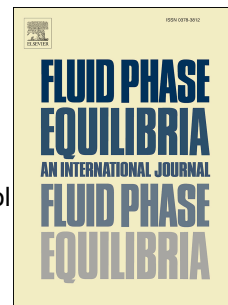


# Accepted Manuscript

Influence of 1-alkyl-3-methylimidazolium based ionic liquids on the thermodynamic and transport properties of L(+)-lactic acid in aqueous solutions of polyethylene glycol

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PII: S0378-3812(17)30084-5

DOI: [10.1016/j.fluid.2017.02.019](https://doi.org/10.1016/j.fluid.2017.02.019)

Reference: FLUID 11415

To appear in: *Fluid Phase Equilibria*

Received Date: 7 January 2017

Revised Date: 25 February 2017

Accepted Date: 26 February 2017

Please cite this article as: A. Mehrdad, H. Shekaari, N. Noorani, Influence of 1-alkyl-3-methylimidazolium based ionic liquids on the thermodynamic and transport properties of L(+)-lactic acid in aqueous solutions of polyethylene glycol, *Fluid Phase Equilibria* (2017), doi: 10.1016/j.fluid.2017.02.019.

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**Influence of 1-alkyl-3-methylimidazolium based ionic liquids on the thermodynamic and transport properties of L(+)-lactic acid in aqueous solutions of polyethylene glycol**

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**Abstract**

In this study, effect of some ionic liquids on the thermodynamic and transport properties of L(+)-lactic acid in aqueous polyethylene glycol solutions have been investigated. Density, speed of sound and viscosity of L(+)-lactic acid in the aqueous solutions of polyethylene glycol, (polyethylene glycol + 1-hexyl-3-methylimidazolium bromide) and (polyethylene glycol + 1-octyl-3-methylimidazolium bromide) were measured at temperatures 288.15–318.15 K. Apparent molar volumes, transfer apparent molar volume, apparent molar isentropic compressibility and viscosity B-coefficient of L(+)-lactic acid were calculated by using experimental data and were discussed in terms of solute-solute and solute-solvent interactions. The results reveal that solute-solvent interactions were decreased by increasing concentration of ionic liquid, length of alkyl group of ionic liquid and temperature.

**Keywords:** L(+)-lactic acid; Polyethylene glycol; Ionic liquid; Viscosity; Volumetric.

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