

A timely, accessible survey of the multidisciplinary field of bioanalytical chemistry

The field of bioanalytical chemistry overlaps a diverse range of disciplines, including biotechnology, biopharmaceuticals, and diagnostics—all of which make a comprehensive introduction to the subject even more essential for students and researchers. The Second Edition of *Bioanalytical Chemistry* follows the same path of the First Edition by providing a thorough introduction to bioanalytical chemistry for students and practitioners. In so doing, it brings together many of the techniques commonly used by biochemists and molecular biologists.

Along with many other topics, the text includes entire chapters on design and implementation of enzyme assays, mass spectrometry, and validation of new methods. The significantly expanded new edition includes three new chapters and focuses on recent developments in bioanalytical chemistry, while minimizing some of the less relevant techniques. The authors have limited mathematical derivations to those that are essential for a basic understanding of the principles underlying each method.

Featuring many of the techniques used by biochemists and molecular biologists, *Bioanalytical Chemistry* reviews all relevant aspects of using analytical methodology to solve biological problems. Each chapter in the book begins with coverage of basic concepts, then progresses to applications that involve real samples.

Bioanalytical Chemistry covers:

- Biomimetic materials
- Lab-on-chip devices
- Spectroscopic methods for total protein, nucleic acids, and carbohydrate
- Structural and functional properties of antibodies
- Immunoassays for antigen or antibody quantitation
- Principles and proteomics applications of 1D and 2D electrophoresis
- Centrifugation methods
- Mass spectrometry of biomolecules
- Quantitation of enzymes and their substrates
- Design and implementation of high-throughput enzyme assays
- Analytical methods
- Validation of new methods
- And much more

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