

The analysis of even electron mass spectra for unknown biomolecule structure identification and elucidation

In addition to providing a practical introduction to mass spectrometry, this book addresses the spectral interpretation of even electron mass spectra generated from soft ionization techniques—a fast-growing area with tremendous potential in biomolecule analysis. From the basics and principles of mass spectrometry to specific applications with examples, *Even Electron Mass Spectrometry with Biomolecule Applications* covers:

- The fundamentals of mass spectrometry, including the approved mass analyzers, reaction rate, and collision theory
- Diverse ionization techniques and sources, including electron ionization and the more current soft ionization techniques of electrospray ionization and matrix assisted laser desorption ionization
- The basic skills and techniques needed for mass spectral interpretation of even electron ions
- Both precursor and product ion mass spectra
- Applications to biomolecule analyses, including the analysis of proteins, peptides, DNA/RNA, metabolites, lipids, and carbohydrates

In addition to the essential theoretical background and fundamental principles, this unique reference presents a detailed, step-by-step methodology for interpreting even electron mass spectrometry results. Specific chapters are devoted to: proteomics; biomolecule spectral interpretation of small molecules; biomolecule spectral interpretation of biological macromolecules; and MALDI-TOF-Postsource Decay (PSD). Chapters feature detailed examples, questions, and problems to help readers solidify their understanding of the concepts and techniques.

This is a core reference for scientists and researchers in academic laboratories and pharmaceutical, chemical, and biotech companies. It is also an excellent text for undergraduate or graduate level courses in analytical chemistry, instrumental analysis, biomolecule analysis, and mass spectrometry.

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