中国化学工程学报 2007 15 (5): 710-714 ISSN: 1004-616x CN: 44-1063/R

THERMODYNAMICS AND CHEMICAL.....

取代苯甲酸类化合物在正辛醇中的固液平衡

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收稿日期 2006-6-26 修回日期 网络版发布日期 接受日期 2007-4-2

摘要 The solid-liquid equilibrium of benzoic acid derivatives in 1-octanol was first determined in this article. Using a laser monitoring observation technique, the solubility data of o-amino-benzoic acid, p-amino-benzoic acid, o-chloro-benzoic acid, and m-nitro-benzoic acid in 1-octanol were measured by the polythermal method in the temperature range of 20—50℃. The experimental data were regressed with the Wilson equation and the λH equa-tion. The experimental results showed that the solubility of the four chemicals in 1-octanol increased significantly with temperature. The results indicate that the molecular structure and interactions affect the solubility significantly. The solubility order of the benzoic acid derivatives is as follows: m-nitro-benzoic acid＞o-chloro-benzoic acid＞o-amino-benzoic acid＞p-amino-benzoic acid. Both the Wilson equation and λH equation are in good agreement with the experimental data.

关键词 solid-liquid equilibrium polythermal method o-amino-benzoic acid p-amino-benzoic acid o-chloro-benzoic acid m-nitro-benzoic acid 1-octanol

分类号

DOI:

Solid-liquid equilibria of Benzoic acid derivatives in 1-octanol

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Received 2006-6-26 Revised Online Accepted 2007-4-2

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Key words solid-liquid equilibrium; polythermal method; o-amino-benzoic acid; p-amino-benzoic acid; o-chloro-benzoic acid; m-nitro-benzoic acid; 1-octanol

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