

processes within plants and the terminal residues of agrochemicals in food crops are invaluable.

'Metabolism of Agrochemicals in Plants' is the first text to give systematic coverage of this topic. This volume is part of the Wiley Series in Agrochemicals and Plant Protection, and encompasses current scientific, regulatory knowledge and perspectives on all aspects of the use of chemicals and biotechnology in agriculture. It also contains contributions from experts in the agrochemical industry worldwide.

The book starts with a brief regulatory introduction and then experimental approaches for plant metabolism studies are critically reviewed. Following this are three chapters on key phases (primary and secondary) of metabolism and bound or non-extracted residues arising from the use of agrochemicals on plants. Subsequent chapters encompass the comparative metabolism of agrochemicals in plants and mammals and herbicide metabolism as a basis for selectivity. Finally, herbicide safeners and synergists are also covered especially as compounds in agrochemicals may interact resulting in increases or decreases in biological activities.

This book is unique and thoroughly up to date, bringing together the current status of the subject. Each chapter is self-contained with an introduction, main contents section, discussion and conclusion. Extensive references are also given. 'Metabolism of Agrochemicals in Plants' is an essential text for chemists and biochemists in the agrochemical and pharmaceutical industries and in academia, as well as for analytical chemists, regulatory chemists and environmental scientists.

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### **Food Analysis by HPLC 2nd ed**

Editor: Leo M. L. Nollet Marcel Dekker Inc., 2000, 1049 pp., \$250, ISBN 0-8247-8460-X

The first edition was a comprehensive volume covering all the major topics of food compounds for the analyst or engineer. The second edition gives the same excellent

coverage but has been extensively revised with new chapters being included.

A considerable theoretical introduction to HPLC analysis is included. Common methods of HPLC are discussed, i.e. ion exchange, size exclusion etc., also some less popular topics such as micellar liquid chromatography (MLC). Practical strategies to achieve separation using the selection of stationary phase, eluent, isocratic or gradient elution are discussed along the latest information on sample preparation. Various detectors and their appropriate use are described.

The chapters on food compounds include: proteins, peptides, amino acids and organic bases; lipids, phospholipids and fat soluble vitamins; carbohydrates; organic acids; water soluble vitamins and hop resin components. Compounds used in manufacture include: preservatives and antioxidants; sweeteners; synthetic colourants. Also included are natural and synthetic contaminants and chemicals used in production: carbamate and urea pesticides; pesticide residues, organophosphate and organochlorine; mycotoxins and related compounds; antimicrobial residues. Completely new chapters to this edition cover: alcohols; phenolic compounds; pigments; and growth promoters.

The individual chapters start with an introduction followed by a plethora of well presented information about the compounds i.e. structure, pH, solubility, protective agents, relative sweetness etc. Particularly well referenced tables are included of specific samples, their separation methods and detection. Examples of separation methods are given along with the chromatograms acquired.

This edition is superb, it would be an aid to any individual, novice or professional in the field of food analysis or allied professions.

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### **New Trends in Synthetic Medicinal Chemistry**

Fulvio Gualtieri (Ed.) WILEY-VCH Verlag GmbH, Weinheim, 2000, 370 pp., £88.00, ISBN 3-527-29799-5

Biology has become increasingly more important in drug development, however, synthetic organic chemistry continues to play a fundamental role in research carried out in academia and industry. In recent years, two classes of biopolymers, carbohydrates, nucleotides and oligonucleotides have emerged as targets of growing interest in modern drug research. The most crucial topic in drug design, however, is still their synthesis. Computational methods play a major role in the discovery and development of new drugs. This book describes all the recent developments in organic synthetic methodology, which are essential to pharmaceutical research. The book covers synthetic developments in pharmacologically interesting compounds, such as carbohydrates and nucleotides, and also describes important synthetic methods, which include combinatorial chemistry, solid phase reactions, bioassisted organic synthesis and asymmetric synthesis.

'New Trends in Synthetic Medicinal Chemistry' contains nine chapters, and includes comprehensive sets of references at the end of each chapter. The book starts with an introductory chapter on organic synthesis and medicinal chemistry, and subsequent chapters cover series design in synthetic chemistry, combinatorial chemistry and tools for solid-phase organic synthesis. Three further chapters describe the stereoselective synthesis of enantiomerically pure drugs, the resolution of enantiomers of chiral drugs and biocatalysed reactions. Finally, selective glycosidation reactions and their use in medicinal chemistry and the chemistry of antisense oligonucleotides are covered.

'New Trends in Synthetic Medicinal Chemistry' is written by an internationally renowned team from both academia and industry. The book is the seventh volume in the series 'Methods and Principles in Medicinal Chemistry', and provides an up-to-date, clearly written and presented compendium, reviewing some of the most modern techniques in synthetic medicinal chemistry. It also provides a practical approach on the subject, enabling researchers to apply the featured methods. The book is highly recommended for research scientists interested in new synthetic approaches in medicinal chemistry.

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### **Polymer Blends (2 volume set)**

D. R. Paul & C. B. Bucknall (Eds.) John Wiley & Sons Ltd, New York, 2000, 1217 pp., £194.00, ISBN 0-471-24825-8

The development of both technological and commercial applications of polymer blends has led to a phenomenal growth in the field during the last two decades. Great strides have been made in the physics, chemistry and processing associated with polymer blends, as well as their evaluation, and the tailoring and control of their structure. The ultimate focus is inevitably on the performance of such blends in practical situations, with great emphasis being placed on mechanical performance. There is thus a need for a definitive, comprehensive treatise that both explores and summarises the vast progress made in polymer blend technology in a coherent manner.

'Polymer Blends (vol. 1: Formulation and vol. 2: Performance)' is not just a multi-authored compilation of recent literature, and a review covering the quite dramatic new advances made in the field, but a practical handbook. Considerable effort has been made to co-ordinate successfully the style and content of successive chapters to ensure a smooth progression from topic to topic. Vol. 1 essentially deals with structure, vol. 2 with properties: the two-volume set providing a broad view of all aspects of polymer blends as seen by an array of world-wide experts. The first volume covers thermodynamics of polymer-polymer mixtures, structure formation of blends, and characterisation of blends by a variety of techniques. The second volume covers mechanical properties and fracture resistance, blending for specific performance, reinforced polymer blends, elastomeric blends and the problems of recycling blends. The books provide an authoritative source that includes background information for newcomers to the field, and a critical review of the literature and most important issues. The presentation is both clear and concise, and includes comprehensive chapter-by-chapter bibliographies.

This two-volume set is an invaluable reference and resource on polymer blends for the twenty-first century. It is highly recommended for researchers and industry professionals in chemical and plastics engineering, polymer science, materials science, chemistry and mechanical engineering.

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