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Some common regularities of change colligative and refractometric properties of aqueous solutions low molecular weight amino acids and water-soluble vitamins

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Abstract

General patterns of change colligative properties and refractive index were obtained for aqueous solutions of substances of an acidic nature – some amino acids and vitamins – used in medicine and pharmacy as components of systems for parenteral nutrition. Linear freezing point depression for glycine, β -alanine, serine, glutamic, nicotinic and ascorbic acids is characterized slope ratio to the concentration axis, closer to -1. The angular coefficients of linear dependency of the osmotic pressure on the concentration is in the range 1500-3050 kPa·l/mol, and reflect the osmotic activity of these components. ϵ -Aminocaproic acid and valine exhibit higher osmotic activity and cause the more significant lowering of the freezing point of the solution per unit of concentration. These regularities are common to aqueous solutions of amino acids and proteins.

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