

## Accepted Manuscript

Synthesis and thermophysical properties of imidazolate-based ionic liquids: Influences of different cations and anions

Yi Zhang, Ting Li, Zaikun Wu, Ping Yu, Yunbai Luo

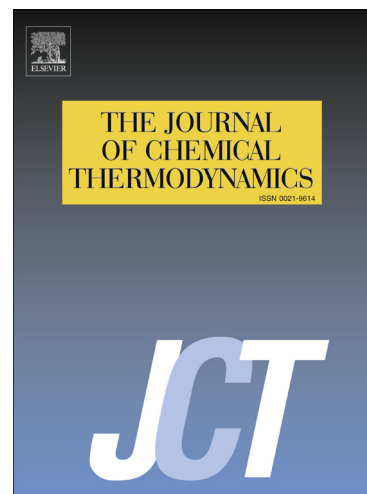
PII: S0021-9614(14)00038-X  
DOI: <http://dx.doi.org/10.1016/j.jct.2014.01.028>  
Reference: YJCHT 3840

To appear in: *J. Chem. Thermodynamics*

Received Date: 22 April 2013  
Revised Date: 26 January 2014  
Accepted Date: 31 January 2014

Please cite this article as: Y. Zhang, T. Li, Z. Wu, P. Yu, Y. Luo, Synthesis and thermophysical properties of imidazolate-based ionic liquids: Influences of different cations and anions, *J. Chem. Thermodynamics* (2014), doi: <http://dx.doi.org/10.1016/j.jct.2014.01.028>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.



# Synthesis and thermophysical properties of imidazolate-based ionic liquids: Influences of different cations and anions

Yi Zhang, Ting Li, Zaikun Wu, Ping Yu and Yunbai Luo\*

College of Chemistry and Molecular Sciences, Wuhan University, Wuhan, 430072, China

## Abstract

Six novel imidazolate-based room-temperature ionic liquids (ILs), 1-butyl-3-methylimidazolium imidazolate ([Bmim][Im]), 1-ethyl-3-methylimidazolium imidazolate ([Emim][Im]), 1-hydroxyethyl-3-methylimidazolium imidazolate ([HO-emim][Im]), 1-aminopropyl-3-methylimidazolium imidazolate ([NH<sub>2</sub>-pmim][Im]), 1,4-Bis(3-methylimidazolium-1-yl)butane imidazolate ([Bis(mim)C<sub>4</sub>][Im]<sub>2</sub>) and 1,2-Bis(3-methylimidazolium-1-yl)ethane imidazolate ([Bis(mim)C<sub>2</sub>][Im]<sub>2</sub>), were prepared with different kinds of cations, including conventional monocation, functionalized cation and dication. Their main physicochemical properties were measured, consisting of glass transition temperature, density, conductivity and viscosity. The influences of the cationic structure on each property were highly discussed. The results showed that the glass transition temperature increased with the decreasing alkyl chains length of cation and dication, whereas the density

---

\* Corresponding author. Tel: +86-27-68752511.

*E-mail address:* ybai@whu.edu.cn (Y.B. Luo).

Download English Version:

<https://daneshyari.com/en/article/6660728>

Download Persian Version:

<https://daneshyari.com/article/6660728>

[Daneshyari.com](https://daneshyari.com)