

## Selective solvation of cations and proton donors in the water-dipolar aprotic solvent mixtures

Devyatov F., Safina V., Sal'nikov Y., Nozdrina O.  
*Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia*

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### Abstract

Selective solvation of rare-earth (yttrium subgroup), cobalt(II), nickel(II), and copper(II) ions and proton donors [L-(+)-tartaric acid and its dianion; protonated, zwitterionic, and anionic forms of L- $\alpha$ -alanine and L- $\beta$ -phenyl- $\alpha$ -alanine] in binary water-dipolar aprotic solvent (acetonitrile, dimethyl sulfoxide, dimethyl-formamide, and hexamethylphosphoramide) mixtures of variable composition is examined. The relationships  $X'_2 = f(X_2^0)$ , where  $X'_2$  and  $X_2^0$  are the mole fractions of the dipolar aprotic solvent (DAS) in the nearest surroundings of the solvated species and in the bulk, respectively, show that, on the background of the preferential solvation by the DAS molecules, there are some cases of inversion of solvation selectivity. This fact is explained in terms of the steric and dipole-dipole intermolecular interactions. © 1998 MAEe cyrillic signK Hayka/Interperiodica Publishing.

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