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室温离子液体在不同溶剂中的电导率研究

(烟台师范学院化学与材料科学学院, 山东 烟台 264025)

Electric Conductivity of Room Temperature Ionic Liquids in Different Solvents

(School of Chemistry and Material Sciences, Yantai Normal University, Yantai 264025, Shandong China)

- 摘要
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全文: PDF (827 KB) HTML (1 KB) 输出: BibTeX | EndNote (RIS) [背景资料](#)

摘要 制备并研究了溴代1-丁基-3-甲基咪唑 ([bminm]Br)、[bmim]Br-AlCl₃、[bmim]Br-FeCl₃离子液体 [bmim]Br-AlCl₃、[bmim]Br-FeCl₃ 在不同的溶剂水、乙醇、乙酸中的电导率,发现离子液体在不同的溶剂中的电导率相差很大,其顺序为κ_a(水作溶剂) > κ_b(乙醇作溶剂) > κ_c(乙酸作溶剂)。相同温度下离子液体的电导率随浓度的增大而增大,相同浓度下电导率随温度的升高而增大,且在同温同浓度下水为溶剂时κ[bmim]Br-FeCl₃ < κ[bmim]Br-AlCl₃,乙醇、乙酸为溶剂时结果为κ[bmim]Br-FeCl₃ > κ[bmim]Br-AlCl₃。

关键词: 室温离子液体 电导率 [bmim]Br-AlCl₃ [bimn]Br-FeCl₃

Abstract: This paper focuses on the preparation of several RTLs including 1-ethyl-3-butyl-imidazolium bromine ([bmim]Br), [bmim]Br-AlCl₃, [bmim]Br-FeCl₃, and the electric conductivity of [bmim]Br-AlCl₃ and [bmim]Br-FeCl₃ in different solvents of water, ethanol, acetic acid. RTLs have different electric conductivity in different solvents: the largest is in water, next in ethanol, and the last in acetic acid. Under the condition of the same temperature, the higher concentration, the larger electric conductivity is. Under the condition of the same concentration, the higher temperature is, the larger electric conductivity is. What is interesting is that, under the condition of the same concentration and temperature, when water as the solvent, the electric conductivities of [bmim]Br-FeCl₃ is larger than that of [bmim]Br-AlCl₃. But when ethanol or acetic acid as the solvent, it has contrary result.

Key words: room temperature ionic liquids electric conductivity [bmim]Br-AlCl₃ [bmim]Br-FeCl₃

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作者简介: 胡玉才(1970-), 男, 山东省枣庄市人, 博士, 烟台师范学院化学与材料科学学院副教授, 主要从事绿色化学及工业催化方面的研究。

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通讯地址: 湖南省吉首市人民南路120号《吉首大学学报》编辑部 邮编: 416000

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