

催化、动力学与反应器

配位离子液体 [3 (CH₃CH₂)₄N⁺Cl⁻·(NH₂)₂CO] 的合成及表征

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收稿日期 2006-6-7 修回日期 2007-3-12 网络版发布日期 2007-6-20 接受日期

摘要 采用尿素和氯化四乙基铵为原料, 合成了一种新型的配位离子液体, 并通过红外和X-射线粉末衍射对其结构进行了表征。结果表明, 尿素和氯化四乙基铵发生反应, 使得原来尿素羰基峰由1690.72cm⁻¹转移到了1619.10cm⁻¹。由X-射线粉末衍射图可以看出, 在2θ = 30.37° 处有新的衍射峰。通过差热-热重分析, 配位离子液体在室温到250℃可以稳定存在, 与其他有机溶剂相比具有良好的稳定性。

关键词

[配位离子液体](#) [尿素](#) [氯化四乙基铵](#) [合成](#)

分类号

Synthesis and characteristics of coordinated ionic liquid [3 (CH₃CH₂)₄N⁺Cl⁻·(NH₂)₂CO]

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Abstract

A coordinated ionic liquid [3 (CH₃CH₂)₄N⁺Cl⁻·(NH₂)₂CO] was synthesized from urea and tetraethyl ammonium chloride, and its structure was characterized by IR and XRD. The results showed that the IR absorption peak of carbonyl was at 1619.10 cm⁻¹ compared with that of urea at 1690.72cm⁻¹, which was due to reaction of urea and tetraethyl ammonium chloride. There was a new peak at 2θ=30.37° in the XRD pattern. The range of thermal stability is from room temperature to about 250℃, and is higher than other common organic solvents.

Key words

[coordinated ionic liquid](#) [urea](#) [tetraethyl ammonium chloride](#) [synthesis](#)

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