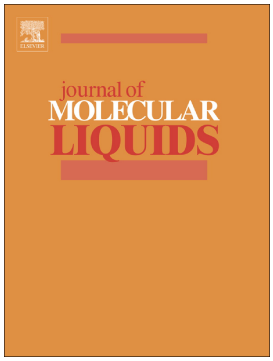

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Solubility and mixing thermodynamics properties of erythromycin ethylsuccinate in different organic solvents

Xia Zhang[†], *Qiuxiang Yin*[†, ‡, *], *Xiang Li*[†], *Meijing Zhang*[†, ‡], *Jiting Huang*[†], *Chang Wang*[†], *Zaixiang Zhang*[†], *Yaohui Huang*[†], *Mingxia Guo*[†], *Yang Li*[†]

†State Key Laboratory of Chemical Engineering, School of Chemical Engineering and Technology, Tianjin University

‡Collaborative Innovation Center of Chemical Science and Chemical Engineering (Tianjin), Tianjin 300072, People's Republic of China

*E-mail: qxyin@tju.edu.cn; Phone: 86-22-27405754; Fax: 86-22-27314971

ABSTRACT

The solid-liquid equilibrium data of erythromycin ethylsuccinate in six pure organic solvents including tetrahydrofuran, acetone, acetonitrile, hexane, ethanol and 2-propanol were determined by using the gravimetric method over the temperature range from 288.15 K to 323.15 K. The experimental solubility data was correlated by modified Apelblat equation, van't Hoff, Wilson, and NRTL model, among which the modified Apelblat model was found to have the best agreement with the experimental results. The mixing Gibbs free energy, mixing enthalpy, and mixing entropy were calculated by Non-random two liquid (NRTL) model. The solubility behavior of EES at given temperature were illustrated by Hansen SPs values.

Keywords: Erythromycin ethylsuccinate; Solubility; Hansen solubility