

Synthesis of an ionic liquid-modified polymer for HPLC column

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A new ionic liquid-modified polymer was synthesized by using the poly(glycidyl methacrylate-co-ethylene glycol dimethacrylate) polymer and 1-methylimidazole, the cation group of some ionic liquid, as the surface chemical modification. The characteristics of the ionic liquid-modified polymer used as stationary phase for HPLC column were validated by using caffeine and theophylline. The effects of the mobile phase components, concentrations of mobile phase additives and temperature, were investigated on ionic liquid-modified polymer and blank polymer columns. Compared with the retention times, retention factors and resolutions of caffeine and theophylline, the ionic liquid-modified polymer stationary phase exhibited higher separation efficiency.