

A. Steinbuchel and R.H. Marchessault, editors. Biopolymers for Medical and Pharmaceutical Applications Vols. 1 and 2, Wiley/VCH Verlag GmbH & Co. KGaA, Weinheim/Germany, 2005 (xxvi + 1132 pp., £245.00, ISBN 3-527-31154-8)

Biopolymers are diverse, abundant, exhibit fascinating properties and are of increasing importance for various potential applications. A wide variety of polymers are synthesized by living organisms, which can be divided into eight major classes according to their chemical structure. Within each category the chemistry of the repeating units, which are covalently linked, the type of linkage between the repeating units, and their structural arrangement distinguish the members. Basic and applied research has considerably revealed much knowledge about biopolymers for their applications in different areas such as medicine, pharmacy, agriculture, and food industry etc.

The two volumes of this handbook provide a comprehensive review on biopolymers for biomedical and pharmaceutical applications. According to Editor's notes, 32 chapters have been taken in these two volumes from the recently published ten volume *Biopolymers* series. Volume 1 is focussed on the humic substances and polyisoprenoids, polyesters, and polysaccharides. Medical aspects and applications of humic substances, melanin, biochemistry of natural rubber and structure of latex are discussed in the three opening chapters. Polyesters section deals with applications of PHAs in medicine and pharmacy, polyanhydrides, polyglycolide and polylactides. The last 14 chapters provide detailed information on different polysaccharides from algae, bacteria, fungi and animal sources etc.

Volume 2 is focused on the polyamides, complex proteinaceous materials, and miscellaneous biopolymers. It provides the information on the ribosomal protein synthesis, enzymatic and chemical modification of proteins and ploy (amino acids), collagens, gelatins, poly- γ -glutamic acid, ϵ -poly-L-lysine, vicilin and legumin seed storage proteins and extra-organismic adhesive proteins. A separate chapter on self-assembling protein cage systems and applications in nanotechnology is also included. The last section contains three chapters on hemozoin, biofilms, and health issues of biopolymers. The current knowledge on the biopolymers in terms of discovery, occurrence, physical and chemical properties, analysis, biosynthesis, molecular genetics, physiological role, production, isolation, purification and applications is provided in this handbook.

In conclusion, these volumes are highly useful and provide excellent information of the different aspects of biopolymers. These are highly recommended to all the individuals working in the chemistry, polymers, biotechnology, medical and pharmaceuticals.

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Roger M. Rowell, editor. Handbook of Wood Chemistry and Wood Composites CRC Press, Boca Raton, FL, 2005 (487 pp., \$179.95/£99.00, ISBN 0-8493-1588-3)

Wood materials have been distinguished and considered important throughout the human history. They can be utilized in each field of human lives and societies from an ancient world until now. Currently, the interest and development of natural, renewable and recyclable materials are increasing. Wood-based materials have attractive advantages to the environment and to energy and resource conservation. However, wood was designed to perform in a moist environment and it can be recycled to carbon dioxide and water using the chemistries of biological decay and thermal, ultraviolet light and moisture degradations. Knowledge of all the underlying chemistries and biochemistries would help us to improve the utilization of these materials.

Handbook Chemistry and Wood Composites presents the latest concepts in wood chemistry and wood composites. All the chapters are contributed by understanding the authors drawn from the leading researchers in this field. It covers the whole field of wood chemistry such as the structure, chemical modification, compositions and applications. This book details structure, properties, composites and property improvements.

The first part describes the structure and function of wood and details in the cell wall chemistry. It gives a clear and in-depth knowledge to readers. In the second and third parts, it provides an in-depth discussion of mechanisms in the properties and performance of wood-based composites. There are reviews and insightful analyses in the mechanisms of moisture sorption, thermal and biological degradation, ultraviolet degradation, and weathering. The latest research on adhesion and adhesive development and chemistry of strength are provided in the third part. The last part of the book discusses the property improvements. It explores the modification techniques that could increase the mechanical strength, such as lumen fill, monomer polymer interactions, compatibilization. A very comprehensive and useful book by a very well known and competent author.

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