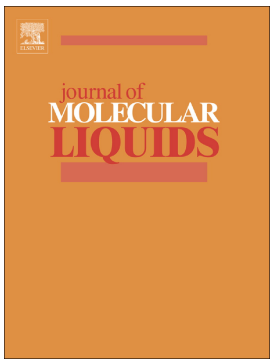

Remarks and further analysis on "Solubility and dissolution thermodynamic properties of 1,6-Bis[3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionamido]hexane in pure solvents and binary solvent mixtures"

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Remarks and further analysis on "Solubility and dissolution thermodynamic properties of 1,6-Bis[3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionamido]hexane in pure solvents and binary solvent mixtures"

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Abstract

Errors are discovered regarding the published equation coefficients of Zhang and coworkers [J. Mol. Liq. 252 (2018) 103–111] for mathematically describing the solubility behavior of 1,6-bis[3-(3,5-di-tert-butyl-4-hydroxyphenyl)propion-amido]hexane (Irganox 1098) in neat organic solvents using the NRTL model. Larger differences are found between our back-calculated data and those reported in the authors' published paper. The expression of NRTL model was corrected and the equation parameters were re-regressed. Furthermore, the preferential solvation parameters ($\delta x_{1,3}$) of Irganox 1098 in two solvent mixtures of ethyl acetate (1) + ethanol (2) and acetone (1) + ethanol (2) at 298.15 K were derived from their available solubility data using the inverse Kirkwood–Buff integrals method. In the ethyl acetate (1) + ethanol (2) mixture with the composition $0.40 < x_1 < 1$, Irganox 1098 was preferentially solvated by ethanol. However in the ethyl acetate (1) + ethanol (2)