ABNORMAL INCREASE OF THE LANDAU–PLACZEK RATIO NEAR THE PSEUDOSPINODAL IN DILUTED AQUEOUS-ALCOHOLIC SOLUTIONS

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S u m m a r y

The concentration dependences of the Landau–Placzek ratio in aqueous solutions of glycerol and γ-picoline have been studied. Cluster contributions to the central component of the polarized spectrum of molecular light scattering have been analyzed. An elementary cluster was found to be composed of two-three γ-picoline molecules and approximately six water ones. In the concentration interval $0.02 < x < 0.09$, the system was considered as a solution of elementary clusters (pseudoparticles), the state of which can be described by the van der Waals equation. The most stable clusters were found to be formed in the vicinity of either the upper (water–glycerol) or the lower (water–γ-picoline) unattainable critical point. Theoretical estimations are in satisfactory agreement with experimental data.