

Ultra High Pressure Liquid Chromatography for Crude Plant Extract Profiling

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Abstract:

Ultra high pressure liquid chromatography (UHPLC) systems operating at very high pressures and using sub-2 μ m packing columns have allowed a remarkable decrease in analysis time and increase in peak capacity, sensitivity, and reproducibility compared to conventional HPLC. This technology has rapidly been widely accepted by the analytical community and is being gradually applied to various fields of plant analysis such as QC, profiling and fingerprinting, dereplication, and metabolomics. For many applications, an important improvement of the overall performances has been reported. In this review, the basic principles of UHPLC are summarized, and practical information on the type of columns used and phase chemistry available is provided. An overview of the latest applications to natural product analysis in complex mixtures is given, and the potential and limitations as well as some new trends in the development of UHPLC are discussed.

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