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## Liquid-liquid phase transition behaviour of 2,6-dimethylpyridine-water system with alkali halides

Kamoladdin Egamberdiev Bakhodirovich Institute of Ion-Plasma and Laser Technologies - UzAS, Uzbekistan

The diffusion coefficients and shear viscosities of 2,6-dimethylpyridine-water mixtures of critical composition have been measured without and with small amounts of NaCl and NaBr added. The data have been analysed in terms of power law behaviour. Deviations from power law behaviour indicate a coupling between the critical fluctuations in the local concentrations and the formation of mesoscopic molecular aggregates. The critical exponent of the fluctuation correlation length, the shear viscosity exponent, and the critical exponent of the relaxation rate of fluctuations have been evaluated to show noticeable influences from the salts. The correlation length exponent indicates a suppression of the critical fluctuations, whereas the viscosity exponent rather points at the activation of some extra fluctuations. No clear evidence has been obtained that the added salts affect the critical behaviour, and thus cause the opposed effects in the exponents, directly by the long-range ionic fields. Alternatively, the ions may have an influence on the aggregate formation which in turn could modify the critical fluctuations either by reducing the region of true critical exponents or by affecting the critical behaviour due to the presence as well as the formation and disintegration kinetics of the multimolecular structures.

kegamberdiev@yandex.ru

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