Surface properties of diluted aqueous solutions of 3-picoline.

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The surface tension, σ, of aqueous solutions of 3-picoline (3-methylpyridine) was measured in the temperature range between 278 and 303 K using Wilhelmy plate method. The surface entropies and enthalpies were calculated from experimental data. The results were interpreted in terms of changing structure of the interface. It was concluded that increasing concentration of 3-picoline causes rapid increase in the surface concentration of the organic solute and molecular rearrangements, similar to a phase transition. However, orientation of 3-picoline molecules adsorbed at the surface remains unknown, while the results on the area occupied by one molecule at the surface obtained from the Gibbs adsorption are in contradistinction with the results obtained from surface concentration calculations.

Słowa kluczowe

Air–liquid interface, Surface tension, Surface entropy, Surface enthalpy, Aqueous solutions, Liquid structure, 3-Picoline, 3-Methylpyridine

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