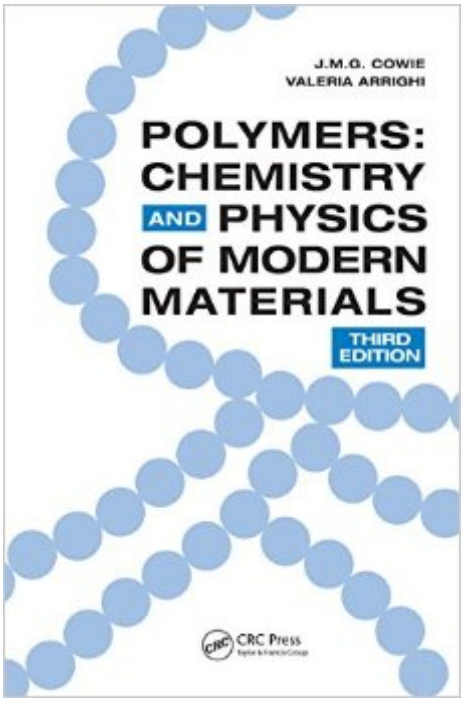
Polymers: Chemistry And Physics Of Modern Materials, Third Edition



Synopsis

Extensively revised and updated to keep abreast of recent advances, Polymers: Chemistry and Physics of Modern Materials, Third Edition continues to provide a broad-based, high-information text at an introductory, reader-friendly level that illustrates the multidisciplinary nature of polymer science. Adding or amending roughly 50% of the material, this new edition strengthens its aim to contribute a comprehensive treatment by offering a wide and balanced selection of topics across all aspects of the chemistry and physics of polymer science, from synthesis and physical properties to applications. Although the basics of polymer science remain unchanged, significant discoveries in the area of control over molecular weight, macromolecular structure and architecture, and the consequent ability to prepare materials with specific properties receive extensive mention in the third edition. Expanded chapters include controlled radical polymerizations, metallocene chemistry, and the preparation of block and graft copolymers, as well as multiarmed and dendritic structures. Reflecting the growth of polymer applications in industry, the book presents detailed examples to illustrate polymer use in electronic, biological, and medical settings. The authors introduce new understandings of rheological behavior and replace old and outmoded methods of polymer characterization with new and up-to-date techniques. Also new to this edition are a series of problems at the end of each chapter that will test whether the reader has understood the various points and in some cases expand on that knowledge. An accompanying solutions manual is also available for qualifying course adoptions. Offering the highest quality, comprehensive coverage of polymer science in an affordable, accessible format, Polymers: Chemistry and Physics of Modern Materials, Third Edition continues to provide undergraduate and graduate students and professors with the most complete and current coverage of modern polymer science.

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Customer Reviews

Since this book was required for the last class I have to take for my degree, I had no choice but to buy it. It thoroughly covers polymers at a graduate level. It doesn't waste your time going over topics that were covered in organic chemistry I & II, which is a good thing.Why the three stars then? The author could have done a much better job presenting the information. What do I mean? Well, for example on page 23 when discussing synthetic rubbers he just mentions "IIR" and you should somehow know that it stands for "isobutylene isoprene rubber". This is right after he mentions ABS, which you have to infer from the previous paragraph that it stands for "acrylonitrile butadiene rubber". It seems like every few pages you have to stop and back into the information that he should have simply stated. This prolongs study sessions quite a bit.The homework problems are also pretty useless. My instructor did not assign homework so I had no way of testing my knowledge of the material because this book does not provide answers to any of the homework problems. Is it required? No, but since most textbooks have answers in the back for the even or odd problems, I feel like this one should as well.Overall, 3 stars=average. Nothing spectacular but nothing seriously wrong either.

I'm really enjoying this book. It has a fair bit of practical advice on how to test polymers (more please!!!) and gives lots of facts about their structure, function and properties.TGA (Thermo Gravimetric Analysis) and Raman spectra don't get much of a mention... but it's certainly seems to cover a lot of areas.It was surprisingly hard to find a polymers book that covered most of the basic facts... despite asking for suggestions from a number of polymer chemists and searching online. This suggests that there are very few good books which meet this need.From the undergrad perspective (my undergrad project is in polymers) this is a quite readable and very useful text. I'm

just sorry that they don’t teach us more about polymers at Uni: they’ve dropped polymers as an elective entirely (lecturer retired and not replaced).Polymers are a very interesting area of chemistry... and this book certainly helps explain why.

Polymers: Chemistry and Physics of Modern Materials is a classic text that emphasizes structure/property relationships in polymers. The majority of the Third Edition is unchanged from the Second, except in two important ways: for the first time, problem sets are found after each chapter, which is a welcome addition over the earlier editions. Secondly, recent developments in polymer chemistry have been added: controlled architecture polymers, such as dendrimers and stars, along with metallocene chemistry, RAFT, ATRP, and other catalyst mediated chemistries. To make room for these developments, the content on liquid crystalline polyesters is combined with the chapter on crystallinity. Those seeking an in-depth coverage of viscoelasticity and ultimate mechanical properties, especially the latter, will need to supplement the coverage of these subjects using other texts and reference works. Publication under the CRC/Taylor and Francis Group makes this book more readily available in the U.S. than were previous editions.

The book is very well written on the chemistry and physics of polymers. It is one of the very best books of the field. The new edition includes review questions, a bonus.

Such a good read for materials science majors like myself! It’s a great textbook and an easy read with tons of graphs.

Came in great condition. Class you need it for: not so great.

Polymers: Chemistry and Physics of Modern Materials, Third Edition Polymers: Chemistry and Physics of Modern Materials Physical Properties of Polymers Handbook (AIP Series in Polymers & Complex Materials) Third Eye: Awakening Your Third Eye Chakra: Beginner’s Guide (Third Eye, Third Eye Chakra, Third Eye Awakening, Chakras) Third Eye: Third Eye Activation Secrets (Third Eye Awakening, Pineal Gland, Third Eye Chakra, Open Third Eye) The Solid State: An Introduction to the Physics of Crystals for Students of Physics, Materials Science, and Engineering (Oxford Physics Series) Statistical Physics of Macromolecules (Polymers and Complex Materials) Polymers: Physical Properties, (Methods in Experimental Physics Volume 16 Part C) Ace General Chemistry I and II (The EASY Guide to Ace General Chemistry I and II): General Chemistry Study Guide,

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