



## Molecular Crystals and Liquid Crystals

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### Book review

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## BOOK REVIEW

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*An Introduction to Theoretical Chemistry*, by Jack Simons, Cambridge University Press, 2003; xiii + 461 pp., \$120.00, cloth; \$65.00, paper.

Jack Simons' new book, with its colorful cover (reproduced from a paper in the recent primary literature) and descriptive but unassuming title, is actually a collection of "volumes" all in one. This book combines an undergraduate textbook on the subject (chapters 1–4), a nominally beginning graduate text (chapters 5–8, an overview and then chapters on electronic structure theory, statistical mechanics, and chemical dynamics) a coauthored, more advanced book (*Quantum Mechanics in Chemistry*) available in toto as a pdf file, links to the author's web page and to "a multitude of practicing theoretical chemists" and "numerous education-site[s] ... [for] students from fresh-persons to advanced graduate students," and a thorough problem set (27 pages with 59 questions) and an even more extensive answer section (90 pages going through all 59 problems explicitly). I am convinced that any of these "volumes" alone could serve as independent texts and as a valuable part of a practicing research and/or teaching chemist's library, whether that person be a theorist (as is the reviewer) or an experimentalist (as are many of the book author's and my best friends), and whether the reader be a devotee of the gas and/or condensed phases.

It is almost depressingly rare to find such a clearly written and highly interesting text by such a well-respected researcher in his or her discipline. (The names Feynman and Hoffmann spring to mind as other examples of this phenomenon.) Excellence in scientific practice and pedagogy so often don't correspond. As befits his common use of the pronoun "I," Jack Simons gives a conversational and personalized account of the subject. One omission of the book is general absence of references and even of the names of other participants and practitioners. This does not reflect the author's ego, fear of competition, or attempts to dehumanize the discipline. Rather, in the introduction the reader is told that "mentioning any of them and not citing others would offend many colleagues [and friends and] so I decided to severely limit such references." The book is clearly recognizable as a product of contemporary physical science and printing technology, and, for those who have ever worked with Jack Simons or even seen him in action at this or that conference, of the book author as well. It is an educational

and enjoyable read. Accordingly, I unequivocally recommend it to the research and pedagogical community and to other molecularly based scientists as well.

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