

Simple hydrated salts in methanolic and aqueous solutions : acoustic and spectroscopic studies.

Autorzy

Andrzej Burakowski

Jacek Gliński

Joanna Wachwał

Małgorzata Guzik

Rok wydania

2015

Czasopismo

Chemical Physics

Numer woluminu

463

Strony

5-9

DOI

10.1016/j.chemphys.2015.09.015

Kolekcja

Naukowa

Język

Angielski

Typ publikacji

Artykuł

Streszczenie

Hydrated salts, $\text{MgCl}_2 \cdot 6\text{H}_2\text{O}$, $\text{CuCl}_2 \cdot 2\text{H}_2\text{O}$ and $\text{EuCl}_3 \cdot 6\text{H}_2\text{O}$ when dissolved in methanol, conserve their original coordination numbers, probably dissociating two chloride anions (magnesium chloride), stepwise in equilibrium reactions (copper chloride) or probably only one Cl^- (europium chloride). Water hydrating molecules are almost fully removed from the coordination shell only in the case of $\text{MgCl}_2 \cdot 6\text{H}_2\text{O}$. The above conclusions were drawn from analyzing the acoustic and densimetric properties of the title systems and confirmed by conductivity tests. The results are also compared to those in aqueous solutions. The emission and excitation spectra obtained for europium chloride were applied as spectroscopic probes of solution structure, as well as of the number of existing species and their symmetries.

Słowa kluczowe

Non-aqueous solutions, Methanol, Sound speed, Density, compressibility, Solvation number

Adres publiczny

<http://dx.doi.org/10.1016/j.chemphys.2015.09.015>

Strona internetowa wydawcy

<http://www.elsevier.com>