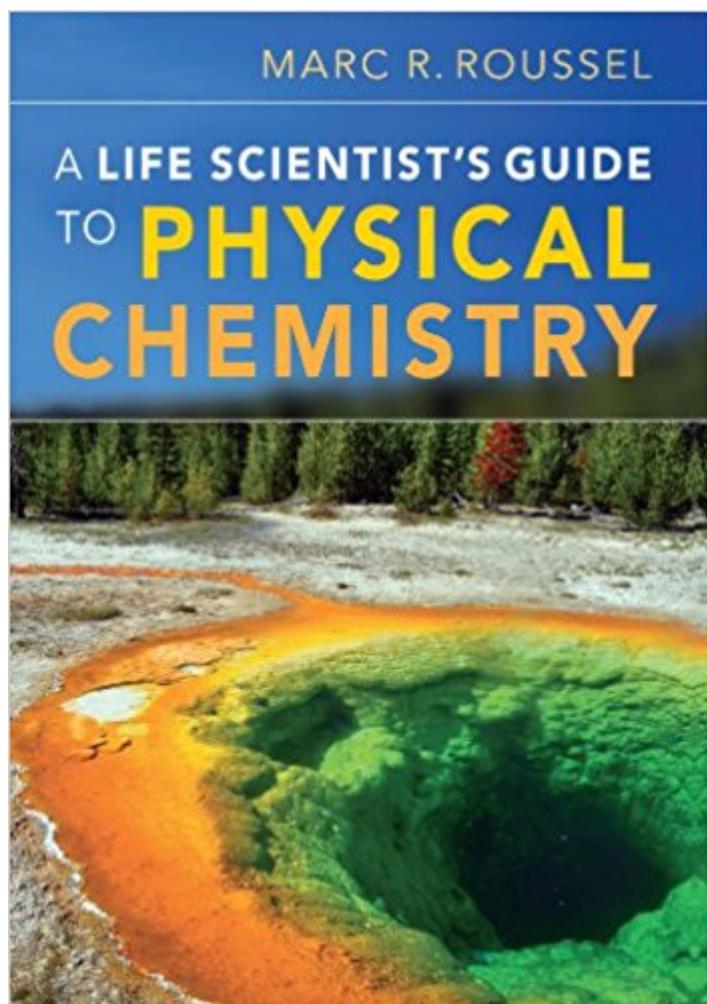


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A Life Scientist's Guide To Physical Chemistry



Synopsis

Motivating students to engage with physical chemistry through biological examples, this textbook demonstrates how the tools of physical chemistry can be used to illuminate biological questions. It clearly explains key principles and their relevance to life science students, using only the most straightforward and relevant mathematical tools. More than 350 exercises are spread throughout the chapters, covering a wide range of biological applications and explaining issues that students often find challenging. These, along with problems at the end of each chapter and end-of-term review questions, encourage active and continuous study. Over 130 worked examples, many deriving directly from life sciences, help students connect principles and theories to their own laboratory studies. Connections between experimental measurements and key theoretical quantities are frequently highlighted and reinforced. Answers to the exercises are included in the book. Fully worked solutions and answers to the review problems, password-protected for instructors, are available at www.cambridge.org/roussel.

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Customer Reviews

"The author has intentionally reduced the amount of mathematics, while introducing some necessary mathematical concepts with a 'just-in-time' approach ... One unique feature is the incorporation of exercises throughout the text, rather than just at the end of each chapter ... This is a very appealing format; as instructors, we are often asked by students which problems they should

practice if they are having trouble with particular concepts, and the approach of this text makes this very clear ... the author writes in an informal and approachable voice that students will find appealing." Surita R. Bhatia, *Quarterly Review of Biology*"Professor Roussel has produced a fantastic book for those interested in learning about physical chemistry. Although it is aimed at students of the life sciences, anyone can benefit from his clear explanations and worked examples. His writing style is very conversational, which makes reading the text a pleasure. The choices of problems are relevant and interesting, as are the suggested readings. I highly recommend this book to anyone who plans on teaching a course in physical chemistry for biochemists and molecular biologists." Michael S. Sommer, *University of Wyoming*"Although conversational in style ... this is a rigorous, authoritative and yet remarkably up-to-date piece of work. It will be particularly enticing for biochemistry and molecular biology students, and seems destined to go through many more editions in future." Dr Bernard Dixon OBE, *The Biologist*"Roussel's text would be very well suited for our one-semester physical chemistry for life sciences course." Jochen Autschbach, *State University of New York, Buffalo*"... A Life Scientist's Guide to Physical Chemistry is a great text to support a one-semester undergraduate course in physical chemistry. Its strengths are a student-friendly writing style, sufficient mathematical rigor without becoming mathematics-onerous, and a nice focus on thermodynamics and kinetics." David P. Pursell, *Journal of Chemical Education*

Using only the most straightforward and relevant mathematical tools, this textbook demonstrates how the tools of physical chemistry can be used to illuminate biological questions. It includes more than 350 exercises, along with worked examples and problems at the end of each chapter to encourage active and continuous study.

Clear and explains concepts well.

This is a splendid volume, not only as a guide for life scientists (as the title announces), but also for chemists and physicists, especially those teaching or interacting with biologists. It is unique in comprehensively presenting a special view of the approaches available to elucidate the complexity and variety of biological systems using the powerful methods better known and understood by physical scientists. Professor Roussel's clear explanations of basic principles and excellent diagrams are a model for lecturers and teachers in their attempts to impart these fundamentals to their protégés. The friendly text brings down to earth some exceedingly difficult concepts in a simple and effective way. Moreover the excitement of what is often regarded as a "dry

subjectÃ¢Â™ is brought to life. The author has first-hand experience over many years of dealing with the difficulties experienced by his students and of how to enlighten them. His expertise in this has enabled him to provide us with 350 examples of where difficulties have been experienced by young students, although senior scientists may also find some of these problems challenging. Altogether this is a valuable and useful book.

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