

Compendium Of Polymer Terminology And Nomenclature Iupac Recommendations 2008 International Union Of Pure And Applied Chemistry

A well-rounded and articulate examination of polymer properties at the molecular level, Polymer Chemistry focuses on fundamental principles based on underlying chemical structures, polymer synthesis, characterization, and properties. It emphasizes the logical progression of concepts and provide mathematical tools as needed as well as fully derived problems for advanced calculations. The much-anticipated Third Edition expands and reorganizes material to better develop polymer chemistry concepts and update the remaining chapters. New examples and problems are also featured throughout. This revised edition: Integrates concepts from physics, biology, materials science, chemical engineering, and statistics as needed. Contains mathematical tools and step-by-step derivations for example problems Incorporates new theories and experiments using the latest tools and instrumentation and topics that appear prominently in current polymer science journals. The number of homework problems has been greatly increased, to over 350 in all. The worked examples and figures have been augmented. More examples of relevant synthetic chemistry have been introduced into Chapter 2 ("Step-Growth Polymers"). More details about atom-transfer radical polymerization and reversible addition/fragmentation chain-transfer polymerization have been added to Chapter 4 ("Controlled Polymerization"). Chapter 7 (renamed "Thermodynamics of Polymer Mixtures") now features a separate section on thermodynamics of polymer blends. Chapter 8 (still called "Light Scattering by Polymer Solutions") has been supplemented with an extensive introduction to small-angle neutron scattering. Polymer Chemistry, Third Edition offers a logical presentation of topics that can be scaled to meet the needs of introductory as well as more advanced courses in chemistry, materials science, polymer science, and chemical engineering.

This successor to the popular textbook, "Polymer Physics" (Springer, 1999), is the result of a quarter-century of teaching experience as well as critical comments from specialists in the various sub-fields, resulting in better explanations and more complete coverage of key topics. With a new chapter on polymer synthesis, the perspective has been broadened significantly to encompass polymer science rather than "just" polymer physics. Polysaccharides and proteins are included in essentially all chapters, while polyelectrolytes are new to the second edition. Cheap computing power has greatly expanded the role of simulation and modeling in the past two decades, which is reflected in many of the chapters. Additional problems and carefully prepared graphics aid in understanding. Two principles are key to the textbook's appeal: 1) Students learn that, independent of the origin of the polymer, synthetic or native, the same general laws apply, and 2) students should benefit from the book without an extensive knowledge of mathematics. Taking the reader from the basics to an advanced level of understanding, the text meets the needs of a wide range of students in chemistry, physics, materials science, biotechnology, and civil engineering, and is suitable for both masters- and doctoral-level students. Praise for the previous edition: ...an excellent book, well written, authoritative, clear and concise, and copiously illustrated with appropriate line drawings, graphs and tables. - Polymer International ...an extremely useful book. It is a pleasure to recommend it to physical chemists and materials scientists, as well as physicists interested in the properties of polymeric materials. - Polymer News This valuable book is ideal for those who wish to get a brief background in polymer science as well as for those who seek a further grounding in the subject. - Colloid Polymer Science The solutions to the exercises are given in the final chapter, making it a well thought-out teaching text. - Polymer Science

This new edition includes better values of properties already reported, properties not reported in time for the earlier edition, and entirely new properties becoming important for modern polymer applications. It also contains 217 total polymers, 20 of which are all-new, particularly in high-technology areas such as electrical conductivity, non-linear optical properties, microlithography, nanophotonics, and electroluminescences. Examples of specific polymers include silsesquoxane ladder polymers, 'foldamer' self-assembling polymers, and block copolymers that phase separate into 'mushrooms', ellipsoids, and sheets with on surface radically different in properties from the other.

Combining an up-to-date insight into mass-spectrometric polymer analysis beyond MALDI with application details of the instrumentation, this is a balanced and thorough presentation of the most important and widely used mass-spectrometric methods. Written by the world's most proficient experts in the field, the book focuses on the latest developments, covering such technologies and applications as ionization protocols, tandem and liquid chromatography mass spectrometry, gas-phase ion-separation techniques and automated data processing. Chapters on sample preparation, polymer degradation and the usage of mass-spectrometric tools on an industrial scale round off the book. As a result, both entrants to the field and experienced researchers are able to choose the appropriate methods and instrumentations -- and to assess their respective strengths and limitations -- for the characterization of polymer compounds.

Encyclopedic Dictionary of Polymers

Compendium of Chemical Terminology

Encyclopedia of Geochemistry

A Guide to IUPAC Recommendations

Preparation, Processing, Properties & Performance

Compendium of Polymer Terminology and Nomenclature

This is an essential purchase for all painting conservators and conservation scientists dealing with paintings and painted objects. It provides the first definitive manual dedicated to optical microscopy of historical pigments. Illustrated throughout with full colour images reproduced to the highest possible quality, this book is based on years of painstaking research into the visual and optical properties of pigments. Now combined with the Pigment Dictionary, the most thorough reference to pigment names and synonyms available, the Pigment Compendium is a major addition to the study and understanding of historic pigments.

The IUPAC system of polymer nomenclature has aided the generation of unambiguous names that reflect the historical development of chemistry. However, the explosion in the circulation of information and the globalization of human activities mean that it is now necessary to have a common language for use in legal situations, patents, export-import regulations, and environmental health and safety information. Rather than recommending a 'unique name' for each structure, rules have been developed for assigning 'preferred IUPAC names', while continuing to allow alternatives in order to preserve the diversity and adaptability of nomenclature. Compendium of Polymer Terminology and Nomenclature is the only publication to collect the most important work on this subject into a single volume. It serves as a handy compendium for scientists and removes the need for time consuming literature searches. One of a series issued by

the International Union of Pure and Applied Chemistry (IUPAC), it covers the terminology used in many and varied aspects of polymer science as well as the nomenclature of several different types of polymer including regular and irregular single-strand organic polymers, copolymers and regular double-strand (ladder and spiro) organic polymers.

Aimed at pre-university and undergraduate students, this volume surveys the current IUPAC nomenclature recommendations in organic, inorganic and macromolecular chemistry.

This volume explores the impact of printing on the European theatre in the period 1480-1880 and shows that the printing press played a major part in the birth of modern theatre.

Fundamentals and Applications

March's Advanced Organic Chemistry

Mass Spectrometry in Polymer Chemistry

Theatre of the Book, 1480-1880

Quantities, Units and Symbols in Physical Chemistry

Principles of Polymerization

The concept of smart drug delivery vehicles involves designing and preparing a nanostructure (or microstructure) that can be loaded with a cargo, this can be a therapeutic drug, a contrast agent for imaging, or a nucleic acid for gene therapy. The nanocarrier serves to protect the cargo from degradation by enzymes in the body, to enhance the solubility of insoluble drugs, to extend the circulation half-life, and to enhance its penetration and accumulation at the target site. Importantly, smart nanocarriers can be designed to be responsive to a specific stimulus, so that the cargo is only released or activated when desired. In this volume we cover smart nanocarriers that respond to externally applied stimuli that usually involve application of physical energy. This physical energy can be applied from outside the body and can either cause cargo release, or can activate the nanostructure to be cytotoxic, or both. The stimuli covered include light of various wavelengths (ultraviolet, visible or infrared), temperature (increased or decreased), magnetic fields (used to externally manipulate nanostructures and to activate them), ultrasound, and electrical and mechanical forces. Finally we discuss the issue of nanotoxicology and the future scope of the field.

Presents a solid introduction to thermal analysis, methods, instrumentation, calibration, and application along with the necessary theoretical background. Useful to chemists, physicists, materials scientists, and engineers who are new to thermal analysis techniques, and to existing users of thermal analysis who wish expand their experience to new techniques and applications. Topics covered include Differential Scanning Calorimetry and Differential Thermal Analysis (DSC/DTA), Thermogravimetry, Thermomechanical Analysis and Dilatometry, Dynamic Mechanical Analysis, Micro-Thermal Analysis, Hot Stage Microscopy, and Instrumentation. Written by experts in the various areas of thermal analysis. Relevant and detailed experiments and examples follow each chapter.

Rev. and enl. ed. of: Compendium of macromolecular nomenclature. 1991.

Over recent years there has been a tremendous upsurge in interest in the fracture behaviour of polymers. One reason for this is the increasing use of polymers in structural engineering applications, since in such circumstances it is essential to have as complete an understanding as possible of the polymer's fracture behaviour. This book is designed to meet the requirements of those who need to be informed of the latest developments in the field of polymer fracture. It is written particularly for research workers but it should also prove invaluable for advanced students taking final-year undergraduate or postgraduate courses. The main emphasis is upon the use of fracture mechanics in the study of polymer fracture but this approach is then developed to cover the micromechanisms of the fracture process. Particular prominence is given to the relationship between structure, mechanical properties and the mechanics and mechanisms of fracture. The first chapter is a brief introduction which has several aims. One is to introduce polymers to the reader who does not have a strong background in the subject and another is to provide background material that will be used at later stages. The book is then split into two main parts: the first deals with the mechanics and mechanisms whilst the second is concerned with materials. In Part I phenomena such as molecular fracture, fracture mechanics, shear yielding and crazing are covered from a general viewpoint.

Polymer Science and Technology

Polymer Mechanochemistry

Biobased Aerogels

Polysaccharide and Protein-based Materials

Fundamentals of Machine Component Design

Fracture Behaviour of Polymers

Academic and industrial research around polymer-based colloids is huge, driven both by the development of mature technologies, e.g. latexes for coatings, as well as the advancement of new materials and applications, such as building blocks for 2D/3D structures and medicine. Edited by two world-renowned leaders in polymer science and engineering, this is a fundamental text for the field. Based on a specialised course by the editors, this book provides the reader with an invaluable single source of reference. The first section describes formation, explaining basic properties of emulsions and dispersion polymerization, microfluidic approaches to produce polymer-based colloids and formation via directed self-assembly. The next section details characterisation methodologies from microscopy and small angle scattering, to surface science and simulations. The final chapters close with applications, including Pickering emulsions and molecular engineering for materials development. A comprehensive guide to polymer colloids, with contributions by leaders in their respective areas, this book is a must-have for researchers and practitioners working across polymers, soft matter and chemical and molecular engineering.

Reverse engineering is widely practiced in the rubber industry. Companies routinely analyze competitors' products to gather information about specifications or compositions. In a competitive market,

introducing new products with better features and at a faster pace is critical for any manufacturer. Reverse Engineering of Rubber Products: Concepts, Tools, and Techniques explains the principles and science behind rubber formulation development by reverse engineering methods. The book describes the tools and analytical techniques used to discover which materials and processes were used to produce a particular vulcanized rubber compound from a combination of raw rubber, chemicals, and pigments. A Compendium of Chemical, Analytical, and Physical Test Methods Organized into five chapters, the book first reviews the construction of compounding ingredients and formulations, from elastomers, fillers, and protective agents to vulcanizing chemicals and processing aids. It then discusses chemical and analytical methods, including infrared spectroscopy, thermal analysis, chromatography, and microscopy. It also examines physical test methods for visco-elastic behavior, heat aging, hardness, and other features. A chapter presents important reverse engineering concepts. In addition, the book includes a wide variety of case studies of formula reconstruction, covering large products such as tires and belts as well as smaller products like seals and hoses. Get Practical Insights on Reverse Engineering from the Book's Case Studies Combining scientific principles and practical advice, this book brings together helpful insights on reverse engineering in the rubber industry. It is an invaluable reference for scientists, engineers, and researchers who want to produce comparative benchmark information, discover formulations used throughout the industry, improve product performance, and shorten the product development cycle. Tremendous developments in the field of polymer science, its growing importance, and an increase in the number of polymer science courses in both physics and chemistry departments have led to the revision of the First Edition. This new edition addresses subjects as spectroscopy (NMR), dynamic light scattering, and other modern techniques unknown before the publication of the First Edition. The Second Edition focuses on both theory (physics and chemistry) and engineering applications which make it useful for chemistry, physics, and chemical engineering departments. Key Features * Focuses on applications of polymer chemistry, engineering and technology * Explains terminology, applications and versatility of synthetic polymers * Connects polymerization chemistry with engineering applications * Leads reader from basic concepts to technological applications * Highlights the vastly valuable resource of polymer technology * Uses quantitative examples and problems to fully develop concepts * Contains practical leads to emulsion polymerization, viscoelasticity and polymer rheology

The first IUPAC Manual of Symbols and Terminology for Physicochemical Quantities and Units (the Green Book) of which this is the direct successor, was published in 1969, with the object of 'securing clarity and precision, and wider agreement in the use of symbols, by chemists in different countries, among physicists, chemists and engineers, and by editors of scientific journals'. Subsequent revisions have taken account of many developments in the field, culminating in the major extension and revision represented by the 1988 edition under the simplified title Quantities, Units and Symbols in Physical Chemistry. This 2007, Third Edition, is a further revision of the material which reflects the experience of the contributors with the previous editions. The book has been systematically brought up to date and new sections have been added. It strives to improve the exchange of scientific information among the readers in different disciplines and across different nations. In a rapidly expanding volume of scientific literature where each discipline has a tendency to retreat into its own jargon this book attempts to provide a readable compilation of widely used terms and symbols from many sources together with brief understandable definitions. This is the definitive guide for scientists and organizations working across a multitude of disciplines requiring internationally approved nomenclature.

Polymer Data Handbook

Clinics in Developmental Medicine

Morphology, Blends and Composites

Techniques and Jewelry Projects for Creating Successful Palettes

Reverse Engineering of Rubber Products

Concepts, Tools, and Techniques

This is the first complete book of polymer terminology ever published. It contains more than 7,500 polymeric material terms. Supplementary electronic material brings important relationships to life, and audio supplements include pronunciation for each term.

Updated and expanded, this Fourth Edition of the most trusted reference in architecture offers the most comprehensive coverage of architectural and construction terms available. This classic dictionary now features nearly 25,000 definitions (including 2,800 new terms), 2,500 illustrations (including 200 new illustrations), and maintains its extraordinary visual appeal and easy-to-read page design. Prepared by a renowned architectural editor in association with expert contributors, incorporating the work of many standards groups, the book presents clear, concise definitions of terms in nearly 80 areas. The Fourth Edition covers new industry terms which have emerged due to changes in engineering and building technologies, organizations, materials, and legal developments, and has been expanded to include more historic architectural styles. New terms include: Legal Architectural Barriers Act Wheelchair Accessible Materials Fibrous Concrete Latex Mortar Polymer-Based Stucco Concrete Compliance Conformity Refractory Mortar Organizations Building Research Establishment (formerly Building Research Station) of Great Britain ASTM Historic Architectural Styles Anglo-Palladianism French Victorian Isabellino Mudajar Mozarabic Neo-Rococo

Nomenclature is an essential part of any academic discipline but in chemistry it assumes a particular significance. The

nomenclature of chemical compounds is systematic: names and formulae are constructed from units manipulated to convey information on composition and structure. To understand chemistry, students must have a firm grasp of the principles of nomenclature. Without this they are lost. Principles of Chemical

Accompanying CD-ROM contains ... "150 color images with legends, 472 book figures with legends, 438 multiple choice questions, and 119 interactive drag-and-drop exercises." -- from CD-ROM Welcome screen.

Polymer Clay Color Inspirations

Development, Structure, and Function

Elements of Polymer Science & Engineering

IUPAC Recommendations 2008

Introduction to Polymer Science and Technology

The Glossary of Prosthodontic Terms

Lindly Haunani and Maggie Maggio are renowned for their courses and workshops on color as well as for their outstanding polymer clay work. In this book, they offer instruction and inspiration that focuses on polymer clay as a learning tool that readers can use to explore their own color instincts and preferences and develop their own palettes. Each chapter investigates a specific color principle, with the discussion supported by a related exercise, a "studio tool" assignment or demonstration, a polymer clay jewelry project, and a profile of a prominent polymer clay artist. Sample topics include: • The Complexity of Color • Three Properties of Color • Choosing Your Palette • Mixing Colors That Flow • Matching Colors with Precision • Games Colors Play • Orchestrating Color Combinations • Color Composition: Placement and Proportion • Playful Patterns • Tantalizing Textures

Aerogels have been in use for over 80 years and have been utilised in a wide variety of applications, in particular, there has been growing use of insulating nanoporous materials in the aerospace industry. Recent awareness of the environmental implications of materials has driven researchers to develop new green materials, with aerogels being developed using biobased constituents, such as polysaccharides and proteins. Recently, biobased components, such as cellulose nanocrystals, have replaced synthetic counterparts in the production of nanoporous materials. Biobased Aerogels is the first book to cover aerogel research from a green perspective, using commentary and analysis from leading researchers working in the field. Aerogels based on polysaccharides and proteins, their preparation and characterisation will be covered in detail, with further discussion highlighting properties such as surface morphology, shape recovery, mechanical properties and adsorption capacity. This insightful and timely publication will provide essential reading for those researchers and industrialists working within the green chemistry field.

Visual illusions are compelling phenomena that draw attention to the brain's capacity to construct our perceptual world. The Compendium is a collection of over 100 chapters on visual illusions, written by the illusion creators or by vision scientists who have investigated mechanisms underlying the phenomena. --

The 'Red Book' is the definitive guide for scientists requiring internationally approved inorganic nomenclature in a legal or regulatory environment.

Polymer Colloids

A Comprehensive Reference Source on the Chemistry of the Earth

Dictionary of Architecture and Construction

IUPAC Recommendations 2005

Commission on Macromolecular Nomenclature

Polypropylene Handbook

The new edition of a classic text and reference The large chains of molecules known as polymers are currently used in everything from "wash and wear" clothing to rubber tires to protective enamels and paints. Yet the practical applications of polymers are only increasing; innovations in polymer chemistry constantly bring both improved and entirely new uses for polymers onto the technological playing field. Principles of Polymerization, Fourth Edition presents the classic text on polymer synthesis, fully updated to reflect today's state of the art. New and expanded coverage in the Fourth Edition includes: * Metallocene and post-metallocene polymerization catalysts * Living polymerizations (radical, cationic, anionic) * Dendrimer, hyperbranched, brush, and other polymer architectures and assemblies * Graft and block copolymers * High-temperature polymers * Inorganic and organometallic polymers * Conducting polymers * Ring-opening polymerization * In vivo and in vitro polymerization Appropriate for both novice and advanced students as well as professionals, this comprehensive yet accessible resource enables the reader to achieve an advanced, up-to-date understanding of polymer synthesis. Different methods of polymerization, reaction parameters for synthesis, molecular weight, branching and crosslinking, and the chemical and physical structure of polymers all receive ample coverage. A thorough discussion at the elementary level prefaces each topic, with a more advanced treatment following. Yet the language throughout remains straightforward and geared towards the student. Extensively updated, Principles of Polymerization, Fourth Edition provides an excellent textbook for today's students of polymer chemistry, chemical engineering, and materials science, as well as a current reference for the researcher or other practitioner working in these areas.

Your search for the perfect polymers textbook ends here - with Polymer Science and Technology. By incorporating an innovative approach and consolidating in one volume the fundamentals currently covered piecemeal in several books, this efficient text simplifies the learning of polymer science. The book is divided into three main sections: polymer fundamentals; polymer formation and conversion into useful articles; and polymer properties and applications. Polymer Science and Technology emphasizes the basic, qualitative understanding of the concepts rather than rote memorization or detailed mathematical analysis. Since the book focuses on the ultimate property of the finished product, it minimizes laborious descriptions of experimental procedures used for the characterization of polymers. Instead, the author highlights how the various stages involved in the production of the finished product influence its properties. Well-organized, clear-cut, and user-friendly, Polymer Science and Technology is an outstanding textbook for teaching junior and senior level undergraduates and first year graduate students in an introductory course covering the challenging subject of polymers.

This book highlights the various types of polymer and nanocomposites that can be derived from biorenewable resources. It covers various aspects of biobased polymers and nanocomposites, including preparation, processing, properties, and performance, and the latest advances in these materials. It

also includes recent findings from leading researchers in academia and industry, government, and private research laboratories around the globe, providing the latest information on biobased polymers and nanocomposites. Offering an overview of the entire production process, it guides readers through all stages, from the raw source materials, processing and property characterization to application performance. This book is suitable for professionals and researchers seeking in-depth practical information as well as the fundamental science behind this. It also serves as a point of reference for undergraduate and graduate students, as well as postdoctoral researchers working in the area of polymer and composites with a special emphasis on biobased materials.

This book contains the majority of the papers presented at the NATO Advanced Research Workshop (ARW) held in Burlington, Vermont, USA on October 12-15, 1992. This ARW was the first of its kind to address the subject of intrinsically conducting polymers with an emphasis on processing and technological applications. The NATO ARW format was followed in that the subjects addressed here were limited in number but discussed in detail with the attendance being limited to a small number of selected scientists. The ARW brought together lecturers who are leaders in their respective fields from a wide range of NATO and non-NATO countries (a total of 11 countries) with the support of the NATO Scientific Affairs Division and some support from Champlain Cable Corporation. The total number of participants was 33 and the number of presentations was 24. The speakers were chosen based on the topics selected for this workshop and represented industry, universities and government laboratories. The field of conducting polymers has grown rapidly during the past few years with important developments in materials processing and fabrication that brought about active research programs focusing on the use of these polymers as "smart" materials in technological applications and devices in academic and industrial research laboratories.

Bio-based Polymers and Nanocomposites

A Textbook for Engineers and Technologists

Smart External Stimulus-Responsive Nanocarriers for Drug and Gene Delivery

Intrinsically Conducting Polymers: An Emerging Technology

The Oxford Compendium of Visual Illusions

Publisher Description

Compendium of Polymer Terminology and Nomenclature IUPAC Recommendations 2008 Royal Society of Chemistry

The Encyclopedia is a complete and authoritative reference work for this rapidly evolving field. Over 200 international scientists, each experts in their specialties, have written over 330 separate topics on different aspects of geochemistry including geochemical thermodynamics and kinetics, isotope and organic geochemistry, meteorites and cosmochemistry, the carbon cycle and climate, trace elements, geochemistry of high and low temperature processes, and ore deposition, to name just a few. The geochemical behavior of the elements is described as is the state of the art in analytical geochemistry. Each topic incorporates cross-referencing to related articles, and also has its own reference list to lead the reader to the essential articles within the published literature. The entries are arranged alphabetically, for easy access, and the subject and citation indices are comprehensive and extensive. Geochemistry applies chemical techniques and approaches to understanding the Earth and how it works. It touches upon almost every aspect of earth science, ranging from applied topics such as the search for energy and mineral resources, environmental pollution, and climate change to more basic questions such as the Earth's origin and composition, the origin and evolution of life, rock weathering and metamorphism, and the pattern of ocean and mantle circulation. Geochemistry allows us to assign absolute ages to events in Earth's history, to trace the flow of ocean water both now and in the past, trace sediments into subduction zones and arc volcanoes, and trace petroleum to its source rock and ultimately the environment in which it formed. The earliest of evidence of life is chemical and isotopic traces, not fossils, preserved in rocks. Geochemistry has allowed us to unravel the history of the ice ages and thereby deduce their cause. Geochemistry allows us to determine the swings in Earth's surface temperatures during the ice ages, determine the temperatures and pressures at which rocks have been metamorphosed, and the rates at which ancient magma chambers cooled and crystallized. The field has grown rapidly more sophisticated, in both analytical techniques that can determine elemental concentrations or isotope ratios with exquisite precision and in computational modeling on scales ranging from atomic to planetary. This book extensively reviews Polypropylene (PP), the second most widely produced thermoplastic material, having been produced for over 60 years. Its synthesis, processing and application are still accompanied by vigorous R&D developments because the properties of PP are at the borderline between those of commodity and engineering thermoplastics. Readers are introduced to various tacticities and polymorphs of PP, and their effects on structural properties. Further, the book addresses the control of optical properties using nucleants, provides strategies for overcoming the limited cold/impact resistance of PP, examines in detail the effects of recycling, and presents guidelines for the property modification of PPs through foaming, filling and reinforcing with respect to target applications. Special attention is paid to descriptions and models of properties as a function of morphological variables. Last but not least, the book suggests potential practical applications of PP-based systems, especially in the packaging, appliances, building/construction, textile and automotive sectors. Each chapter, written by internationally respected scientists, reflects the current state-of-art in the respective field and offers a vital source of information for students, researchers and engineers interested in the morphology, properties, testing and modeling of PP and PP-based systems. The content is indispensable to the appropriate application of PPs and related composites.

Principles of Chemical Nomenclature

Print, Text, and Performance in Europe

Polymer Chemistry

An Introductory Text and Reference for Engineers and Chemists

Fundamental Polymer Science

Thermal Analysis of Polymers

This is an introductory textbook on polymer science aimed at lecturers/professors, undergraduate and graduate students of polymer science and technology courses as well as engineering (materials, chemical, civil, food, etc.), chemistry, and physics. It is also aimed at engineers and technologists. Each chapter is written starting from simple concepts and progressively getting more complex towards its end, to help the reader decide how deep to go into each topic. Each chapter also presents the solution of many proposed problems, guiding the reader to solve numerically the everyday problems polymer technologists face, by applying theoretical concepts. Additionally, at every chapter's end there is a list of problems for the reader to check his/her understanding of

the topics. The book contains a list of more than 10 experiments to perform in the laboratory, linked to some of the concepts discussed in the book. It also serves as a long-term reference with many figures, diagrams, tables, chemical equations containing frequently needed information. It contains as well an appendix with a long list of chemical structures of the main commercially available polymers.

Fundamentals of Machine Component Design presents a thorough introduction to the concepts and methods essential to mechanical engineering design, analysis, and application. In-depth coverage of major topics, including free body diagrams, force flow concepts, failure theories, and fatigue design, are coupled with specific applications to bearings, springs, brakes, clutches, fasteners, and more for a real-world functional body of knowledge. Critical thinking and problem-solving skills are strengthened through a graphical procedural framework, enabling the effective identification of problems and clear presentation of solutions. Solidly focused on practical applications of fundamental theory, this text helps students develop the ability to conceptualize designs, interpret test results, and facilitate improvement. Clear presentation reinforces central ideas with multiple case studies, in-class exercises, homework problems, computer software data sets, and access to supplemental internet resources, while appendices provide extensive reference material on processing methods, joinability, failure modes, and material properties to aid student comprehension and encourage self-study.

Nomenclature of Regular Single-Strand Organic Polymers discusses the fundamental principles and the basic rules of the structure-based nomenclature. This book contains detailed extensions and applications of these principles and rules to single-strand organic polymers. An Appendix is included containing a limiting list of acceptable source-based names, along with the corresponding structure-based names, of common polymers. This book will be of value to organic chemists.

The series Topics in Current Chemistry presents critical reviews of the present and future trends in modern chemical research. The scope of coverage is all areas of chemical science including the interfaces with related disciplines such as biology, medicine and materials science. The goal of each thematic volume is to give the non-specialist reader, whether in academia or industry, a comprehensive insight into an area where new research is emerging which is of interest to a larger scientific audience. Each review within the volume critically surveys one aspect of that topic and places it within the context of the volume as a whole. The most significant developments of the last 5 to 10 years are presented using selected examples to illustrate the principles discussed. The coverage is not intended to be an exhaustive summary of the field or include large quantities of data, but should rather be conceptual, concentrating on the methodological thinking that will allow the non-specialist reader to understand the information presented. Contributions also offer an outlook on potential future developments in the field. Review articles for the individual volumes are invited by the volume editors. Readership: research chemists at universities or in industry, graduate students.

Reactions, Mechanisms, and Structure

IUPAC Recommendations

Polymer Science

Ten Cate's Oral Histology

Pigment Compendium

Nomenclature of Regular Single-Strand Organic Polymers