

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 of conformation, 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.

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