

BOOK REVIEWS

EVERY MOLECULE TELLS A STORY, Simon Cotton, CRC Press, Taylor and Francis Group, Boca Raton, London, New York, 2012, 266 pages, ISBN: 978-1-4398-0773-6

Everything that exists is made of atoms, and most of those substances contain groups of two or more of these bonded together to form molecules. Chemistry is the science of molecules. From cooking to medicine, from engineering to art, it is everywhere.

What is this book? For a start, it is not a textbook, nor is it a collection of reviews. If I can put this into words, it is a celebration of molecules and of chemistry. Over 200 molecules that give you life, enrich your life, or may end your life if you are not careful.

The volume is primarily addressed to chemistry students on either side of the school/university divide and to their teachers.

Simon Cotton
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“... in the science section of bookstores, the shelves are stacked with books on origins of the universe and on dinosaurs (and biological evolution), physics, biology and geology, and never a chemistry-related book in sight. The bizarre aspect of this bias is that we can go about our daily lives without the need to contemplate the Big Bang hypothesis or the complexities of Darwinian evolution, but we do have to think about choices involving food and vitamins, pharmaceuticals, cosmetics, together with news reports of atmospheric change, clean water, toxic chemicals, and so on.”

Geoff Rayner-Canham, Memorial University of Newfoundland

“Simon Cotton has that rare ability of making chemistry understandable and fascinating by combining intriguing scientific information and relevant human interest.”

John Emsley, University of Cambridge

A celebration of the molecules of chemistry, *Every Molecule Tells a Story* celebrates the molecules responsible for the experiences of everyday life: the air we breathe; the water we drink; the chemicals that fuel our living; the steroids that give us sex; the colours of the seasons; the drugs that heal us; and the scented molecules that enrich our diet and our encounters with each other. You can't see them, but you know that they are there.

Unveiling the structures of poisonous “natural” substances and beneficial man-made molecules, this book brushes away any preconceived notions about chemistry to demonstrate why and how molecules matter.

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PHYSICAL CHEMISTRY – A MODERN INTRODUCTION, Second edition, updated and revised by William M. Davis, original work authored by Clifford E. Dykstra, CRC Press, Taylor & Francis Group, Boca Raton, London, New York, 2012, 501 pages, ISBN: 978-1-4398-1077-4

A unifying molecular approach: The foremost goal of this text is to provide a unifying molecular view of the core elements of contemporary physical chemistry. This is done with a topically connected and focused

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development – in effect, a story about molecules that leads one through the major areas of modern physical chemistry. At some places, this means a somewhat non-traditional organization of subtopics. The advantage is much improved retention of working knowledge of essential material. After finishing with this text, your students should have a good grasp of the concepts of physical chemistry and should be able to analyze problems and deal with new developments that occur during their careers. Seeing physical chemistry as a continuous story about molecular behaviour helps accomplish this.

Designed for a two-semester introductory course sequence in physical chemistry, *Physical Chemistry – A Modern Introduction*, Second edition, offers a streamlined introduction to the subject. Focusing on core concepts, the text stresses fundamental issues and includes basic examples rather than myriad applications often presented in other, more encyclopedic books. Physical chemistry need not appear as a large assortment of different, disconnected, and sometimes intimidating topics. Instead, students should see that physical chemistry provides a coherent framework for chemical knowledge, from the molecular to the macroscopic level.

THE BOOK OFFERS:

- Novel organization to foster student understanding, giving students the strongest sophistication in the least amount of time and preparing them for tackling more challenging topics;
- Strong problem-solving emphasis, with numerous end-of-chapter practice exercises, over two dozen in-text worked examples, and a number of clearly identified spreadsheet exercises;
- A quick review in calculus, *via* an appendix providing the necessary mathematical background for the study of physical chemistry;
- Powerful streamline development of group theory and advanced topics in quantum mechanics, *via* appendices covering molecular symmetry and special quantum mechanical approaches.

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