tors will become standard equipment in every chemical laboratory".

Although the most part of the book is focused upon a literature survey of reactions carried out between 2002 and 2004, this easy to read work is essential for chemists wishing to learn about the state of the art in microwave-assisted organic synthesis chemistry and will be a handy reference volume for more experienced microwave chemists. Unfortunately, the indexing is poor, with few page entries listed against most terms (e.g. *microwave heating* has only one entry!) and few if any of the researchers cited in the text are listed in the index.

Finally, the authors have highlighted the rapid pace of technological development in microwave equipment for organic chemistry and in the range of microwave chemistry reported. With this level of innovation expected to continue unabated in the immediate future, a second edition may soon be warranted!

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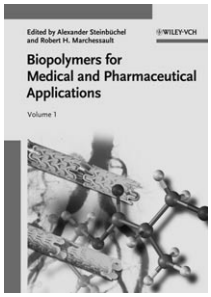
Biopolymers for Medical and Pharmaceutical Applications

Edited by *Alexander Steinbüchel* and *Robert Marchessault*.

Wiley-VCH, Weinheim 2005. xii + 1133 pp., hardcover $ 84.95.—ISBN 3-527-31154-8

Biopolymers, defined broadly as biosynthesized materials, play a central role in medicine and pharmacy with applications in tissue engineering, regenerative medicine, and drug-carrier systems. In general, materials from natural sources cover a wide range of macromolecules such as polyphenols, polyesters, polysaccharides, and polyamides. Such materials are advantageous in biomedical and pharmaceutical applications because of their inherent properties of biocompatibility and biodegradation. To cover all classes of the biopolymers within one text is a difficult task. However, the editors Alexander Steinbüchel and Robert H. Marchessault have undertaken this venture in a two-volume book with wonderful contributions by experts in the field from academic as well as industrial research groups. Together, editors and authors have succeeded in providing a complete picture of biomedical biopolymers, describing their history, occurrence and structure, isolation, biosynthesis, biodegradation, application, perspectives, and patent information. This is an ideal reference of biopolymers for both basic and applied science research laboratories.



Over the past decade, many reviews and books have been written on biopolymers with wide range applications in areas such as medicine, pharmacy, agriculture, textiles, food, chemical, and packaging industries. The book *Biopolymers for Medical and Pharmaceutical Applications* comprises 32 chapters that were selected from the published ten-volume text *Biopolymers* (Alexander Steinbüchel, 5924 pp, 2001–2003, Wiley-VCH, ISBN: 3-527-30290-5). The chapters in *Biopolymers for Medical and Pharmaceutical Applications* are arranged in five sections according to biopolymer chemical structure. The first volume is divided into three sections covering polyphenols, polyesters, and polysaccharides. In detail, Volume 1 begins with an introductory preface by the editors, followed by a section with three chapters describing polyphenols and natural rubbers. The second section contains four chapters dealing with various polyesters including the polyanhydrides. The 14 chapters in the third section focus on the various polysaccharides. In Volume 2, Section 4 includes eight chapters focusing on polyamides and complex proteinaceous materials. The final section is comprised of three chapters dealing with miscellaneous biopolymers.

Overall, this two-volume text concentrating on biopolymers for biomedical and pharmaceutical applications is well organized by the editors and provides knowledgeable insight from many of the leaders in the field. Each chapter focuses on one kind of biopolymer, highlighting discovery, occurrence, chemical and physical properties, analysis, biosynthesis, molecular genetics, physiological role, fermentative production, isolation, purification, and application as well as patent information. Not only did the book cover broad areas of individual biopolymer, it also provided detailed information in each issue. Thus, *Biopolymers for Medical and Pharmaceutical Applications* provides a comprehensive overview of the interdisciplinary fields of biopolymers. Moreover, the contents are easily accessible through the table of contents and the keyword index. One notable shortcoming of this treatise is that most of the literature cited in all chapters is pre-2002, this is understandably due to selection from previously published books and the time frame of publication. Therefore, one can hope for a second or revised edition in which recent research data will be added so as to provide up-to-date insights into the world of biopolymers. Even so, both skilled researchers and those new to the field will find something worthwhile and interesting in this wide-range treatise. Furthermore, the price of this two-volume book is much less than that of the ten-volume *Biopolymer* series. Still, it might be a little expensive for graduate students or younger scientists to purchase.

Finally, as the editors wrote in the introductory preface, "it has been our intention to provide the scientific and industrial community with a comprehensive view of the current state of knowledge on biopolymers and their derivatives in medicine and pharmacy". In my view, they have successfully achieved this goal. The text provides thorough coverage by illustrating a complete picture of individual biopolymers from both academic and industrial practice. Therefore, the book is not only an excellent guidebook in technological aspects of biopolymers, but also a supreme teaching and reference book for graduate students and academic and industrial researchers who want to learn about biopolymers from discovery to application.

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