

عنوان مقاله:

Measurement and study on the thermodynamic properties of binary systems of propylacetate, 2-butanol and 2-pentanol at T=298.15K

محل انتشار:

ششمین کنگره بین المللی مهندسی شیمی (سال: 1388)

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خلاصه مقاله:

Density, viscosity and refractive indices (D_n) of binary and ternary mixture of propylacetate + 2-butanol + 2-pentanol and their binary systems (propylacetate + 2-butanol), (2-butanol + 2-pentanol) and (propylacetate + 2-pentanol) have been studied at 298.15 K and atmospheric pressure. From the experimental data, the excess molar volumes (V^E), viscosity deviation (D_h), and absolute synergies of refractive index deviation ($D D_n$) have been calculated. These results have been correlated with the Redlich-Kister equation for the binary mixtures and with the Cibulka equation for the ternary mixture, as a function of mole fraction. Refractive indices have been compared with those predicted by several mixing rules: Lorentz–Lorenz, Gladstone–Dale, Arago–Biot, Heller, and Laplace. Finally, a linear relation between van der Waal's parameter (b) and molar refraction (R_m) has been provided and the refractive indices have been predicted in terms of root mean square deviations

کلمات کلیدی:

thermodynamic, ternary, binary, propylacetate, 2-butanol, 2-pentanol

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