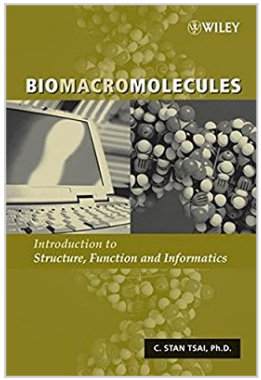

Biomacromolecules: Introduction to Structure, Function and Informatics

By C. Stan Tsai

Biomacromolecules: Introduction to Structure, Function and Informatics By C. Stan Tsai

This book provides an integrated treatment of the structure and function of nucleic acids, proteins, and glycans, including thorough coverage of relevant computational biochemistry.

The text begins with an introduction to the biomacromolecules, followed by discussion of methods of isolation and purification, physiochemical and biochemical properties, and structural characteristics. The next section of the book deals with sequence analysis, analysis of conformation using spectroscopy, chemical synthesis, and computational approaches. The following chapters discuss biomolecular interactions, enzyme action, gene transmission, signal transduction, and biomacromolecular informatics. The author concludes with presenting the latest findings in genomics, proteomics, glycomics, and biomacromolecular evolution.

This text is an invaluable resource for research professionals wishing to move into genomics, proteomics, and glycomics research. It is also useful for students in biochemistry, molecular biology, bioengineering, biotechnology, and bioinformatics.

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Editorial Review

Review
"[The book] covers, in 18 chapters, most of what one would ever want to know about macromolecules' structure and functions." (*Biotechnology Journal*, June 2008)

From the Back Cover
The structure and function of biomacromolecules elucidated by the latest advances in informatics

This text provides an integrated presentation of the structure and function of nucleic acids, proteins, and glycans, including the latest findings from the fields of genomics, proteomics, and glycomics. It serves as a bridge between introductory biochemistry textbooks and advanced treatises on individual classes of biomacromolecules. The integrated treatment of biomacromolecules enables the reader to gain a better understanding and appreciation of both the similarities and differences among the three classes of biomacromolecules examined in the text.

The content and structure of the text reflects the author's almost forty years' experience in researching, teaching, and publishing on the topic of biomacromolecules. Following three chapters that set a solid foundation of fundamentals, the text covers:

- Biomacromolecular structure of nucleic acids, proteins, and polysaccharides
- Studies of biomacromolecular structures, including spectroscopic analysis ofconformation, chemical synthesis, and computation and modeling
- Functions of biomacromolecules, including their interactions, catalyses, and metabolisms
- Informatics, including genomics, proteomics, and glycomics
- Biomacromolecular evolution

Content follows the organization of an introductory biochemistry textbook, enabling instructors and students to easily integrate the text into a course. Each chapter includes a list of print and online references that serves as a gateway to further study.

This text is designed for students who are moving beyond an introductory level in biochemistry towards the advanced fields of study in genomics, proteomics, or glycomics. Advanced mathematical and computational skills are not needed.

About the Author
C. STAN TSAI, PhD, served for more than twenty years as a professor of chemistry and biochemistry at Carleton University, Canada. He is the author of An Introduction to Computational Biochemistry, also from Wiley.

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From reader reviews:

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