Compressibility of aqueous solutions of nonelectrolytes:an equilibrium model.

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In this paper the parabolic-shaped dependences of compressibility κS of a nonelectrolyte in water solvent on concentration are explained and described semiquantitatively in terms of hydrate formation equilibrium reaction. It was demonstrated that only two fitted parameters, the hydration number nh and the formation constant of the hydrate K, are sufficient to reproduce satisfactorily the experimental data, in particular the characteristic minimums of κS versus composition observed at low contents of solutes.

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