

Recent developments in microcolumn liquid chromatography

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An overview of the most recent developments in microcolumn liquid chromatography (LC) is presented. A short theoretical discussion on chromatographic dilution and extracolumn bandbroadening is given and also the recent progress and advances in column technology and instrumentation are reviewed. However, the emphasis of this review is on miniaturized sample clean-up, sample introduction techniques and on both established and more recent detection techniques for microcolumn LC. The hyphenation of miniaturized LC columns with other techniques, specifically on multidimensional chromatography and the coupling of microcolumn LC to mass spectrometry is discussed in detail. Both the on-line and automated off-line interfacing to other separation and detection techniques will also be addressed. Finally, a number of typical microcolumn LC applications are presented in order to demonstrate the potential of microcolumn LC methods in a variety of scientific areas.