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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Principles of health and safety and good laboratory practice -- Applications of chemoinformatics in drug discovery -- Bioinformatics and its applications in genomics -- Gene cloning for the analysis of gene expression -- Proteomic techniques and their applications -- Overproduction,separation and purification of affinity-tagged proteins from escherichia coli -- Chromatography: separation techniques in biology -- Synthetic methodology in chemical biology -- Reaction chemical kinetics in biology -- Mass spectrometry and its applications -- Applications and complementarity of analytical ultracentrifugation and light-scattering techniques -- Application of isothermal titration calorimetry (ITC) to biomolecular interactions -- An introduction to infrared and raman spectroscopies for pharmaceutical and biomedical studies -- Fluorescence spectroscopy and its applications in analyzing biomolecular processes -- Circular dichroism and related spectroscopic techniques -- Principles and practice in macromolecular X-ray

crystallography -- Biomolecular NMR spectroscopy and structure determination of DNA -- Cryo-TEM and biological structure determination -- Computer modelling and molecular dynamics simulation of biomolecules.

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## Sommario/riassunto

An essential guide to biomolecular and bioanalytical techniques and their applications Biomolecular and Bioanalytical Techniques offers an introduction to, and a basic understanding of, a wide range of biophysical techniques. The text takes an interdisciplinary approach with contributions from a panel of distinguished experts. With a focus on research, the text comprehensively covers a broad selection of topics drawn from contemporary research in the fields of chemistry and biology. Each of the internationally reputed authors has contributed a single chapter on a specific technique. The chapters cover the specific technique's background, theory, principles, technique, methodology, protocol and applications. The text explores the use of a variety of analytical tools to characterise biological samples. The contributors explain how to identify and quantify biochemically important molecules, including small molecules as well as biological macromolecules such as enzymes, antibodies, proteins, peptides and nucleic acids. This book is filled with essential knowledge and explores the skills needed to carry out the research and development roles in academic and industrial laboratories. A technique-focused book that bridges the gap between an introductory text and a book on advanced research methods Provides the necessary background and skills needed to advance the research methods Features a structured approach within each chapter Demonstrates an interdisciplinary approach that serves to develop independent thinking Written for students in chemistry, biological, medical, pharmaceutical, forensic and biophysical sciences, Biomolecular and Bioanalytical Techniques is an in-depth review of the most current biomolecular and bioanalytical techniques in the field.

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