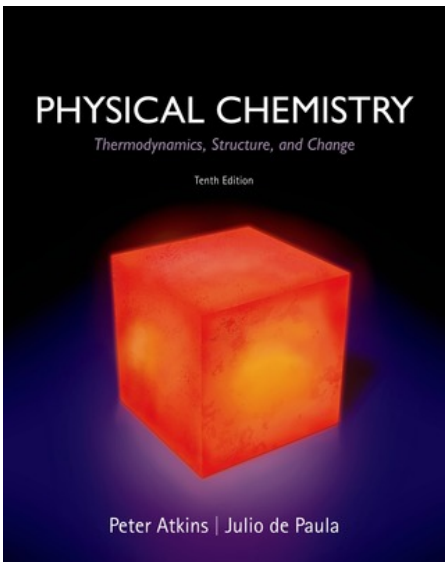

Physical Chemistry: Thermodynamics, Structure, and Change

Peter Atkins , Julio de Paula

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Physical Chemistry: Thermodynamics, Structure, and Change Peter Atkins , Julio de Paula
This book provides the reader with the subject of physical chemistry as characterized by three main approaches: the discussion of bulk properties in terms of thermodynamics, the use of spectroscopy to explore the behaviour of individual atoms and molecules, and the analysis of the rates and mechanisms of chemical change.

Physical Chemistry: Thermodynamics, Structure, and Change Details

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From Reader Review Physical Chemistry: Thermodynamics, Structure, and Change for online ebook

Sanjay Gautam says

It was the book that I read selectively when I was in my Sr. Secondary; and read it, more or less, from cover to cover in my graduation. I remember it as a beautiful book that enriched my knowledge of physical chemistry and made my fundamentals stronger. It's been many years now since I read anything related to Chemistry, but I will remember this book, along with Organic Chemistry by Morrison & Boyd, that I enjoyed reading thoroughly.

Elisabeth says

9th edition. I saw some reviews that were bewildered to see the low ratings. Here is why I give this book a low rating:

I have gone through this whole book over the last year. As I read it, and especially towards chapters 17,18,19,20,21, things feel really jumbled around. I will go through a passage, feel like I understand it, and then I see an example using definitions that it had not previously introduced. It often skips many steps. I was doing Ch 15 homework, and the equation I was supposed to use for one of them was from Ch 16. I'm not there yet! The homework used equations or forms of the primary equation that were not introduced and not listed in the end-chapter formulas list. If it did, then it would just be printed with nothing really being said about it, but I'm expected to apply it. These were common problems for me. I am predisposed towards biochemistry, and physical chemistry just doesn't work for me. This book doesn't work for me.

At the very end of all my physical chemistry courses, I have been fortunate enough to find the classic big red book: McQuarrie & Simon. That book has been a lifesaver. I have been learning physical chemistry for the first time in my life, albeit poorly. It uses words to keep you on track, followed by the equations. I feel like McQuarrie puts things in to English much better than Atkins. I also feel like McQuarrie is better at putting things in to the overall context of what we are doing and what our end goal is. The flow of the chapters is very tight... they roll into each other nicely. When McQuarrie talks about derivative or integrated forms of these equations, there is context and it explains more deeply what is happening when you apply the derivative forms.

I have gone through the entire Atkins book during my courses, and I have hardly learned anything from it. McQuarrie & Simon lifts the veil. If Atkins works for you, then that's great. If it isn't working for you, try McQuarrie. It's a little more reading than Atkins but I get through it way faster because I spend less time trying to decode everything.

Shubham says

Best book in the world for physical chemistry

Layta Dinira says

This book help me finish my thesis, although it seems so hard to read at first. For the equation there is no further explanation what is the meaning of the symbol, so the reader have to search another equation in the previous pages that mentions the same symbol. This is rather confusing. Sometimes when I don't find the symbol, I give up and search the internet what is the meaning and the standard unit for that symbol.

Hannsen says

At first read, Atkins can be hard, but if you take the time to reread this text, it actually is pretty simple. I think it's just how the equations were written. Atkins made some equations look complicated when indeed, these same equations can be expressed in a simpler, more straightforward way. He needs to adopt some sort of minimalism.

Vikas Datta says

Wonderfully lucid exposition of this vital science.... I wish all these books had existed when I was a student

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Alan Eister says

Could use a proof section for those sections which are mathematics heavy, where they treat the proof as they do in theoretical chemistry papers. Otherwise, quite well written.

John says

I picked this book for the P-Chem class I taught at Brigham Young University. It was the first edition of the book and I guess they didn't take sufficient time to proof it...especially the problems and solutions. The book was so full of errors that my students completely lost confidence in it. It was a real mess. I abandoned the book at the first opportunity. I haven't looked at any of the later editions believing that a text so poorly done at the beginning couldn't be trusted. I am quite surprised that it has gained such a large following. I assume the errors have been corrected.

Amber says

Granted, I have the 7th edition of this, but it was lovely.

Brett Williams says

A noble work of the intellect

Murray Rothland wrote, “Every once in a while the human race pauses in the job of botching its affairs and redeems itself by a noble work of the intellect”. Atkins book is just such a noble work. Rare is it to find a technical text that reads more like a novel, but Atkins does. Not only is the topic fascinating on its own (mostly the physics of molecules), but Atkins raises it to the level of riveting. In those far off years of the university experience for this reader, it was said only a genius could grasp physical chemistry – not true, at least not with Atkins leading the way. Atkins uses varied tools with so many well-chosen angles on description that the reader sees things in nature never realized before. Most often through analogies to what we know well, e.g. the familiar constructive & destructive interference (wave mechanics) applied to wave functions (Schrödinger's sometimes confounding quantum probability description) yielding electron orbitals with shapes that suddenly make sense. That “aha” experience is so frequently felt while reading this book it’s hard to put it down, for anything. There are apparently several versions of this 2006 8th edition. The two in paperback come in color or black-&-white. There’s also 4 years of access to the book’s website, including the text, all its figures, spread sheets and MathCad models. A salute to Oxford University Press and Atkins for this remarkable resource.

Hollis says

I'm not entirely sure why this book receives so many negative reviews from students of chemistry. It's not perfect, but I don't know of a book that gives a better general overview of physical chemistry. Point me towards it if you know of one.

Ibrahim says

Errata in 9th Edition
1- On p. 92, there are three *A brief illustration* sections, the second of which has an integration with the result, 'ax^(3y)+k'; this should be replaced with, 'ax^3.y+k'.
2- On the 2nd page of the Physical Constants -right after the front cover- the value of the speed of light is written falsely as 299792558 despite the little asterix punctuation next to it stating "exact value". It should be 299792458.

Dimitri Rascalov says

What can I say? One of the quintessential chemistry books, a true bible of physical chemistry. A must for any true chemist, my go-to reference for P.Chem.

Strong Extraordinary Dreams says

It was like stepping into another world.

This was my chemistry text book for two years and I would sometimes spend a morning on one single page.

Great book, great book.

Reading Harbor says

I love this book! It is really well written. There is a lot of material and I wouldn't necessary recommend carrying it around in your book bag like I did, unless you have to, you will end up with back problems - but this is truly comprehensive. The illustrations are very helpful and match with the text. Atkins and team did a great job of thoroughly explaining the concepts. I found this text to be extremely useful in teaching me P chem. Everyone else bombed their exams because they were trying to learn from the lectures. I did really well because I had this book. Every concept is explained extremely clearly and easily. If you read through, all the concepts make sense. Many other science books are really dry and are hard to follow. But not this one. This is one of my favorites - and I have been forced to read a lot of science books in my day.
