

***N-* to *Iso*-Alkyl Isomerization and Aromaticity Effect on the Volatility of Ionic Liquids**

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The possibility of controlling the polar/non-polar characteristics of ionic liquid as well as their ions shape allows the tuning of the ionic liquids properties and their use in special applications. Although several studies have been focused on the effect of the cation core, on the length of the alkyl side chain, and on the anion nature of the ionic liquid in the search for “tailored” fluids, their design by structural isomerism and aromaticity effect has received scarce attention. In this work, the vapour pressures of pure bistriflimide-based ionic liquids with different *n* and *iso*-butyl cations derivatives such as imidazolium, pyridinium, pyrrolidinium and piperidinium were measured at different temperatures using Knudsen effusion apparatus integrated with quartz crystal microbalance methodology. The thermodynamic properties, such as enthalpy and entropy of vaporization, at $T=298.15$, were derived. The *n* to *iso* isomerization effect and the level of aromaticity of the cation core will be used in the interpretation of the observed differentiation in their thermodynamic properties.

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