



# Fast Liquid Chromatography-Mass Spectrometry Methods in Food and Environmental Analysis

*Oscar Nunez, Hector Gallart-Ayala, Claudia P B Martins, Paolo Lucci*

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There is a growing need for high-throughput separations in food and environmental research that are able to cope with the analysis of a large number of compounds in very complex matrices. Whereas the most common approach for solving many analytical problems has often been high-performance liquid chromatography (HPLC), the recent use of fast or ultra-fast chromatographic methods for environmental and food analysis has increased the overall sample throughput and laboratory efficiency without loss (and even with an improvement) in the resolution obtained by conventional HPLC systems.

This book brings together researchers at the top of their field from across the world to discuss and analyze recent advances in fast liquid chromatography–mass spectrometry (LC–MS) methods in food and environmental analysis. First, the most novel approaches to achieve fast and ultra-fast methods as well as the use of alternative and complementary stationary phases are described. Then, recent advances in fast LC–MS methods are addressed, focusing on novel treatment procedures coupled with LC–MS, new ionization sources, high-resolution mass spectrometry, and the problematic confirmation and quantification aspects in mass spectrometry. Finally, relevant LC–MS applications in food and environmental analysis such as the analysis of pesticides, mycotoxins, food packaging contaminants, perfluorinated compounds and polyphenolic compounds are described.

The scope of the book is intentionally broad and is aimed at worldwide analytical laboratories working in food and environmental applications as well as researchers in universities worldwide.

Readership: Scientists or students in mass spectrometry, chemists, biologists, and analysts.

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