65	-	14.99	8.92
1-decene/DMF	293	27.19	7	29.53	43.32	20.67	-	44.87	20.06

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Table S-1(Continued)

System	T(K)	γ^{∞}_{exp}	Ref.	γ^{∞} (1)	γ^{∞} (2)	γ^{∞} (3)	γ^{∞} (4)	γ^{∞} (5)	γ^{∞} (6)
1-decene/DMF	313	23.10	7	26.75	26.75	17.96	-	34.88	15.80
1-decene/DMF	333	17.80	7	24.30	16.47	15.78	-	27.95	12.71
1-dodecene/DMF	293	45.20	7	49.39	90.62	34.87	-	91.14	32.05
1-dodecene/DMF	313	38.90	7	44.08	47.35	29.45	-	67.40	23.71
1-dodecene/DMF	333	29.40	7	39.42	24.87	25.19	-	51.69	18.02
cyclopentene/DMF	298	4.60	7	5.11	4.65	4.03	-	5.39	3.80
cyclopentene/DMF	313	4.20	7	4.86	4.29	3.80	-	4.86	3.43
cyclopentene/DMF	333	4.00	7	4.64	3.91	3.60	-	4.44	3.11
cyclohexene/DMF	293	6.00	7	7.31	7.48	5.67	-	7.97	5.39
cyclohexene/DMF	313	5.30	7	6.92	6.34	5.28	-	7.01	4.67
cyclohexene/DMF	333	4.90	7	6.56	5.34	4.94	-	6.27	4.08
cycloheptene/DMF	293	7.80	7	10.17	11.66	7.82	-	11.66	7.60
cycloheptene/DMF	313	7.00	7	9.55	9.10	7.19	-	10.01	6.32
cycloheptene/DMF	333	5.60	7	8.98	7.07	6.64	-	8.75	5.31
cyclooctene/DMF	293	10.60	7	13.85	17.76	10.64	-	16.91	10.69
cyclooctene/DMF	313	8.50	7	12.91	12.76	9.64		14.16	8.52
cyclooctene/DMF	333	6.80	7	12.05	9.15	8.78	-	12.11	6.89

D1445-R

Table S-2. Experimental and predicted infinite dilution activity coefficients of solute in aqueous solute/water systems.

System	T(K)	γ^{∞}_{exp}	Ref.	γ^{∞} (1)	γ^{∞} (2)	γ^{∞} (3)	γ^{∞} (4)	γ^{∞} (5)	γ^{∞} (6)	γ^{∞} (7)
n-pentane/water	283	$9.34\ 10^{4}$	14	$3.87\ 10^{3}$	$5.21\ 10^{3}$	$6.34\ 10^{3}$	$1.03\ 10^{3}$	836	$2.22\ 10^{3}$	$6.09\ 10^{4}$
n-pentane/water	293	$9.90\ 10^{4}$	14	$3.41\ 10^{3}$	$4.51\ 10^{3}$	$5.50\ 10^{3}$	$1.28\ 10^{3}$	725	$2.02\ 10^{3}$	$5.37\ 10^{4}$
n-pentane/water	298	$1.04\ 10^{5}$	14	$3.21\ 10^{3}$	$4.21\ 10^{3}$	$5.14\ 10^{3}$	$1.40\ 10^{3}$	678	$1.92\ 10^{3}$	$5.03\ 10^{4}$
water/n-pentane	283	$5.43\ 10^{3}$	14	$2.19\ 10^{3}$	283	$2.15\ 10^{3}$	$2.48\ 10^{4}$	4.94	244	$5.22\ 10^{3}$
water/n-pentane	293	$3.04\ 10^{3}$	14	$1.72\ 10^{3}$	249	$1.69\ 10^{3}$	$1.55\ 10^{4}$	485	168	$3.10\ 10^{3}$
water/n-pentane	298	$2.27\ 10^{3}$	14	$1.54\ 10^{3}$	235	$1.51\ 10^{3}$	$1.24\ 10^{4}$	4.81	140	$2.42\ 10^{3}$
n-hexane/water	293	$3.44\ 10^{5}$	14	$1.14\ 10^{4}$	$1.58\ 10^{4}$	$1.99\ 10^{4}$	$3.77\ 10^{3}$	$2.31\ 10^{3}$	$7.03\ 10^{3}$	$2.91\ 10^{5}$
n-hexane/water	298	$3.60\ 10^{5}$	14	$1.06\ 10^{4}$	$1.46\ 10^{4}$	$1.83\ 10^{4}$	$4.17\ 10^{3}$	$2.14\ 10^{3}$	$6.62\ 10^{3}$	$2.70\ 10^{5}$
n-hexane/water	303	$3.56\ 10^{5}$	14	$9.94\ 10^{3}$	$1.35\ 10^{4}$	$1.70\ 10^{4}$	$4.56\ 10^{3}$	$1.98\ 10^{3}$	$6.21\ 10^{3}$	$2.50\ 10^{5}$
n-hexane/water	313	$3.33\ 10^{5}$	14	$8.73\ 10^{3}$	$1.16\ 10^{4}$	$1.47\ 10^{4}$	$5.25\ 10^{3}$	$1.71\ 10^{3}$	$6.41\ 10^{3}$	$2.14\ 10^{5}$
water/n-hexane	293	$2.34\ 10^{3}$	14	$1.57\ 10^{3}$	228	$1.54\ 10^{3}$	$1.45\ 10^{4}$	4.69	162	$2.89\ 10^{3}$
water/n-hexane	298	$1.65\ 10^{3}$	14	$1.40\ 10^{3}$	214	$1.38\ 10^{3}$	$1.16\ 10^{4}$	4.65	136	$2.26\ 10^{3}$
water/n-hexane	303	$1.17\ 10^{3}$	14	$1.26\ 10^{3}$	202	$1.24\ 10^{3}$	$9.42\ 10^{3}$	4.61	115	$1.78\ 10^{3}$
water/n-hexane	313	662	14	$1.02\ 10^{3}$	118	$1.00\ 10^{3}$	$6.35\ 10^{3}$	4.53	83	$1.13\ 10^{3}$
n-heptane/water	293	$1.90\ 10^{6}$	14	$3.73\ 10^{4}$	$5.40\ 10^{4}$	$7.02\ 10^{4}$	$1.11\ 10^{4}$	$7.37\ 10^{3}$	$2.45\ 10^{4}$	$1.57\ 10^{6}$
n-heptane/water	298	$2.00\ 10^{6}$	14	$3.45\ 10^{4}$	$4.93\ 10^{4}$	$6.42\ 10^{4}$	$1.25\ 10^{4}$	$6.74\ 10^{3}$	$2.28\ 10^{4}$	$1.44\ 10^{6}$
n-heptane/water	303	$2.11\ 10^{6}$	14	$3.19\ 10^{4}$	$4.51\ 10^{4}$	$5.88\ 10^{4}$	$1.38\ 10^{4}$	$6.18\ 10^{3}$	$2.12\ 10^{4}$	$1.32\ 10^{6}$
n-heptane/water	313	$2.32\ 10^{6}$	14	$2.75\ 10^{4}$	$3.81\ 10^{4}$	$4.97\ 10^{4}$	$1.62\ 10^{4}$	$5.24\ 10^{3}$	$1.81\ 10^{4}$	$1.11\ 10^{6}$
water/n-heptane	293	$1.87\ 10^{3}$	14	$1.44\ 10^{3}$	209	$1.42\ 10^{3}$	$1.36\ 10^{4}$	4.53	157	$2.72\ 10^{3}$
water/n-heptane	298	$1.35\ 10^{3}$	14	$1.29\ 10^{3}$	196	$1.27\ 10^{3}$	$1.09\ 10^{4}$	4.49	132	$2.12\ 10^{3}$
water/n-heptane	303	$1.05\ 10^{3}$	14	$1.15\ 10^{3}$	185	$1.13\ 10^{3}$	$8.85\ 10^{3}$	4.45	111	$1.67\ 10^{3}$
water/n-heptane	313	585	14	933	166	921	$5.97\ 10^{3}$	4.37	80	$1.06\ 10^{3}$
n-octane/water	293	$8.85\ 10^{6}$	14	$1.20\ 10^{5}$	$1.82\ 10^{5}$	$2.44\ 10^{5}$	$3.27\ 10^{4}$	$2.35\ 10^{4}$	$8.54\ 10^{4}$	$8.52\ 10^{6}$
n-octane/water	298	$9.09\ 10^{6}$	14	$1.10\ 10^{5}$	$1.64\ 10^{5}$	$2.21\ 10^{5}$	$3.73\ 10^{4}$	$2.13\ 10^{4}$	$7.90\ 10^{4}$	$7.74\ 10^{6}$
n-octane/water	303	$7.81\ 10^{6}$	14	$1.01\ 10^{5}$	$1.49\ 10^{5}$	$2.00\ 10^{5}$	$4.18\ 10^{4}$	$1.93\ 10^{4}$	$7.28\ 10^{4}$	$7.03\ 10^{6}$
water/n-octane	293	$1.66\ 10^{3}$	14	$1.33\ 10^{3}$	192	$1.33\ 10^{3}$	$1.29\ 10^{4}$	4.36	152	$2.57\ 10^{3}$
water/n-octane	298	$1.23\ 10^{3}$	14	$1.19\ 10^{3}$	181	$1.17\ 10^{3}$	$1.03\ 10^{4}$	4.33	127	$2.01\ 10^{3}$
water/n-octane	303	943	14	$1.06\ 10^{3}$	171	$1.05\ 10^{3}$	$8.36\ 10^{3}$	4.29	107	$1.58\ 10^{3}$
n-decane/water	293	$1.52\ 10^{8}$	8	$1.20\ 10^{6}$	$1.99\ 10^{5}$	$2.86\ 10^{6}$	$2.86\ 10^{5}$	$2.42\ 10^{5}$	$1.04\ 10^{6}$	$2.51\ 10^{8}$
cyclopentane/water	293	$2.49\ 10^{5}$	14	$1.91\ 10^{3}$	$2.40\ 10^{3}$	$2.82\ 10^{3}$	341	521	233	$7.14\ 10^{3}$
water/cyclopentane	293	$1.37\ 10^{3}$	14	$2.43\ 10^{3}$	352	$2.39\ 10^{3}$	$1.63\ 10^{4}$	6.56	$1.64\ 10^{4}$	$3.26\ 10^{3}$
cyclohexane/water	298	$8.33\ 10^{4}$	14	$6.18\ 10^{3}$	$8.05\ 10^{3}$	$9.78\ 10^{3}$	$1.10\ 10^{3}$	$1.57\ 10^{3}$	578	$3.64\ 10^{4}$
water/cyclohexane	293	$2.14\ 10^{3}$	14	$2.12\ 10^{3}$	307	$2.08\ 10^{3}$	$1.52\ 10^{4}$	6.09	$1.23\ 10^{4}$	$2.37\ 10^{3}$
water/cyclohexane	298	$1.72\ 10^{3}$	14	$1.89\ 10^{3}$	289	$1.86\ 10^{3}$	$1.22\ 10^{4}$	6.04	$1.54\ 10^{4}$	$3.03\ 10^{3}$
water/cyclohexane	326	429	14	$1.06\ 10^{3}$	213	$1.05\ 10^{3}$	$4.18\ 10^{3}$	5.77	$4.14\ 10^{3}$	680
cycloheptane/water	293	$1.81\ 10^{5}$	14	$2.19\ 10^{4}$	$3.01\ 10^{4}$	$3.77\ 10^{4}$	$2.97\ 10^{3}$	$5.37\ 10^{3}$	$1.73\ 10^{3}$	$2.10\ 10^{5}$
cyclooctane/water	293	$7.87\ 10^{5}$	14	$7.15\ 10^{4}$	$1.03\ 10^{5}$	$1.33\ 10^{5}$	$8.74\ 10^{3}$	$1.72\ 10^{4}$	$4.68\ 10^{3}$	$1.14\ 10^{6}$
benzene/water	298	$2.44\ 10^{3}$	4	$2.44\ 10^{3}$	14.1	$2.58\ 10^{3}$	$2.44\ 10^{3}$	-	$2.32\ 10^{3}$	$2.58\ 10^{3}$
toluene/water	298	$9.90\ 10^{3}$	4	$1.20\ 10^{4}$	59.6	$7.25\ 10^{3}$	$5.08\ 10^{3}$	-	$7.96\ 10^{3}$	$9.08\ 10^{3}$
ethyl benzene/water	298	$4.01\ 10^{4}$	4	$3.39\ 10^{4}$	236	$2.95\ 10^{4}$	$1.45\ 10^{4}$	-	$2.86\ 10^{4}$	$5.34\ 10^{4}$

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Table S-2(Continued)

System	T(K)	γ^{∞}_{exp}	Ref.	γ^{∞} (1)	γ^{∞} (2)	γ^{∞} (3)	γ^{∞} (4)	γ^{∞} (5)	γ^{∞} (6)	γ^{∞} (7)
propyl benzene/water	298	$1.33\ 10^{5}$	4	$1.06\ 10^{5}$	764	$3.54\ 10^{5}$	$4.18\ 10^{4}$	-	$3.46\ 10^{5}$	$1.45\ 10^{6}$
butyl benzene/water	298	$5.97\ 10^{5}$	4	$3.31\ 10^{5}$	$2.46\ 10^{3}$	$1.20\ 10^{6}$	$1.22\ 10^{5}$	-	$1.2\ 10^{6}$	$7.66\ 10^{6}$
napthalene/water	298	$6.62\ 10^{4}$	4	$1.38\ 10^{5}$	87	$1.15\ 10^{5}$	$5.32\ 10^{4}$	-	$1.71\ 10^{5}$	$5.76\ 10^{4}$
biphenyl/water	298	$4.42\ 10^{5}$	4	$1.05\ 10^{6}$	119	$1.18\ 10^{6}$	$6.22\ 10^{5}$	-	$1.97\ 10^{6}$	$6.85\ 10^{5}$
napthacene/water	298	$1.46\ 10^{7}$	4	$3.76\ 10^{9}$	$2.73\ 10^{3}$	$4.37\ 10^{9}$	$2.56\ 10^{7}$	-	$1.00\ 10^{9}$	$2.91\ 10^{7}$
chrysene/water	298	$3.26\ 10^{7}$	4	$3.76\ 10^{8}$	$2.73\ 10^{3}$	$4.37\ 10^{9}$	$2.56\ 10^{7}$	-	$1.00\ 10^{9}$	$2.91\ 10^{7}$
perylene/water	298	$1.20\ 10^{8}$	4	$2.78\ 10^{9}$	$1.21\ 10^{4}$	$3.26\ 10^{9}$	$4.83\ 10^{7}$	-	$7.48\ 10^{9}$	$5.51\ 10^{7}$
acenaphthene/water	298	$4.42\ 10^{5}$	4	$1.12\ 10^{6}$	$2.50\ 10^{3}$	$1.54\ 10^{6}$	$6.54\ 10^{4}$	-	$1.10\ 10^{6}$	$2.36\ 10^{5}$
fluorene/water	298	$5.97\ 10^{5}$	4	$2.85\ 10^{6}$	$1.10\ 10^{3}$	$3.57\ 10^{6}$	$2.72\ 10^{5}$	-	$3.75\ 10^{6}$	$5.47\ 10^{5}$
indan/water	298	$6.00\ 10^{4}$	4	$6.36\ 10^{4}$	$1.38\ 10^{3}$	$9.34\ 10^{4}$	$8.82\ 10^{3}$	-	$4.89\ 10^{4}$	$5.57\ 10^{4}$
ethanol/water	298	3.43	10	7.62	9.69	6.12	5.45	12.85	4.79	-
ethanol/water	333	4.50	10	7.16	8.13	5.74	6.93	10.91	5.49	-
ethanol/water	373	5.19	10	6.75	6.89	5.44	8.05	9.40	5.93	-
water/ethanol	298	2.52	10	2.66	4.77	1.68	3.07	2.44	2.61	-
water/ethanol	333	2.65	10	2.77	3.23	1.81	3.05	2.33	2.63	-
water/ethanol	373	2.58	10	2.82	2.34	1.91	2.90	2.23	2.48	-
n-propanol/water	298	11.00	10	20.06	26.64	17.66	12.50	30.16	13.94	-
n-propanol/water	333	15.39	10	17.93	21.16	15.67	17.03	24.17	15.14	-
n-propanol/water	373	17.80	10	16.13	17.11	14.12	20.27	19.79	15.25	-
water/n-propanol	373	3.10	10	3.42	2.67	2.48	3.59	1.96	3.03	-
n-butanol/water	348	78.65	5	43.14	50.63	41.35	48.24	51.36	42.24	-
water/n-butanol	298	3.80	10	3.80	5.34	2.71	4.41	1.90	4.67	-
water/n-butanol	333	3.52	10	3.94	3.82	2.91	4.43	1.84	4.15	-
water/n-butanol	348	5.20	5	3.97	3.43	2.97	4.40	1.83	3.90	-
water/n-butanol	373	3.23	10	3.99	2.95	3.06	4.31	1.80	3.48	-
n-octanol/water	298	$1.10\ 10^{4}$	10	$3.16\ 10^{3}$	$5.20\ 10^{3}$	$4.56\ 10^{3}$	$1.37\ 10^{3}$	$4.07\ 10^{3}$	$4.08\ 10^{3}$	-
n-octanol/water	333	$9.39\ 10^{3}$	10	$2.17\ 10^{3}$	$3.08\ 10^{3}$	$3.00\ 10^{3}$	$2.56\ 10^{3}$	$2.41\ 10^{3}$	$3.23\ 10^{3}$	-
n-octanol/water	373	$5.9\ 10^{3}$	10	$1.53\ 10^{3}$	$1.93\ 10^{3}$	$2.05\ 10^{3}$	$3.18\ 10^{3}$	$1.51\ 10^{3}$	$2.11\ 10^{3}$	-
water/n-octanol	298	4.51	10	5.77	5.67	4.81	7.17	1.49	8.31	-
water/n-octanol	333	4.30	10	5.96	4.43	5.12	7.34	1.49	6.27	-
water/n-octanol	373	4.00	10	5.95	3.76	5.27	7.41	1.49	4.59	-
n-decanol/water	298	$2.09\ 10^{5}$	10	$2.49\ 10^{4}$	$4.47\ 10^{4}$	$4.37\ 10^{4}$	$1.02\ 10^{4}$	$3.35\ 10^{4}$	$4.25\ 10^{4}$	-
n-decanol/water	333	$1.50\ 10^{5}$	10	$1.53\ 10^{4}$	$2.34\ 10^{4}$	$2.54\ 10^{4}$	$2.16\ 10^{4}$	$1.75\ 10^{4}$	$2.96\ 10^{4}$	-
n-decanol/water	373	$6.10\ 10^{4}$	10	$9.75\ 10^{3}$	$1.31\ 10^{4}$	$1.55\ 10^{4}$	$2.69\ 10^{4}$	$9.86\ 10^{3}$	$1.60\ 10^{4}$	-
water/n-decanol	298	4.90	10	6.66	5.70	5.86	8.59	1.39	9.76	-
water/n-decanol	333	4.30	10	6.85	4.61	6.18	8.86	1.39	6.96	-
water/n-decanol	373	3.8	10	6.80	4.05	6.29	9.07	1.41	4.88	-
n-dodecanol/water	298	$2.41\ 10^{6}$	14	$1.98\ 10^{5}$	$3.87\ 10^{5}$	$4.22\ 10^{5}$	$7.92\ 10^{4}$	$2.89\ 10^{5}$	$4.55\ 10^{5}$	-
n-heptadecanol/water	298	$1.78\ 10^{9}$	14	$3.62\ 10^{7}$	$8.75\ 10^{7}$	$1.23\ 10^{8}$	$1.52\ 10^{7}$	$7.29\ 10^{7}$	$1.83\ 10^{8}$	-
n-octadecanol/water	298	$1.43\ 10^{10}$	14	$1.03\ 10^{8}$	$2.59\ 10^{8}$	$3.48\ 10^{8}$	$4.43\ 10^{7}$	$2.24\ 10^{8}$	$6.14\ 10^{8}$	-

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Table S-2(Continued)

System	T(K)	γ^{∞}_{exp}	Ref.	γ^{∞} (1)	γ^{∞} (2)	γ^{∞} (3)	γ^{∞} (4)	γ^{∞} (5)	γ^{∞} (6)
acetone/water	298	7.80	10	11.50	12.96	15.48	9.10	25.20	8.04
2-butanone/water	298	26.2	10	32.00	37.65	45.74	21.74	61.77	24.10
2-pentanone/water	298	1002	9	90.70	111.40	138.10	54.62	161.30	74.11
2-heptanone/water	298	1460	8	744.60	1002	1300	380	1233	743
2-octanone/water	298	6350	8	2148	3028	4028	1036	3538	2400
2-nonanone/water	298	$2.1\ 10^4$	8	$6.2\ 10^3$	$9.2\ 10^3$	$1.25\ 10^4$	2868	$1.03\ 10^4$	7826
acetaldehyde/water	298	4.23	10	6.96	7.26	7.34	-	-	5.01
n-propanal/water	298	16.5	10	19.6	21.5	26.6	-	-	14.8
n-butanal/water	298	60.7	10	56.6	65	94.4	-	-	45.6
n-pentanal/water	298	204	8	165	199	329	-	-	144
n-hexanal/water	298	1100	10	484	609	1130	-	-	465
n-heptanal/water	298	3000	10	1420	1870	3840	-	-	1510
n-nonanal/water	298	$6.7\ 10^4$	10	$1.22\ 10^4$	$1.76\ 10^4$	$4.31\ 10^4$	-	-	$1.65\ 10^4$
acetic acid/water	298	3.35	10	3.51	3.72	2.52	2.81	-	3.30
n-propanoic acid/water	298	13.2	10	9.12	10.75	8.10	6.35	-	9.04
n-butanoic acid/water	298	38.0	10	24.73	31.57	26.7	15.34	-	26.47
n-pentanoic acid/water	298	105	10	68.58	93.54	88.6	38.63	-	80.16
n-hexanoic acid/water	298	540	10	192.6	278.7	293	100.3	-	248.4
n-heptanoic acid/water	298	2010	10	545.4	833.8	969	266.8	-	782.9
n-decanoic acid/water	298	$1.85\ 10^5$	10	$1.28\ 10^4$	$2.26\ 10^4$	$3.41\ 10^4$	$5.53\ 10^3$	-	$2.62\ 10^4$
n-dodecanoic acid/water	298	$4.65\ 10^6$	10	$1.05\ 10^5$	$2.05\ 10^5$	$3.60\ 10^5$	$4.42\ 10^4$	-	$2.82\ 10^5$
n-tetradecanoic acid/water	298	$5.29\ 10^7$	10	$8.69\ 10^5$	$1.86\ 10^6$	$3.75\ 10^6$	$3.64\ 10^5$	-	$3.10\ 10^6$
1,2,3 trichlopropane/water	293	8200	3	7131	7132	6831	6280	-	6155
1,2 dichloroethane/water	293	626	2	704	704	683	659	-	563
water/1,2 dichloroethane	293	122	2	115	115	159	165	-	32
1,2 dichloropropane/water	293	2320	3	1910	2025	2147	1329	-	1304
1,3 dichloropropane/water	293	2340	13	1919	2003	2046	1620	-	1595
1 chloropropane/water	293	1670	3	639	692	785	389	-	426
1 chlorobutane/water	293	4660	3	2131	2376	2834	1079	-	1417
water/1 chlorobutane	293	244	3	262	154	357	462	-	72
1 chloropentane/water	298	$2.96\ 10^4$	3	$6.51\ 10^3$	$7.48\ 10^3$	$9.32\ 10^3$	$3.22\ 10^3$	-	$4.6\ 10^3$
2 chloropropane/water	286	1440	3	702	774	906	321	-	379
2 chlorobutane/water	286	5120	3	2413	2761	3377	888	-	1303
water/2 chlorobutane	286	196	3	390	188	524	793	-	101

(1) Original UNIFAC (Hansen et al., 1991)
(2) Original UNIFAC (Hansen et al., 1992)
(3) Original UNIFAC (Magnussen et al., 1981)
(4) Modified UNIFAC (Larsen et al., 1987)
(5) Modified UNIFAC (Bastos et al., 1988)
(6) Modified UNIFAC (Gmehling et al., 1993)
(7) Modified UNIFAC (Hooper et al., 1993)