## CONTENTS

I. NOVEL BIOTECHNOLOGY-DERIVED POLYMERS	
New and Traditional Polymers from Biotechnology	1
Use of the Antiviral and Immune Modulator, Poly (ICLC), in the Treatment of AIDS	11
Synthesis and Interaction of Water Soluble Nucleic Acid Analogs	31
Influence of Copolymer Structure on Properties of Pooly-B-Hydroxyalkanoates	47
Biodegradation of Blends Containing Poly (3-Hydroxybutyrate-co-Valerate)	53
The Use of Biotechnology Derived Monomers in the Synthesis of New Polymers: Development of	
Polyesterimides	63
The Biosynthesis of Unusual Polyamides Containing Glutamic Acid	69
Vernonia Oil: A New Reactive Monomer	79
Interpenetrating Polymer Networks Based on Functional Triglyceride Oils and Other Not Yet	
Commercial	95
Structural Characterization of Organostannane - Kraft Lignin	111
II. POLYSACCHARIDE BASED SYSTEMS	
Examples of Analytical Approaches to Industrially Important Poly (saccharides)	119
Bacterial Polysaccharides for Use in Food and Agriculture	135
Degree of Substitution of Dextran Modified Through Reaction With Organostannane Chloride and	
Group IV-B Metallocene Dichlorides	147
Acidic Polysaccharides: Their Modification and Potential uses	155
Structure-Controlled Synthesis of Regiospecifically Modified Polysaccharides Starting From a	
Pyrolysis Product of Cellulose	167
Biological Gels: The Gelation of Chitosan and Chitin	181
Transport Properties of Membranes Containing Chitosan Derivatives	189
Sorption Behavior of Chemically Modified Chitosan Gels	215
III. PROTEIN AND ENZYME BASED SYSTEMS	
Quinone Chemistry: Applications in Bioadhesion	229
Synthetic Mussel Adhesive Proteins	245
Poly (VAL <sup>1</sup> -PRO <sup>2</sup> -ALA <sup>3</sup> -VAL <sup>4</sup> -GLY <sup>5</sup> ): A Reversible, Inverse Thermoplastic	265
Requirement for a 1-um Pore Channel Opening During Perifheral Nerve Regeneration Through a	
Biodegradable Chemical	275
The Development of Collagen Nerve Conduits That Promote Peripheral Nerve Regeneration	281
Polymeric Reagents for Protein Modification	295
Preparation of Semisynthetic Enzymes by Chemical Means	301
Redesign of Protein Function: A Semisynthetic Selenoenzyme	315
Spacer Effects on Enzymatic Activity Immobilized Onto Polymeric Substrates	321
CONTRIBUTORS	333
INDEX	341