Acknowledgment

This work was supported by Energy and Environmental Research Corporation and the U.S. Environmental Protection Agency under Contract No. 8562-1.

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Manuscript received Jan. 20, 1987, and revision received June 10, 1987.

Errata

In the paper entitled "The Isothermal Flash Problem: New Methods for Phase Split Calculations" (**33**(6), p. 926, June 1987), we thank Dr. A. R. D. van Bergen for pointing out the revision of the Appendix.

$$f(\xi) = \left[\prod_{i=1}^{N}\left(\frac{z_i}{x_i y_i} - \xi\right)\right] \cdot \left[1 - \left(\sum_{i=1}^{N} \frac{1}{\dfrac{z_i}{x_i y_i} - \xi}\right)\right] = 0 \quad \text{(A2)}$$

Ordering $\rho_i = (z_i/x_i y_i)$, $i = 1, \ldots, N$ such that

$$0 < \rho_1 < \rho_2 < \cdots < \rho_{N-1} < \rho_N \quad \text{(A3)}$$

one can deduce that

$$f(\rho_i) = -\prod_{\substack{j=1 \\ j \neq i}}^{N} (\rho_j - \rho_i)$$

has the sign of $(-1)^i$, $i = 1, \ldots, N$. Also,

$$f(0) = \left(\prod_{i=1}^{N} \frac{z_i}{x_i y_i}\right)\left(1 - \sum_{i=1}^{N} \frac{x_i y_i}{z_i}\right)$$

is strictly positive since Eq. A4 should be

$$0 < \xi_1 < \rho_1 < \xi_2 < \rho_2 < \cdots < \xi_{N-1} < \rho_{N-1} < \xi_N < \rho_N \quad \text{(A4)}$$

Therefore, all the eigenvalues of matrix $\underline{\underline{A}}$ are greater than 0, and $\underline{\underline{A}}$ is positively definite.

The final conclusion in the main demonstration remains valid and the only useful one.

Equation 10 should read:

$$\underline{\underline{A}}^{-1} = VL\left[\frac{x_j y_j}{z_j}\left(\delta_{ij} + \frac{\dfrac{x_i y_i}{z_i}}{S}\right)\right]_{\substack{i=1,\ldots,N \\ j=1,\ldots,N}} \quad (10)$$

We would like to correct an error made in our R&D Note entitled "General Behavior of Dilute Binary Solutions" (Cochran and Lee, 1987) which extended the work of Debenedetti and Kumar (1986). The correct expression for our Eq. 6 should be:

$$K = [(G_{11}^{\infty} - G_{12}^{\infty}) + (G_{22}^{\infty} - G_{12}^{\infty})]\rho. \quad (6)$$

Consequently, the correct expressions for our Eqs. 8, 9 and 10 should be:

$$K = \frac{n_{11}}{y_1} + \frac{n_{22}}{y_2} - \frac{2n_{12}}{y_1} - \rho(V_{11} + V_{22} - 2V_{12}) + \left(\frac{n_{11}^{LR}}{y_1} + \frac{n_{22}^{LR}}{y_2} - \frac{2n_{12}^{LR}}{y_1}\right) \quad (8)$$

$$K = \left[\frac{(\epsilon_{11}\sigma_{11}^3 + \epsilon_{22}\sigma_{22}^3 - 2\epsilon_{12}\sigma_{12}^3)}{\epsilon_{22}\sigma_{22}^3}\left(G_{22}^{\infty} + \frac{\pi}{6}\sigma_{22}^3\right) - \frac{\pi(\sigma_{11}^3 + \sigma_{22}^3 - 2\sigma_{12}^3)}{6}\right]\rho \quad (9)$$

and

$$K = \frac{4\pi L_{22}^3}{3}\left[\frac{L_{11}^3}{L_{22}^3}\exp(-\lambda_{11}/kT) + \exp(-\lambda_{22}/kT) - \frac{2L_{12}^3}{L_{22}^3}\exp(-\lambda_{12}/kT)\right] - \frac{4\pi}{3}\rho(L_{11}^3 + L_{22}^3 - 2L_{12}^3) + G_{22}^{\infty}\rho \cdot \frac{(\lambda_{11}L_{11}^3 + \lambda_{22}L_{22}^3 - 2\lambda_{12}L_{12}^3)}{\lambda_{22}L_{22}^3}. \quad (10)$$

Cochran, H. D., and L. L. Lee, "General Behavior of Dilute Binary Solutions," *AIChE J.*, **33**(8), 1391 (Aug., 1987).

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