

DEMONSTRATION OF IMPROVED PEAK CAPACITY IN OPEN TUBULAR CAPILLARY COLUMN FOR THE SEPARATION OF PEPTIDES AND PROTEINS

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A copolymer layer was attached inside a preconditioned 64 cm long silica capillary column with effective length of 56 cm where internal diameter was 10 μm , after the attachment of 4-chloromethylphenyl isocyanate and dithiocarbamate initiator system. Dibutyl tin dichloride catalyst was used for the effective attachment of ligand to silanol group present on inner capillary. The copolymer immobilized open tubular capillary column resulted in the separation of about 22 peaks (peptides) out of tryptic digest of cytochrome C sample in capillary electrochromatography with high separation efficiency close to 600,000 plates/column (990,000 plates/meter) with peak capacity of 220. The use of a mobile phase of high water content was facilitated by the open tubular nature of the capillary column which make sure the elution of all peptide peaks resulting in relatively short analysis time.

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