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Book Review

Polymeric Biomaterials (2nd edition)

Severian Dumitriu (Ed.); Marcel Dekker Inc, New York, 2002, xiv + 1168 pages, ISBN 0-8247-0569-6, US\$ 275

The biomaterials field has come a long way from its empirical beginnings, with researches taking whatever materials were available and attempting to integrate them into the human body, sometimes with disastrous results. Today, biomaterial research has developed into a major interdisciplinary effort involving chemists, biologists, engineers, and physicians. Biomaterials research has provided the clinician with a large number of new materials and new medical devices. As the biomaterials device industry continues to grow, degradable polymers will increase at the expense of traditional materials such as metals and conventional biostable polymers.

This volume consists of two parts: Part I: Polymers as Biomaterials and Part II: Medical and Pharmaceutical Applications of Polymers. The fundamental questions of polymer synthesis, the types of polymers used for medical purposes, and modification of polymers to increase their biocompatibility, are presented in the first part. The applications of two major groups of biomaterials—natural biomaterials (polysaccharides, cellulose, chitosan,

proteins, etc.) and synthetic biomaterials (polyesters, silicones, elastomers, etc.)—are also reviewed. Part II deals with concrete utilisation of polymeric biomaterials in the domains of tissue engineering, ophthalmic delivery, vascular prostheses (grafts), dental and maxillofacial surgery, blood contacting, skin graft polymers, sensors in biomedical applications, medical adhesives, medical textiles, and hemostat biomaterials.

‘Polymeric Biomaterials’, Second Edition, contains 80% new material, including the latest developments in genetic engineering, synthesis of biodegradable polymers, hydrogels, and mucoadhesive polymers, as well as polymers for dermacosmetic treatments, burn and wound dressings, orthopaedic surgery, artificial joints, vascular prostheses, and in blood contacting systems. This book offers nearly 7000 references (3900 more than the first edition) and it is an up-to-date resource for researchers.

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