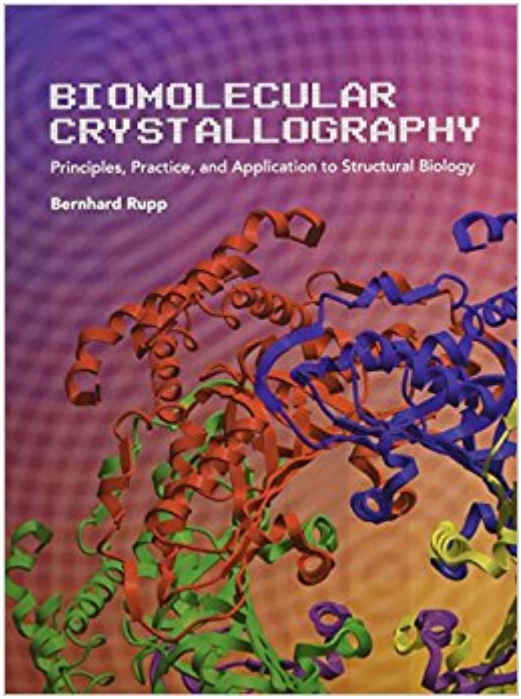
Biomolecular Crystallography: Principles, Practice, And Application To Structural Biology



Synopsis

Synthesizing over thirty years of advances into a comprehensive textbook, Biomolecular Crystallography describes the fundamentals, practices, and applications of protein crystallography.Ã Â Deftly illustrated in full-color by the author, the text describes mathematical and physical concepts in accessible and accurate language. It distills key concepts for understanding the practice and analysis of protein crystal structures and contains examples of biologically-relevant molecules, complexes, and drug target structures. Biomolecular Crystallography will be a valuable resource for advanced undergraduate and graduate students and practitioners in structural biology, crystallography, and structural bioinformatics.

Book Information

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Customer Reviews

PRAISE FOR Biomolecular Crystallography: "Over the past 34 years Louise and I have often discussed the possibility of updating [Protein Crystallography]....However, this marvelous text by Bernhard Rupp provides everything that we could have done and more: indeed all that is required for the student of 2010. Biomolecular Crystallography is an impressive volume. Its 808 pages are beautifully written and wonderfully illustrated, many in colour....This book will be an essential part of the library of any department that claims to make contributions to modern biology....[and] a necessary addition also to the libraries of big pharmaceutical companies and small biotechs. This is a book to be enjoyed by all who wish to become structural biologists. I am also sure that many practicing structural biologists - even some who consider themselves mature - would do well to read

its pages." - Tom Blundell, Journal of Applied Crystallography "It is a masterpiece. It is the book which the MX community has been waiting for and it is an absolute must-have for everybody in the field." - Acta Crystallographica "This is the book that molecular biologists and the crystallographic community have been waiting for." - Alexander McPherson, University of California at Irvine, USA ’Biomolecular Crystallography is first and foremost a comprehensive reference text and laboratory manual for the practicing structural biologist, from the basics of biomolecular structure to modern advanced and powerful techniques in biomolecular structure determination, and analysis and application of structural information. Figures and graphs computed from new and original data are used extensively to help clarify important concepts, and derivations of all relevant mathematical and statistical principlesÃ¢â ¬â ¢many of which have never been brought together in a single volumeÃ¢â ¬â ¢are presented. This fulfils a long-felt need!’ - Ian J. Tickle, Astex Therapeutics, Cambridge, UK ’This thorough treatment of modern macromolecular X-ray crystallography combines a comprehensive coverage of the fundamentals with methodological details that are often omitted in introductory texts. It will be of value to anyone that works in macromolecular X-ray crystallography, particularly to graduate students or postdoctoral fellows who are mastering the technique.’ - Mark Wilson, University of Nebraska, USA ’Given the extraordinary progress in biomolecular crystallography, the challenge of providing a comprehensive and authoritative overview, starting from first principles, is formidable. Dr Rupp has, however, succeeded admirably.’ - Brian Matthews, University of Oregon, USA Ã Â Ã Â

For those who complained about the weight - it is here now: Corrected second e-printing/Kindle edition includes all corrections from the errata page up to mid-2012 - pls see BMC errata page on my web site for details. Best wishes for your crystallography studies,BR

This is one of the best crystallography books you can buy. It actually goes into some practical detail contrasted with most books that are 90% theory and just skim over practical stuff. Lots of useful pictures to try to explain the very abstract concepts involved.Also, I bought it from the seller Bookera (based in India) for $50 cheaper than buying it directly from for a brand new, still sealed hardcover book. I had it expedited for $7 and it arrived in 4 days. There was some very minor damage to the cover, I imagine from the knot being too tight, but it’s otherwise in perfect condition.

I have nothing to say about this book except that it is just PERFECT! I love the structure of the book, the way it is written in order to make it easy to read even for beginners (like me) in macromolecular

crystallography.I definitely give it 5 stars!

lots of figures, images to help you understand, many chapters on practical use, very practical

I had been looking for a good book on crystallography of proteins for a long time. I had looked into Jan Drenth’s book - but found it to be too superficial and at best, only a run through guide for last minute preparation for exams. This book is definitely a great one for those who want to understand protein crystallography real well - adequate and clear explanations, quite detailed and thorough and definitely written for a very broad audience. My only complaint is that it is not very heavy on the fundamentals of X-ray diffraction and phase problem analysis. While descriptions might seem to be adequate initially, the math is quite lacking. But then again, I’ve not yet found good biomolecular crystallography books which explain the physics of the problem any better. I had to opt for a mineral/small molecule crystallography book (by GiacovazzoÃ Â Fundamentals of Crystallography) for frequent reference and when used together - they seemed to very good and rigorous. Nonetheless I would strongly reccommend this book - probably its the best in the market (related to biomolecules).

Yet I have to admit I am not yet completely done with it. The author has wonderful understanding of the subject and he presents it clearly for a biochemist, albeit non- crystallographer.

Great book for better understanding of crystallography. If read in conjunction with Crystallography Made Crystal Clear, you will understand crystallography very well.

The text book covers from the basic to intermediate knowledge of crystalography.I recommend this book to any body who are new to crystallography.

It is good

Practice (International Union of Crystallography Monographs on Crystallography) The Rietveld Method (International Union of Crystallography Monographs on Crystallography) International Tables for Crystallography, Space-Group Symmetry (IUCr Series. International Tables of Crystallography) Biomolecular Thermodynamics: From Theory to Application (Foundations of Biochemistry and Biophysics) Structural Dynamics of Earthquake Engineering: Theory and Application Using Mathematica and Matlab (Woodhead Publishing Series in Civil and Structural Engineering) Library of Congress Subject Headings: Principles and Application, 4th Edition (Library of Congress Subject Headings: Principles & Application (Pape) Mathematical Approaches to Biomolecular Structure and Dynamics (The IMA Volumes in Mathematics and its Applications) From Neural Networks and Biomolecular Engineering to Bioelectronics (Electronics and Biotechnology Advanced (Elba) Forum Series) Therapeutic Oligonucleotides: RSC (RSC Biomolecular Sciences) Principles of Bone Biology, Third Edition (Bilezikian, Principles of Bone Biology 2 Vol Set) Principles of Protein X-ray Crystallography (Springer Advanced Texts in Chemistry) Strengthening of Reinforced Concrete Structures: Using Externally-Bonded Frp Composites in Structural and Civil Engineering (Woodhead Publishing Series in Civil and Structural Engineering) Structural Analysis and Synthesis: A Laboratory Course in Structural Geology Structural Analysis and Synthesis: A Laboratory Course in Structural Geology 3rd (third) edition by Rowland, Stehen M., Duebendorfer, Ernest M., Schiefelbein, I published by Wiley-Blackwell (2007) [Spiral-bound] Structural Analysis and Synthesis: A Laboratory Course in Structural Geology, 2nd Edition The Techniques of Modern Structural Geology, Volume 3: Applications of Continuum Mechanics in Structural Geology