

Physical Properties of Polymers, 3rd ed. By James E. Mark (University of Cincinnati), Kia L. Ngai (Naval Research Lab, Washington, DC), William W. Graessley (Princeton University), Leo Mandelkern (The Florida State University), Edward T. Samulski (University of North Carolina), Jack L. Koenig (Case Western Reserve University), and George D. Wignall (Oak Ridge National Laboratory). Cambridge University Press: Cambridge. 2004. xvi + 520 pp. \$65.00 (paperback). ISBN 0-521-53018-0.

All of the chapters in the third edition of this well-known text have been expanded and updated to include recent advances in the field. As in previous editions, each chapter also provides a general introduction to the topic at hand and is self-contained. Part I, "Physical states of polymers", contains the following five chapters: (1) "The rubber elastic state" by Mark, (2) "The glass transition and the glassy state" by Ngai, (3) "Viscoelasticity and flow in polymeric liquids" by Graessley, (4) "The crystalline state" by Mandelkern, and (5) "The mesomorphic state" by Samulski. Part II, "Some characterization techniques", is made up of two chapters: (1) "The application of molecular spectroscopy to characterization of polymers" by Koenig and (2) "Small-angle-neutron-scattering characterization" by Wignall. A subject index completes the book.

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Modern Practice of Gas Chromatography, 4th ed. Edited by Robert L. Grob (Villanova University) and Eugene F. Barry (University of Massachusetts, Lowell). John Wiley & Sons, Inc.: Hoboken, NJ. 2004. xii + 1046 pp. \$150.00. ISBN 0-471-22983-0.

Both new authors and new chapters on the subjects of "gas chromatography/mass spectrometry, sample preparation, fast gas chromatography, optimization and computer assistance, and QA/

Unsigned book reviews are by the Book Review Editor.

QC validation of gas chromatographic methods" have been added to the fourth edition of this valuable reference on gas chromatography. The editors have deleted from this edition some chapters whose topics were adequately covered elsewhere in the literature. Chapters are organized under the following headings: Part I, Theory and Basics; Part II, Techniques and Instrumentation; and Part III, Applications. Each chapter is meant to be all-inclusive and thus includes information about the necessary instrumentation where appropriate. There are also three appendices written by the editors: A. Effect of Detector Attenuation Change and Chart Speed on Peak Height, Peak Width, and Peak Area; B. Gas Chromatographic Acronyms and Symbols and Their Definitions; and C. Useful Hints for Gas Chromatography. An extensive subject index completes the book.

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Femtochemistry and Femtobiology: Ultrafast Events in Molecular Science. Edited by Monique M. Martin (UMR CNRS-ENS 8640, PASTEUR, Paris) and James T. Hynes (UMR CNRS-ENS 8640, PASTEUR, Paris and University of Colorado, Boulder). Elsevier: Amsterdam. 2004. xviii + 570 pp. \$175.00. ISBN 0-444-51656-5.

This book was developed from presentations at the VIth International Conference on Femtochemistry held at the Maison de la Chimie in Paris in July 2003. More than 110 articles are presented here and are organized into the following sections: (1) Gas Phase and Clusters, (2) Quantum Control, (3) Hydrogen-Bond Dynamics, Water and Proton Transfer, (4) Solvation Phenomena, Fluids and Liquids, (5) Relaxation and Reactions in Solution, (6) Time-Resolved X-rays, (7) Protein Dynamics, (8) Primary Processes in Photobiology, (9) Dynamics in DNA, Polymers and Macromolecules, and (10) Surfaces, Interfaces, Nanostructures, and Solids. An author index completes the book; there is no subject index.

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