

MASS SPECTROMETRY of NUCLEOSIDES and NUCLEIC ACIDS

Edited by

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Assembling the work of an international panel of researchers, **Mass Spectrometry of Nucleosides and Nucleic Acids** summarizes and reviews the latest developments in the field and provides a window on the next generation of analysis. In the 1990s, the major focus of mass spectrometry investigators involved in nucleic acids analysis was DNA sequencing, spurred by the development of ESI and MALDI for biomolecule analysis and by the interest of the broader scientific community in obtaining the sequence of the human and other genomes. Now, nearly 20 years later, the field has matured and expanded to include a wide variety of analytical and biological investigations into nucleosides, nucleotides and nucleic acids.

Beginning with an overview of recent developments, the book highlights the most popular ionization methods and illustrates the diversity of strategies employed in the characterization and sequencing of DNA and RNA oligomers, nucleosides, nucleotides, and adducts. Included are developments in nucleic acid structural analysis, quantitative determination of DNA and RNA adducts and modifications, mass spectrometry-based sequencing and nucleic acid identification, and recent findings related to the gas-phase reactivity and properties of nucleic acids.

Providing a discussion of both the fundamental aspects of nucleic acid analysis and their application in fields of structural biology, pharmacology, and clinical research, this text serves to inform researchers in the life sciences who are interested in these applications yet lacking in mass spectrometry experience, as well as mass spectrometry investigators who are already familiar with the fundamentals but interested in learning about emerging research areas and applications involving nucleic acids.

The exciting developments in mass spectrometry technology have fueled incredible advances in our understanding of nucleic acids and their complexes. The contributions presented in this volume capture the range of these advances, helping to inspire new findings and avenues of research.



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