

Preparation of Poly (Methacrylic Acid-Ethylene Glycol Dimethacrylate) Monolithic Column for High Performance Liquid Chromatography

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Porous organic monolithic column were prepared using methacrylic acid as the acidic monomer and Ethylene glycol dimethacrylate as the crosslinker by a simple, one-step, in-situ free-radical polymerization 'molding' process directly within the confines of a 150mm×3.9 mm I.D chromatographic column. Toluene-dodecanol was used as a porogenic solvent in the chromatographic column tube. The characterizations of the monolithic columns were tested in the chromatographic separation of a homologous series of xanthine derivatives, theophylline and caffeine. The results showed that the monolithic column has attracted significant interest because of their ease of preparation, high-speed separation ability, large binding capacity, and low backpressure. Moreover, this kind of column could be used within the entire range of pH and could be used readily after in-situ polymerization.