过程工程 2007 7 (6): 1094-1098 ISSN: 1476-8186 CN: 11-5350/TP

反应与分离

Quality Control of 1-Alkyl-3-methylimidazolium Ionic Liquid Precursors with HPLC

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收稿日期 修回日期 网络版发布日期 接受日期

摘要 A high performance liquid chromatography (HPLC) method was proposed to monitor the synthesis and purification of the 1-alkyl-3-methylimidazolium ionic liquid precursors from alkylation of 1-methylimidazole with alkyl halides and determine the purity of final products. The results showed that separation of 1-methylimidazole from the precursors could be obtained under the HPLC performance conditions such as cation exchange column, acetonitrile/KH2PO4 aqueous solution and 209 nm wavelength. The content of unreacted 1-methylimidazole in the precursors could be easily calculated from their corresponding HPLC peak areas with the calibration curve of 1-methylimidazole. The retention times of the 1-alkyl-3-methylimidazolium ionic liquid precursors decreased with their increasing alkyls, and the ionic liquids with the same cation and different anions had almost the same retention times.

关键词 1-methylimidazole,purity,ionic liquid,precursor,HPLC

分类号

DOI:

对应的英文版文章:207115

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