

Modification of the Pasynski method for determining the hydration numbers of nonelectrolytes.

Autorzy

Jacek Gliński

Andrzej Burakowski

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This paper presents a way of modifying the well known Pasynski method of calculating the solvation numbers towards more realistic assumptions concerning compressibility of the solvation shell including the non-zero value of this parameter. Assuming the compressibility of hydrates of simple non-electrolytes (methanol, tert-butanol, etc.) equal to that of solid crystalline clathrate hydrates yields hydration numbers well comparable to the stoichiometries of these hydrates deduced from the Endo theory. Applying the value of compressibility of solid hydrates close to that of ice, however, leads to hydration numbers close to those obtained from original Pasynski equation.

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