

研究论文

离子液体改性的气相色谱固定相研究

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摘要 合成了哑铃型离子液体, 并将FFAP与其按2:1的质量比混合涂渍交联在石英管内壁, 柱效为3500 p/m, 极性为435.2, 比FFAP柱的极性明显降低. 但由混配的固定相制成的色谱柱对极性和弱极性物质的选择性都优于FFAP柱. 此外, 该固定相对芳香位置异构体、羧酸、烷烃、醇类、酯类及多环芳烃混合物等均具有较好的分离选择性.

关键词 [离子液体](#) [气相色谱](#) [固定相](#)

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Stationary Phase Containing Ionic Liquid in Gas Chromatography

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Abstract Room-temperature ionic liquids were used as the stationary phases in gas chromatography, but many of them suffered from low thermal stability and possessed an unfavorable retention behavior for some classes of molecules. The Geminal dicationic ionic liquid(GDIL)was synthesized and it was mixed with FFAP in the mass ratio of 1:2 to produce the stationary phase. The column efficiency was 3500 p/m after being conditioned at 220 °C and the average polarity was 435.2, significantly decreased compared to the FFAP column. Despite of this, the selectivity of the novel column for both polar aromatic positional isomers and weak polar ones was improved. In addition, it was found that this novel kind of stationary phase had unique selectivity for the mixtures of polycyclic aromatic hydrocarbons, the homologous series of alcohols, esters, carboxylic acids and alkanes.

Key words [Ionic liquid](#) [Gas chromatography](#) [Stationary phase](#)

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