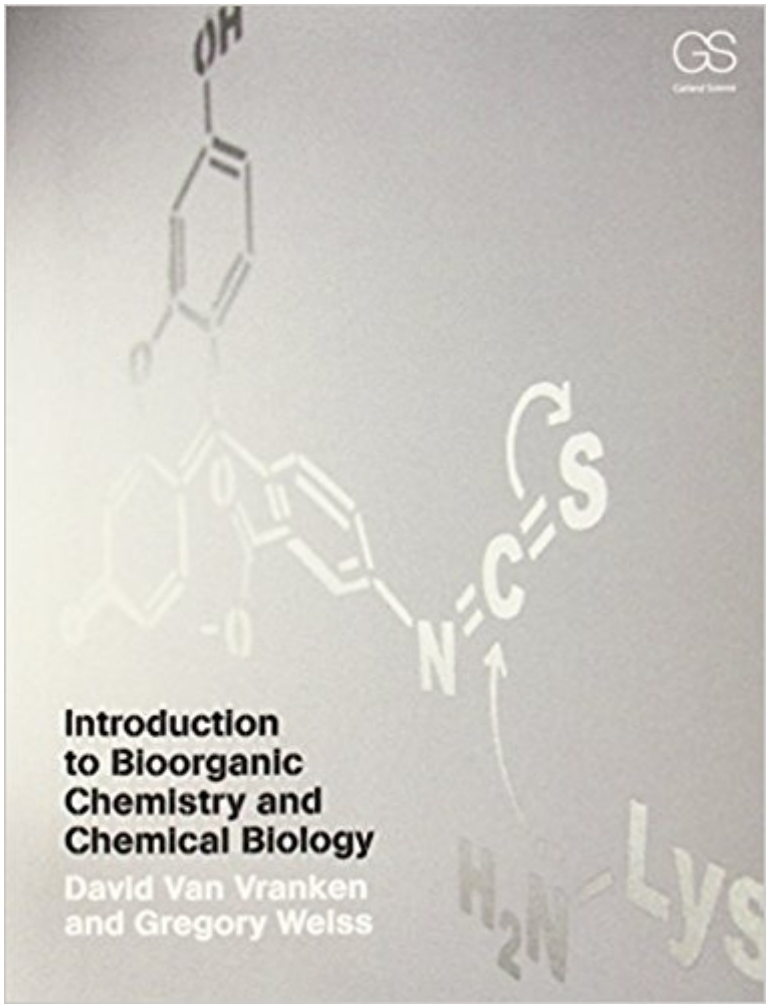
Introduction To Bioorganic Chemistry And Chemical Biology



Synopsis

Introduction to Bioorganic Chemistry and Chemical Biology is the first textbook to blend modern tools of organic chemistry with concepts of biology, physiology, and medicine. With a focus on human cell biology and a problems-driven approach, the text explains the combinatorial architecture of biooligomers (genes, DNA, RNA, proteins, glycans, lipids, and terpenes) as the molecular engine for life. Accentuated by rich illustrations andmechanistic arrow pushing, organic chemistry is used to illuminate the central dogma of molecular biology. Introduction to Bioorganic Chemistry and Chemical Biology is appropriate for advanced undergraduate and graduate students in chemistry and molecular biology, as well as those going into medicine and pharmaceutical science.

Book Information

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Customer Reviews

â œIntroduction to Bioorganic Chemistry and Chemical Biology fills a gap in the available literature by presenting the necessary basics of biochemistry from the viewpoint of organic chemistry, as well as explaining how to use the principles described in the book for the design and application of molecular toolsâ ‖[It] is a didactically excellent textbook for readers who already have experience in chemistry, and provides an appealing and comprehensible introduction to this multifaceted field of research between chemistry and biology.â •- Angewandte Chemie â œThis book provides important information on the organic chemistry of biooligomers and their interactions in the functioning of cells. Advanced undergraduate students, graduate students in chemistry and molecular biology, as well as medical students will find this book of value.â •- Doody Reviews â œIt is often said that

juxtaposing two separate fields can generate new ideas and ways of thinking. This is the approach that the authors have taken here by aiming, according to the blurb on the back of the book, to â ˆblend modern tools of organic chemistry with concepts of biology, physiology, and medicineâ ™. They have succeededâ |.The text is clearly set out and there is good coverage of all aspects of the subject area ranging from the structure of DNA to gene chip technologyâ |.I am sure that both organic chemists and biologists will gain from the novel approach to teaching the subject matter.â •- The Biologist â œI would wholeheartedly support this approach to the teaching of biological chemistry. Many of the traditional textbooks present biochemical pathways in a way that encourages rote learning without developing any understanding of the reactions in terms of atoms, bonds and mechanistic organic chemistry. This book appears to be different, and it is refreshing to see many chemical structures and curly arrow pushing mechanisms.â •- James Redman, Cardiff University, UK â œFrom this preview, this is an excellent book. Contents are up to date and the presentation is fluid, evenly paced, and supported with interesting features (boxes, extra figures, interesting stories along the way). Being a chemist myself, I find this book very appealing and will consider it for an advanced undergraduate course that focuses on chemical applications in biology.â •- Gerwald Jogl, Brown University, USA â œThe [end-of-chapter] problems are very useful, as it is hard to generate suitable problems de novo each time one teaches a bioorganic course. Undergraduate students could use this in multiple courses (bioorganic chemistry, natural products, etc). I suspect that this will evolve into a highly useful resource book and textbook for students.â |Overall, the book is excellent.â •- Paul Harrison, McMaster University, Canada "[Introduction to Bioorganic Chemistry and Chemical Biology's] clarity and engaging style would make it an excellent resource in a chemical biology course geared toward undergraduates who have completed two semesters of organic chemistry or first-year graduate students with a firm understanding of organic chemistry but limited exposure to biology and biochemistry." - The Quarterly Review of Biology

The material covered in this book is not covered anywhere else. It is thorough and the illustrations very impressive. Unfortunately, the writing is difficult to follow and I often find myself re-reading sections 4 to 5 times trying to grasp the informational points. It is my hope that the authors will rewrite their book with several ideas in mind:1. Motivate every section by stating exactly what the main point is and why it's important.2. Write in a clearer and more concise style. A good editor of scientific writing would be invaluable.

Book is good.

great review of the chemical minutia present in biological systems and reactions. I actually learned a lot from this book.I especially enjoy the explanations for group transfers present in so many enzymatic functions.

I am especially fond of the silly little analogies from David Van Vranken that pop up every few sections. Finally I don't feel doomed when it comes to the biology side of Bioorganic.

This book makes biochemistry suck just a little less.

Good book, but also very expensive

A challenging, but interesting, glimpse of biology from the organic chemistry perspective. I learned a lot from this book, more than from my biochemistry text. Useful for all students forced to learn biochemistry for med school.

Bad professor, bad textbook. 'Nuff said.

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