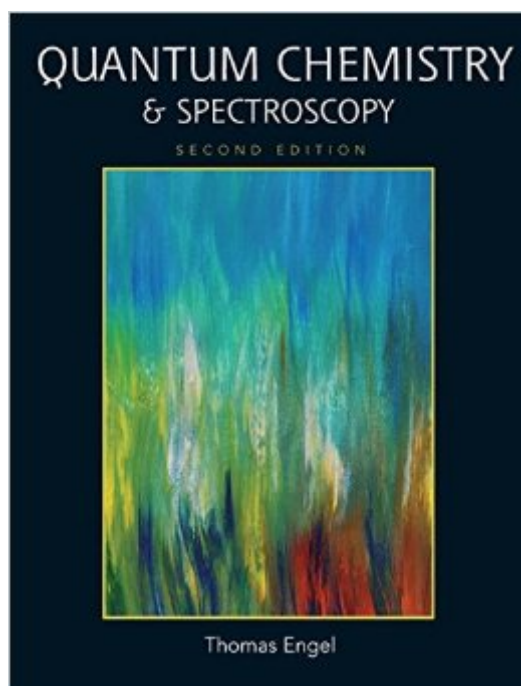


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# Quantum Chemistry & Spectroscopy (2nd Edition)



## Synopsis

This full-color, modern physical chemistry reference offers compelling applications and arresting illustrations that capture readers' attention and demonstrate the dynamic nature of the subject. The authors focus on core topics of physical chemistry, presented within a modern framework of applications. Modern applications are drawn from biology, environmental science, and material science. Spectroscopy applications are introduced early in concert with theory; for example, IR and rotational spectroscopy are discussed immediately after the harmonic oscillator and the rigid rotator. Modern research is featured throughout, along with new developments in the field such as scanning tunneling microscopy, bandgap engineering, quantum wells, teleportation, and quantum computing. From Classical to Quantum Mechanics; The Schrödinger Equation; The Quantum Mechanical Postulates; Using Quantum Mechanics on Simple Systems; The Particle in the Box and the Real World; Commuting and Noncommuting Operators and the Surprising Consequences; A Quantum Mechanical Model for the Vibration and Rotation of Molecules; The Vibrational and Rotational Spectroscopy of Diatomic Molecules; The Hydrogen Atom; Many-Electron Atoms; Quantum States for Many-electron Atoms and Atomic Spectroscopy; The Chemical Bond in Diatomic Molecules; Molecular Structure and Energy Levels for Polyatomic Molecules; Electronic Spectroscopy; Computational Chemistry; Molecular Symmetry; Nuclear Magnetic Resonance Spectroscopy. A useful reference for chemistry professionals.

## Book Information

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## Customer Reviews

Engel's "Quantum Chemistry and Spectroscopy" is not the worst p-chem book I've looked through. Given the choice however (meaning if my professor did not require the text), I would likely have opted to use a more thorough text. Engel has created a great reference, with enough information to suffice on the go. If however you are trying to use this book as your primary source of literature, in an effort to gain a thorough understanding, be cautious. Throughout the text a number of assumptions are made, rather than simply reiterating previous formulations or blatantly stating the point trying to be made. Unless the reader is absolutely cognitive and has mastered all previous information, this is at times detrimental. The section on spectroscopy is actually quite useful (better than most other texts I referenced) and the math supplement in the appendix is very convenient. I suppose my professor chose this text for the very reason I stated earlier, to be used as a side reference, a supplement to never-ending in-class exercises (i.e. packets) that theoretically should have helped develop the fundamental concepts. Needless to say- I was forced to read another text from time to time for clarification.

This textbook is ridiculous. It goes into too great of detail in a subject that is innately very difficult to understand, and does this while being amazingly vague. The example problems (the few there are) are barely relevant to what is covered, leaving students to struggle through homework questions, which are in turn overtly demanding. The subject, which is quite fascinating is made frustrating and dull, the material hardly understandable. Any institution utilizing this text should very well examine their priorities in teaching this subject or supplement heavily.

This book does well in covering quantum chemistry principles. I felt it had good practice problems. I would recommend the book.

Book arrived in excellent condition. I found the explanations of this book to be a little muddled at times, but it is tough to find a good quantum book. Quick shipping too! Very smooth transaction, would definitely buy from in the future.

This is a great text to understand the underlying principles of quantum chemistry. However, it is not a detailed and thorough account of the topic. It is a great reference on the go but I recommend a more detailed quantum book if you wish to carryout solving more complex problems.

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