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Corrigendum

Corrigendum to "Prediction of phase equilibria for mixtures containing water, hydrocarbons, and alcohols at high temperatures and pressures by cubic equation of state with G^E type mixing rule based on COSMO-RS" [Fluid Phase Equilib. 243 (2006) 183–192]

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The authors regret the mistakes for the predicted results by PSRK in Tables 7–10 of the above articles. The correct version is represented below Tables 7–10 and Figs. 4 and 5 for water + ethanol and water + 2-propanol systems. Furthermore, the PSRK results for water + methane system by with the UNIFAC parameters cited from the reference [1] are added in Table 7.

From these corrections, the results for water–hydrocarbon and water–hydrocarbon–hydrocarbon systems in our work are better than those by PSRK. The results by PSRK for water–alcohol systems are better than those in our work. For hydrocarbon–alcohol systems, the results in our work are slightly better than those by PSRK.

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Table 7
Predicted results of phase equilibria for water(1) + hydrocarbon(2) systems

Hydrocarbon(2)	T (K)	N	δ^a	δ^b	Ref.
Methane	423.2	5	0.52	1.28	[35]
	523.2	5	2.98	4.31	[35]
	603.2	5	1.96	11.59	[35]
Ethane	473.2	8	2.70	10.3	[36]
	523.2	8	4.57	9.68	[36]
	573.2	15	12.9	8.30	[36]
Propane	618.0	8	0.38	1.28	[37]
Butane	443.0	20	36.5	1.40	[38]
	477.0	19	29.7	2.30	[38]
	511.0	17	21.7	4.30	[38]
Decane	573.2	22	2.12	13.4	[6,39]
	593.2	19	2.50	10.0	[6,39]
	613.2	10	0.99	3.19	[6,39]
Dodecane	603.0	18	2.51	15.5	[40]
	633.0	18	3.29	17.9	[40]
Benzene	498.2	8	4.58	17.3	[41]
	553.2	9	0.50	1.54	[41]
	573.2	9	6.24	7.12	[41]
	603.2	9	0.18	1.02	[41]
Toluene	553.2	4	2.12	13.9	[7]
	573.2	9	1.03	20.0	[7]
	583.2	9	2.17	6.06	[7]
Ethylbenzene	553.2	6	2.25	18.4	[7]
	573.2	6	2.33	15.6	[7]

[a] This work.
[b] PSRK.

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Table 8
Predicted results of phase equilibria for water(1) + alcohol(2) systems

Alcohol(2)	T (K)	N	δ^a	δ^b	Ref.
Methanol	423.2	14	2.53	1.11	[42]
	473.2	15	1.75	1.21	[42]
	523.2	6	5.89	0.91	[42]
Ethanol	423.2	17	3.91	1.58	[43]
	473.2	17	3.38	1.60	[43]
	523.2	16	5.83	5.27	[43]
	573.2	7	1.43	0.97	[43]
	598.2	7	1.33	1.09	[43]
2-Propanol	473.2	18	5.36	1.60	[43]
	523.2	12	7.68	1.91	[43]
	548.2	20	4.51	1.28	[8,43]
	573.2	11	3.10	2.40	[8,43]
2-Butanol	523	6	15.8	5.05	[8]
	548	7	7.49	6.06	[8]
	573	6	4.72	4.05	[8]
2-Pentanol	523	6	5.87	5.14	[8]

[a] This work.
[b] PSRK.

Table 9
Predicted results of phase equilibria for hydrocarbon(1) + alcohol(2) systems

Hydrocarbon(1)	Alcohol(2)	T (K)	N	δ^a	δ^b	Ref.
Pentane	Ethanol	422.6	9	3.59	1.94	[44]
		465.4	13	1.40	0.61	[44]
		500.0	5	0.30	0.39	[44]
Hexane	2-Propanol	483.15	14	2.17	4.19	[45]
		493.15	18	1.34	2.23	[45]
		503.15	9	0.48	0.57	[45]
Heptane	2-Propanol	483.15	11	3.39	4.64	[46]
		498.15	11	2.43	4.68	[46]
		508.15	7	2.40	7.30	[46]
		523.15	7	0.82	4.93	[46]

[a] This work.
[b] PSRK.

Table 10
Predicted results of phase equilibria for water(1) + hydrocarbon(2) + hydrocarbon(3) systems

Hydrocarbon(2)	Hydrocarbon(3)	T (K)	p (MPa)	N	δ^a	δ^b	Ref.
Hexane	Hexadecane	573	20.0	10	5.73	40.2	[47]
Toluene	Decane	553	20.0	5	3.19	39.2	[9]
		573	20.0	8	6.48	43.7	[9]
Toluene	Ethylbenzene	553	20.0	6	7.68	45.9	[9]
Benzene	Heptane	561.0	24.82	7	6.95	23.5	[9]
		566.5	24.82	6	6.32	26.8	[9]
		572.1	24.82	6	8.31	34.3	[9]
		583.2	24.82	7	5.99	37.8	[9]
		605.4	24.82	4	3.40	33.4	[9]

[a] This work.
[b] PSRK.

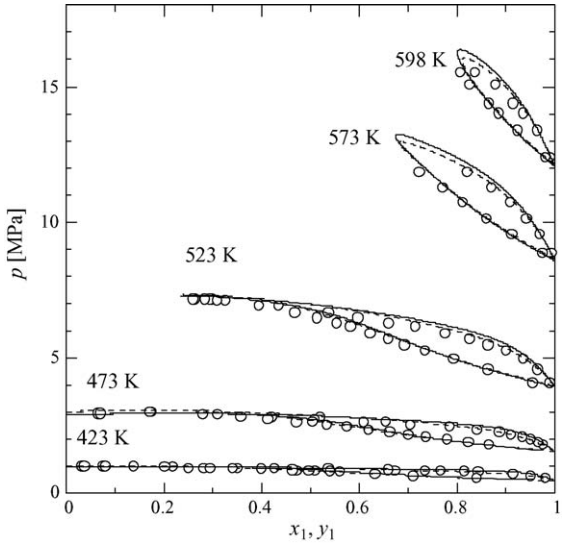

Fig. 4. Phase equilibria for water(1) + ethanol(2) system. Experimental data [43] (◯), predicted results in this work (—) and PSRK (- - -).

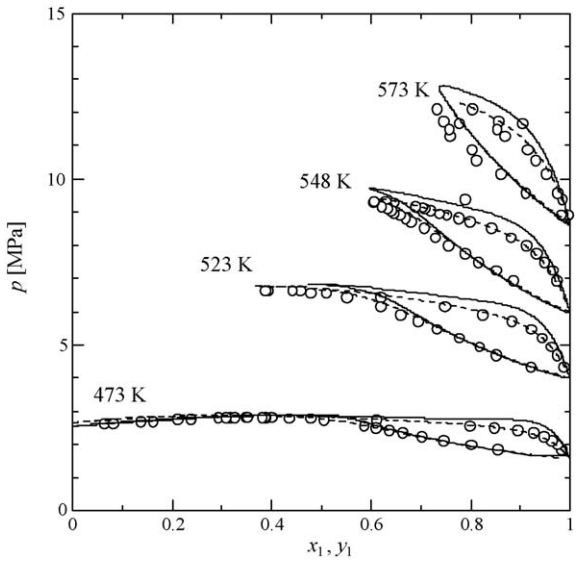

Fig. 5. Phase equilibria for water(1) + 2-propanol(2) system. Experimental data [8,43] (◯), predicted results in this work (—) and PSRK (- - -).

Reference

[1] K. Fischer, J. Gmehling, Fluid Phase Equilib. 121 (1996) 185–206.