Carbon Nanotube-Based Separation Columns for Microchip Electrochromatography

Fabrication of the stationary phase for microchip chromatography is most often done by packing of the individual separation channel after fabrication of the microfluidic chip, which is a very time-consuming and costly process (Kutter. J Chromatogr A 1221:72–82, 2012). Here, we describe in detail the fabrication and operation protocols for devices with microfabricated carbon nanotube stationary phases for reverse-phase chromatography. In this protocol, the lithographically defined stationary phase is fabricated in the channel before bonding of a lid, thereby circumventing the difficult packaging procedures used in more conventional protocols.

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Contributors: Mogensen, K. B., Delacourt, B., Kutter, J. P.
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