Petr Solich, J Chromatogr Sep Tech 2015, 6:4
http://dx.doi.org/10.4172/2157-7064.S1.010

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Separation Techniques

August 10-12, 2015 San Francisco, USA

Trends in development of stationary phases in chromatography

Petr Solich
Charles University, Czech Republic

High performance liquid chromatography is one of the most progressive separation techniques which allows identification and quantification in one step and is frequently used in clinical research for analysis of biological samples in connection with modern sample preparation. Choice of the sample preparation technique is key step which influence sensitivity, robustness, solvents and sample consumptions etc. Connection of modern, fast and robust sample preparation procedures and modern trends in liquid chromatography are useful base for clinical research. A huge expansion of new stationary phases was registered during last couple of years. Several different technologies with different characteristics were introduced into the market, among them Core shell technology using porous shell and solid core particles. These columns can be used in common HPLC instruments as well as in UHPLC systems. This technology promises to increase of resolution and maximizes throughput, and result in solvent saving and easier method transfer. The recently introduced HR monolithic technology is based on a unique sorbent material allowing good quality of separations in a minimal time. The main advantages of monoliths, apart from short analysis time, are long lifetime and immense robustness, in most cases far exceeding those of particulate columns. This new type of monoliths have at higher efficiency, better peak symmetry and longer lifetime compared with particulate columns.

Biography

Petr Solich has completed his PhD from Charles University, Faculty of Pharmacy, Hradec Kralove, Czech Republic. He is the Head of Department of Analytical Chemistry as well as Head of University Research Centre UNCE at Faculty of Pharmacy, Charles University. He has published more than 180 papers in impacted analytically oriented journals, with h-index 28 and has been also serving as an Editorial Board Member of journal *Talanta*.

solich@faf.cuni.cz

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