

## Volumetric properties of solutions of 1-ethyl-3-methylimidazolium chloride in butan-2-ol at different temperatures

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### Abstract

The densities of moderately dilute solutions of 1-ethyl-3-methylimidazolium chloride (EMImCl) in butan-2-ol were measured (using Anton-Paar DMA 4500M densimeter) at different temperatures,  $T = 10, 15, 20, 25, 30$  and  $35$  °C. From the obtained density data, volumetric properties (apparent molar volumes and partial molar volumes) have been evaluated. The volumetric data have been analyzed using Masson's equation. The limiting apparent molar volume or partial molar volume at infinite dilution, and the slope of Masson's equation at different temperatures for EMImCl in butan-2-ol have been interpreted in terms of ion-ion and ion-solvent interactions, respectively.

### Speaker Publications:

1. "Neutral Glycoconjugated Amide-Based Calix[4]arenes: Complexation of Alkali Metal Cations in Water"; *Organic & Biomolecular Chemistry*; vol 16, 2017.
2. "Viscosity Coefficients of KCl, NaCl, NaI, KNO<sub>3</sub>, LiNO<sub>3</sub>, NaBPh<sub>4</sub> and Bu<sub>4</sub>NI in water-dimethyl sulfoxide binary mixtures with a low organic solvent content"; *Croatica Chemica Acta*, vol 89, 2016.
3. "Viscosity B-Coefficient for Sodium Chloride in Aqueous Mixtures of 1,4-Dioxane at Different Temperatures"; *Acta Chimica Slovenica*; vol 61, 2015, 531-537.
4. "Viscosity B-Coefficient for Sodium Chloride in Aqueous Mixtures of 1,4-Dioxane at Different Temperatures"; *Acta Chimica Slovenica*; vol 62, 2015, 531-537.
5. "Fluorescent Phenanthridine-Based Calix[4]arene Derivatives: Synthesis and Thermodynamic and Computational Studies of their Complexation with Alkali-Metal Cations"; *RSC Advances*; vol 05, 2015.

[6th International Conference on Physical and Theoretical Chemistry](#); Webinar; March 18 -19, 2020.

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### Biography:

Renato Tomaš has completed his Ph.D. in the field of chemistry – specialty physical chemistry. He is currently working as a faculty at department of Chemistry and Technology (FCT), University of Split. He is working as an associate professor, Department of Physical Chemistry, FCT. His Scientific and research work refers to identifying the properties of the mixed solvents through electrokinetic and thermodynamic behavior of the melted electrolyte. The part of the research refers to a) potentiometric examination of ion complexation, reaction of chemical cell without transference, as well as setting of the transference numbers, b) conductometry examination of association reactions, c) potentiometric, conductometric and spectrophotometric examination of coordinating reactions of macrocyclic ligands, d) volumetric and viscometric examination of ion-ion and ion-solvent interaction.