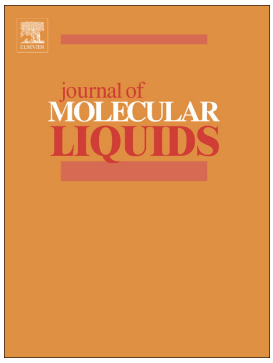

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Solubility modelling and preferential solvation for 3-nitrobenzaldehyde in *N*,*N*-dimethylformamide + (ethanol, *n*-propanol or *n*-butanol) solvent mixtures

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ABSTRACT

The solubility of 3-nitrobenzaldehyde in mixed solvents of *N*,*N*-dimethylformamide + ethanol, *N*,*N*-dimethylformamide + *n*-propanol and *N*,*N*-dimethylformamide + *n*-butanol were determined experimentally by using the isothermal dissolution equilibrium method within the temperature range from (273.15 to 298.15) K under 101.2 kPa. The mole fraction solubility of 3-nitrobenzaldehyde increased with increasing temperature and mass fraction of the *N*,*N*-dimethylformamide (DMF). At the same temperature and mass fraction of DMF, the mole fraction solubility of 3-nitrobenzaldehyde in ethanol was greater than those in the other two systems. The obtained solubilities were correlated by employing Jouyban-Acree, van't Hoff-Jouyban-Acree