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Chemical modification of poly(vinyl chloride) with ethylene glycol and its application in ion-chromatography
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Abstract

Poly(vinyl chloride) (PVC) has been chemically modified through crosslinking with different molar ratios of sodium ethylene glycoxide in ethylene glycol. The crosslinked PVC was used for coating of silica gel 60 particles and the obtained products were impregnated with tetramethylammonium hydroxide (TMAH). The crosslinking reaction as well as the insertion of TMAH were followed up and quantitatively determined with the aid of FT-IR spectroscopic and elemental analyses. The obtained materials were roughly tested for ion chromatographic separation of different ions. Retention time (t_R) was determined for lithium, magnesium, strontium, and calcium cations whereas chloride, nitrate, and sulfate were selected as representatives for anions.

Author Keywords

Crosslinking; Functionalization of polymers; Ion chromatography; Modification; Poly(vinyl chloride) (PVC)

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