

Contents

An Overview of the State-of-the-Art: Mass Spectrometry in Food and Environment	1
Yolanda Picó and Julian Campo	
Food and Environmental Samples Handling and Preparation for Mass Spectrometry	25
Philiswa Nosizo Nomngongo, Azile Nqombolo, and Anele Mpupa	
Elemental Mass Spectrometry in Food and Environmental Chemistry	53
Bin Hu, Man He, Beibei Chen, Chi Xu, Qiulin Zhang, Junrong Ma, Yiling Feng, and Zewei Cui	
Isotopic Mass Spectrometry in Food and Environmental Chemistry . . .	99
Yolanda Picó and Damià Barceló	
Liquid and Gas Chromatography–Mass Spectrometry Methods in Food and Environmental Safety	127
Yelena Sapozhnikova	
Chromatography High-Resolution Mass Spectrometry in Food and Environmental Chemistry	149
Yong-Lai Feng	
Omics Approaches in Food and Environmental Analysis	187
Marinella Farré	
Thermal Desorption and Pyrolysis Combined with Gas Chromatography–Mass Spectrometry in Food and Environmental Chemistry	225
Julian Campo and Yolanda Picó	

- Chiral Analysis with Mass Spectrometry Detection in Food and Environmental Chemistry** 249
 Ana Rita L. Ribeiro, Alexandra S. Maia, Cláudia Ribeiro, and Maria Elizabeth Tiritan
- Ambient Ionization Techniques in Food and Environmental Analysis** 275
 Markus Himmelsbach, Wolfgang Buchberger, and Christian W. Klampff
- Ion Mobility-Mass Spectrometry in Food and Environmental Chemistry** 311
 Shon P. Neal and Christopher D. Chouinard
- Mass Spectrometry Imaging in Food and Environmental Chemistry** . . . 333
 Katherine A. Maloof and Kevin R. Tucker
- Chip-Based Separation Devices Coupled to Mass Spectrometry in Food and Environmental Chemistry** 359
 Ángel Ríos and Mohammed Zougagh