

Reply to Comments on “Liquid–Liquid Equilibria in (2,3-Butanediol + 2-Butoxyethanol + Water + Potassium Chloride) at 70 °C” (Escudero, I.; Cabezas, J. L.; Coca, J. *J. Chem. Eng. Data* 1996, 41, 1383–1387)

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We appreciate the interest and comments from Govindarajan and Sabarathinam on our publication.

As stated in the publication, the experimental tie-line data have been correlated by the Eisen–Joffe equation (*J. Chem. Eng. Data* 1996, 11, 480–484), and the method followed to evaluate parameters A , B , C , and D is the same as that described by Saravanan and Srinivasan (*J. Chem. Eng. Data* 1985, 30, 166–171). A and C were calculated for the ternary system with no salt (i.e., using Hand's equation), and assuming A and C are constants, parameters B and D were calculated for different salt concentrations, and, as shown in Table 2 of the publication, they are not constants, and it is evident that parameters of Hand's equations are not linear functions of salt concentration. Recalculation of the data given in the original publication shows some deviations; the new values are given in the following Table 2:

Table 2: Eisen–Joffe Correlations Constants and Regression

amt of KCl mass %	A	B	C	D	r
0	0.103 05		0.858 31		0.997 93
0.43	0.103 05	0.226 85	0.858 31	0.179 05	0.994 73
3.03	0.103 05	0.035 71	0.858 31	0.043 26	0.997 80

It must be kept in mind the empirical nature of the Eisen–Joffe equation. The experimental data reported have been carefully measured, and they could be used if a more thermodynamically sound correlation is found in the future for ternary systems in the presence of salts.

Regarding the UNIQUAC and NRTL parameters and the root-mean-square deviation (rmsd) values for the system in the absence of salt and containing salt, two facts have to be considered: First, the low concentrations of solute in the system with no salt may lead to higher experimental errors because the two-phase region is very narrow (only seven tie-lines could be determined). Second, for the system containing 3.03% salt, the experimental data are more reliable and parameters in Table 3 are based on 10 tie-lines. Hence, the rmsd for the system without salt may be higher.

With respect to the Vainerman et al. correlation (*Solvent Extr. Ion Exch.* 1990, 8 (1), 35–47), one error has been found in Table 4. The parameter c of eq 5 should read $c = -0.2417$ (instead of $c = 0.2417$).

Received for review June 17, 1998. Accepted July 13, 1998.

JE9804989