

1. Record Nr.	UNINA9910139000003321
Titolo	MALDI MS : a practical guide to instrumentation, methods and applications // edited by Franz Hillenkamp and Jasna Peter-Katalinic
Pubbl/distr/stampa	Weinheim : , : Wiley Blackwell, , [2014] ©2014
ISBN	3-527-67374-1 3-527-33596-X 3-527-67373-3
Edizione	[2nd ed.]
Descrizione fisica	1 online resource (477 p.)
Altri autori (Persone)	HillenkampF Peter-KatalinicJasna
Disciplina	547.70154365
Soggetti	Matrix-assisted laser desorption-ionization Electronic books.
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Cover; Related Titles; Title page; Copyright page; Contents; Preface to the Second Edition; List of Contributors; 1: The MALDI Process and Method; 1.1 Introduction; 1.2 Analyte Incorporation; 1.3 Absorption of the Laser Radiation; 1.4 The Ablation/Desorption Process; 1.5 Ionization; 1.6 Fragmentation of MALDI Ions; 1.7 MALDI of Noncovalent Complexes; 1.8 The Optimal Choice of Matrix: Sample Preparation; 1.8.1 Surface Preparation; 1.8.2 Anchor Sample Plates; 1.8.3 Matrix Additives and Influence of the Sample Plate Surface; Abbreviations; References; 2: MALDI Mass Spectrometry Instrumentation 2.1 Introduction2.2 Lasers for MALDI-MS; 2.3 Fragmentation of MALDI Ions; 2.3.1 MALDI at Elevated Pressure; 2.3.2 Tandem Mass Spectrometry of MALDI Ions; 2.4 Mass Analyzers; 2.4.1 Axial TOF Mass Spectrometers; 2.4.2 Reflectron TOF Mass Spectrometers; 2.4.3 Tandem TOF Mass Spectrometers; 2.4.4 Orthogonal TOF Mass Analyzers; 2.4.5 Tandem Mass Spectrometry in oTOF Mass Analyzers; 2.4.6 Ion Detectors and Data Processing in MALDI-TOF Analyzers; 2.5 Fourier Transform Ion Cyclotron Resonance Mass Spectrometers; 2.5.1 Tandem Mass Spectrometry on FTICR Mass Spectrometers

2.6 Quadrupole Ion Trap Mass Spectrometers 2.6.1 RF-Only Ion Guides and LIT Mass Spectrometers; 2.6.2 Tandem Mass Spectrometry on QIT Mass Spectrometers; 2.7 Hybrid Mass Spectrometers; 2.7.1 Quadrupole TOF Mass Spectrometers; 2.7.2 Quadrupole FT Mass Spectrometers; 2.7.3 QIT-TOF Mass Spectrometers; 2.7.4 Ion Mobility oTOF Mass Spectrometers; 2.7.5 Orbitrap; 2.8 Future Directions; Definitions and Acronyms; References; 3: MALDI-MS in Protein Chemistry and Proteomics; 3.1 Introduction; 3.2 Sample Preparation for Protein and Peptide Analysis by MALDI-MS 3.3 Strategies for Using MALDI-MS in Protein Biochemistry 3.3.1 Peptide Mass Mapping of Purified Proteins; 3.3.2 Peptide Sequencing by MALDI-MS/MS; 3.3.3 Analysis of Post-Translational Modifications; 3.4 Applications of MALDI-MS in Proteomics; 3.4.1 Protein Identification by MALDI-MS Peptide Mass Mapping; 3.4.2 Quantitation of Proteins by MALDI-MS; 3.5 Computational Tools for Protein Analysis by MALDI-MS; 3.6 Clinical Applications of MALDI-MS; 3.7 Conclusions; Acknowledgments; References; 4: MALDI-Mass Spectrometry Imaging; 4.1 Introduction 4.2 History of Mass Spectrometry Imaging (MSI) and Microprobing Techniques 4.3 MALDI in Micro Dimensions: Instruments and Mechanistic Differences; 4.4 Visualization of Mass Spectrometric Information; 4.5 Data Processing and Data Exchange; 4.6 Matrix Deposition for High-Resolution Imaging; 4.7 Organisms, Organs, and Tissues: MALDI Imaging at Various Lateral Resolutions; 4.7.1 Phospholipid Analysis; 4.7.2 Peptide Analysis; 4.7.3 Drug Monitoring; 4.8 Whole-Cell and Single-Cell Analysis; 4.8.1 Cellular Analysis; 4.8.2 Individually Isolated Cells; 4.8.3 Direct Cellular and Subcellular Imaging 4.9 Cell Sorting and Capturing

Sommario/riassunto

This authoritative book on MALDI MS, now finally available in its second edition and edited by one of its inventors, gives an in-depth description of the many different applications, along with a detailed discussion of the technology itself. Thoroughly updated and expanded, with contributions from key players in the field, this unique book provides a comprehensive overview of MALDI MS along with its possibilities and limitations. The initial chapters deal with the technology and the instrumental setup, followed by chapters on the use of MALDI MS in protein research (including proteomi