

Abstract

In frame work of this diploma thesis, monolithic stationary phases based on hydroxymethylmethacrylate were prepared in fused silica capillaries of 320 μm innerdiameter. Monolithic columns were synthesized by a simple procedure using a polymerization mixture, consisting of a monomer N-(hydroxymethyl) methacrylamide (HMMAA), a crosslinking agent ethylene dimethacrylate (EDMA), porogenic solvents butane-1,4-diol, propane-1-ol and an initiator α,α' -azobisisobutyronitrile (AIBN). Prepared HMMA monolithic columns were utilized for separation of mixtures of biologically active compounds, namely peptides with small number of amino acids. Mechanical strength and specific permeability were determined for selected monolithic columns.

Keywords:

HPLC, HILIC mechanism, hydroxymethyl methacrylate (HMMA) monolithic columns, amino acid, enkephalins.