

ago; some material has also been abstracted from the more recently published book, *Chromatography: Concepts and Contrasts*, by Miller.

Separate chapters are devoted to basic concepts and terms, stationary phases, packed columns, and inlets as well as capillary columns and inlets, detectors, qualitative and quantitative analysis, programmed temperature operation, and special topics (the final chapter). There is also a handy list of appendices which should be helpful to the beginner. The authors are to be commended for presenting the essence of gas chromatography (which is no easy task) in a well-written, organized fashion, limiting their coverage to fundamental aspects or the more popular or commonly used components in gas chromatographs. For example, coverage of detectors (Chapter 7 is restricted to three of the more common detectors, flame ionization, thermal conductivity, and electron capture detectors). The same may be said for capillary inlet systems in Chapter 6 where only the split and splitless modes of injection are emphasized.

The more experienced gas chromatographer might be better served by consulting separate texts on inlet systems, columns, and detectors, etc. that have been published. However, this book is strongly recommended and is ideally suited for one unfamiliar with the technique who desires an overview and undergraduate instruction in analytical chemistry.

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JA9856001

10.1021/ja9856001

**Supercooled Liquids: Advances and Novel Applications.** Edited by John T. Fourkas, Daniel Kivelson, Udayan Mohanty, and Keith A. Nelson. American Chemical Society: Washington, DC. 1997. xii + 352 pp. \$110.95. ISBN 0-8412-3531-7.

The purpose of this book is to provide a mechanism for publishing symposia materials in book form based on scientific research.

This book represents, from a broad perspective, some of the most exciting recent research on supercooled liquids. Hot topics include domain models of supercooled liquids, inhomogeneity and polymorphism, and mode-coupling theory and its applications. Supercooled water and the connections between supercooled liquids and the conformational dynamics of proteins are covered in depth. The detailed introduction covers the terminology of the field, the major problems, and the currently popular theoretical and experimental approaches.

JA9856071

10.1021/ja9856071

**Photonic and Optoelectronic Polymers.** Edited by Samson A. Jenekhe (University of Rochester) and Kenneth J. Wynne (Office of Naval Research). American Chemical Society: Washington, DC. 1997. 575 pp. \$144.95. ISBN 0-8412-3519-2.

This book provides comprehensive coverage of the photonic and optoelectronic properties of polymers, including wave guiding, optical amplification, electrooptic modulation, second harmonic generation, digital and holographic optical memories, photorefractive effects, ultrafast optical switching, and electroluminescence. Using an interdisciplinary approach, the book also explores the design, synthesis, and processing of diverse photonic and optoelectronic polymers for applications, as well as novel approaches to processing these polymers into thin films, multilayers, fibers, gratings, and device structures.

The book also discusses new classes of polymers, such as proton transfer polymers, photorefractive polymers, electroluminescent polymers, and high-temperature NLO polymers, and assesses the progress on high-performance thin film transistors from organic materials.

JA985608A

10.1021/ja985608a

**Organic Coatings for Corrosion Control. ACS Symposium Series 689.** Edited by Gordon P. Bierwagen (North Dakota State University). Oxford Press: New York. 1998. xiii + 448 pp. ISBN 0-8412-3549-X.

This series is based on a symposium sponsored by the Division of Polymeric Materials: Science and Engineering (PMSE) at the 211th National Meeting of the American Chemical Society. The included thirty-five original papers start with a review paper by the editor and are grouped evenly into six categories arranged in the following order: Coatings Characterization Studies-Impedance; Coatings Properties and Corrosion Control; Coatings Testing for Specific Environments; Coatings for Unique Substrates and Environments; Inhibitors, Pigments and Pretreatment; and New Materials for Corrosion Control. Electrochemical testing methods for the coatings and the examination of these testing methods are extensively covered in Chapters 1–8, 11–12, 14, and 34. Corrosion protection under various environmental exposure conditions is discussed in the middle two categories. Topics perhaps most attractive to organic chemists are grouped in the last two categories. For example, Chapters 31 and 32 address the interesting issues about corrosion protection by polyaniline films, and Chapter 33 considers corrosion inhibition of copper using self-assembled monolayers of alkanethiols, a new technology in the area.

This series does cover a variety of topics, both engineering and theoretical. It is also rich in figures and illustrations. In addition, one-third of the papers are contributed from authors from ten foreign countries, reflecting an international effort. An average of ten to twenty references are attached in each chapter at the end, spanning mostly from the late 1980s to the early 1990s, up to 1996 when the symposium was held. An author index and a subject index are included at the end of the book. The series is suitable for researchers at any level and thus is an essential to any research library.

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JA985716X

10.1021/ja985716x

**Molecular Design of Polymeric Materials.** Edited by Koichi Hatada. Marcel Dekker, Inc.: New York. 1997. ISBN 0-8247-9465-6.

Polymer science and the industries that produce and utilize polymers have made tremendous progress over the last three decades, and the use of polymeric materials is ever-increasing.

The objective of this book is to present the most current, up-to-date achievements in the field of polymer science and technology. Emphasis is placed on the design of macromolecular architecture, properties and function of polymers, and higher order structures of polymeric materials.

Generously illustrated and containing over 2500 bibliographic citations, this book is an outstanding guide for copolymer scientists, plastic engineers, materials scientists, professionals in the paint, ceramics, and optics industries, and upper-level undergraduate and graduate students in these disciplines.

JA985661Z

10.1021/ja985661z

**Therapeutic Protein and Peptide Formulation and Delivery.** Edited by Zahra Shahrokh, Victoria Sluzky, Jeffrey L. Cleland, Steven J. Shire, and Theodore W. Randolph. American Chemical Society: Washington, DC. 1997. 240 pp. \$89.95. ISBN 0-8412-3528-7.

This book reviews protein stability and the analytical and biophysical characterization of proteins. It presents drug delivery approaches, especially local delivery through the skin. Including both academic and industrial perspectives from companies such as Genentech, Amgen, and Merck, this book also discusses novel drug delivery polymers and the development of pharmaceutical protein formulations.

JA9856093

10.1021/ja9856093