

THE PRINCIPLES OF MASS SPECTROMETRY AS APPLIED TO THE LIFE SCIENCES

An extensive compilation of reviews, opinions, and applications by today's top researchers and professionals in the field, *Principles of Mass Spectrometry Applied to Biomolecules* presents the latest information on the basic principles of mass spectrometry as they relate to the life sciences, with special focus on the inherent challenges posed by varying degrees of biomolecular size and flexibility.

Featuring the professional contributions of more than twenty-five experts from academia and industry, the text helps readers to understand how to use recent advances while recognizing and discussing challenges associated with analysis of biomolecules using mass spectrometry.

Topics have been arranged into three distinct sections—Structures and Dynamics of Gas-Phase Biomolecules; Activation, Dissociation, and Reactivity; and Thermochemistry and Energetics—and include:

- Spectroscopy
- Energetics and mechanisms of peptide fragmentation
- Electron capture dissociation
- Ion-ion and ion-molecule reactions
- Reaction dynamics
- Collisional activation
- Soft-landing
- Protein structure and interactions
- Thermochemistry

This important work provides today's scientists and researchers with an in-depth understanding of the fundamental principles underlying the existing analytical approaches in this exciting and growing field, complete with its successes and limitations, so that they can develop new and innovative ways of using these techniques in their own work.

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The late **CHAVA LIFSHITZ, PhD**, was an Archie and Marjorie Sherman Professor of Chemistry in the Department of Physical Chemistry at The Hebrew University in Jerusalem, Israel. She was also on the editorial boards of *Mass Spectrometry Reviews* and the *International Journal of Mass Spectrometry*.

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