Synthesis of macroporous poly (2-hydroxyethyl methacrylate -ethylene glycol dimethacrylate) monolithic column

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Porous organic monolithic column were prepared by in-situ therm-initiated polymerization of 2-hydroxyethyl methacrylate / glycidyl methacrylate and ethylene glycol dimethacrylate within the confines of chromatographic column in the presence of toluene-dodecanol and methanol-water as porogenic solvents. These kinds of monolithic columns can be further modified with ethylenediamine, chloroacetic acid and ionic liquids to obtain porous ionic exchange monolithic column. 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, these kinds of monolithic columns could be used within the entire range of pH and could be used readily after in-situ polymerization.