

## **Surface Tension Measurements of Imidazolium-, Pyridinium-, Pyrrolidinium- and Piperidinium-Based Ionic Liquids**

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A novel class of chemical compounds with a wide range of interesting characteristics have gained an unprecedented burst of interest, both by academia and industry, in recent years. Ionic liquids (ILs) large organic cations and asymmetrical organic or inorganic anions compel these molecules to remain liquid at or near room temperature, while presenting, among others properties, negligible vapor pressures, high thermal stability, large liquidus range, nonflammability and high solvation capacity both for polar and nonpolar compounds. The possibility of interchangeability between thousands of cations and anions and the possibility of tuning their properties for a given process place the ILs as the paradigm of "designer" solvents. Nonetheless, the design of a task specific compound postulates the knowledge of what is being designed, which parameters are fixed and which are flexible. Since many of the ILs applications involve interfacial phenomena, obtaining information on their interfacial properties is extremely important to improve their selection, tuning and performance. The present work focuses on the surface tensions of pure imidazolium-, Pyridinium-, Pyrrolidinium- and Piperidinium- based ionic liquids in the temperature range between (288 and 343) K using the Du Noüy ring method with a NIMA DST 9005 tensiometer and some derived thermodynamic functions.