Separation of Tryptophan and N-CBZ-Phenylalanine by Monolithic Molecularly Imprinted Column

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Monolithic molecularly imprinted column was prepared by an in situ therm-initiated copolymerization process using N-CBZ-Phenylalanine as template, acrylamide as a functional monomer, ethylene glycol dimethacrylate as a cross-linking agent, toluene and dodecanol as porogenic solvents and 2, 2'-azobisisobutyronitrile as initiator. Effects of chromatographic condition on retention and separation factor were discussed and illustrated with N-CBZ-Phenylalanine and tryptophan as examples. The results showed that the hydrogen-bonding interaction played an important role in the retention and separation. Compared with conventional particle columns, the monolithic molecularly imprinted column exhibited good stability, ease of regeneration, high separation efficiency and fast analysis.