Book Reviews[*]

Flavor Release. Edited by Deborah D. Roberts (Nestlé Research Center) and Andrew J. Taylor (University of Nottingham). American Chemical Society (Distributed by Oxford University Press): Washington, DC. 2000. xii + 484 pp. $145.00. ISBN 0-8412-3692-5.

This book, based on the symposium "Flavor Release: Linking Experiments, Theory, and Reality" held in New Orleans in 1999, brings together a multidisciplinary group of authors—from physical chemists to experts in sensory science—who describe both the background and the state-of-the-art in flavor release science. The chapters are arranged into the following sections: In Vivo and Dynamic Flavor Release Methodology; Modeling of Flavor Release; Interactions of Flavor Compounds with Food Components; and Relating Analytical Results to Human Perception.

JA0152759

10.1021/ja0152759

Transition Metal Catalysis in Macromolecular Design. Edited by Lisa Saunders Boffa (Exxon Research and Engineering Co.) and Bruce M. Novak (North Carolina State University). American Chemical Society (Distributed by Oxford University Press): Washington, DC. 2000. x + 300 pp. $115.00. ISBN 0-8412-3673-9.

Based on the symposium "Advanced Catalysis: New Polymer Syntheses and Modifications" held in Anaheim, CA, in 1999, this book introduces the reader to some of the current techniques and applications in transition metal-mediated polymer synthesis. Its 16 chapters are divided into the following sections: New Chain-Building Mechanisms; Polymer Modification Using Transition Metals; Olefin/Alkyne Addition Polymerization; and Controlled Radical Polymerization.

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Detergency of Specialty Surfactants. Surfactant Science Series. Volume 98. Edited by Floyd E. Friedli (Goldschmidt Chemical Corp., Dublin, OH). Marcel Dekker, Inc.: New York, Basel. 2001. x + 284 pp. $150. ISBN 0-8247-0491-6.

This latest volume in the Surfactant Science Series contains nine chapters, all written by contributors from the detergent industry. It provides good coverage of a variety of specialty surfactants—compounds distinguished from their commodity counterparts by relatively limited production and the particular features required for the final formulations. Most of the discussions deal with laundry detergents, but information on products for personal and surface washing is also included.

The book is written in a didactic style and goes well beyond reviewing the latest developments in the field. By providing a good measure of historical and technical detail, the chapters make the material accessible to experts and moderately informed readers alike. In keeping with this strategy, the general structure of the chapters includes sections on historical development, synthesis, technical production, physiochemical properties, application, and safety/environmental aspects. References go back as far as the 19th century, but proceed to 1999 in only two of the nine chapters. In at least one instance, a nine-year-old reference is still listed "in press". The patent literature is heavily quoted, as are numerous internal company reports and a measure of unpublished results.

At 69 pages, the first chapter is by far the longest. It provides a thorough treatment of alkyl polyglycosides, with an especially extensive section on their uses in laundry, dishwashing, and personal cleaning products. Performance characteristics and test results of numerous formulations are included. Chapter 2, coauthored by the editor, covers nitrogen-containing surfactants. It is divided into sections dealing with ethoxylated amines, ethoxylated amides, amphoterics and betaines, amine oxides, and miscellaneous amides, and it provides a useful set of tables with compositions of specialty formulations. Chapter 3, which deals with sulfonated methyl esters, is written in a compact style and emphasizes application over production aspects. Chapter 4 is entitled "Detergent Properties of Alkyldiphenyl Oxide Disulfonates", but does, in fact, cover some production aspects. It also provides information on subsurface degradation and aquatic toxicity. In contrast, Chapter 5, in which there is a discussion of methyl ester ethoxylates, lacks a section on environmental impact. It does include more extensive data on production analysis, as well as an unusually large set of gel boundary diagrams. *N*-Acyl ED3A chelating surfactants are concisely dealt with in Chapter 6, and Chapter 7 provides a brief survey of surfactants for the prewash market. Chapters 8 and 9 deviate somewhat from the previous seven as they deal with dry cleaning surfactants and fabric softeners, respectively. Chapter 9 provides good basic information, but lacks any environmental considerations and is referenced mostly with materials from the 1950s and 60s. The last chapter also omits environmental/toxicity discussions. It includes a useful set of electron micrograph illustrations, which are, however, slightly marred by the absence of a distance scale.

Volume 98 may not be perfect, but it is a worthy addition to a series of long standing tradition. It provides industry standard information and should be a good investment for practitioners in the detergency field.

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JA015250+

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Chemical and Biological Sensors for Environmental Monitoring. Edited by Ashok Mulchandani (University of California, Riverside) and Omowunmi A. Sadik (State University of New York, Binghamton). American Chemical Society (distributed by Oxford University Press). 2000. xii + 340 pp. $115.00. ISBN: 0-8412-3687-9.

This book emerged from a symposium on the title subject that was held during the 217th ACS National Meeting in Anaheim, CA, in 1999. The 21 chapters cover recent advances in chemical and biochemical sensors for environmental monitoring and are divided into the following sections: Chemical Sensors, Enzyme- and Protein-Based Sensors, Microbial-Based Sensors, Affinity-Based Sensors, and Nucleic Acid-Based Sensors.

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[*]Unsigned book reviews are by the Book Review Editor.