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Nota di contenuto	Cover; Title Page; Copyright Page; Contents; List of Contributors; Preface; Acknowledgements; 1 Biomimetic Polysaccharides and Derivatives for Cartilage Tissue Regeneration; 1.1 Introduction; 1.2 Strategies for Cartilage Tissue Engineering; 1.3 Designing Scaffold for Cartilage Tissue Engineering; 1.4 Natural Polysaccharides for Cartilage Tissue Engineering; 1.4.1 Chitin and Chitosan (CS)-based Materials; 1.4.2 HA-based Materials; 1.4.3 Alginate-based Materials; 1.4.4 Starch-based Materials; 1.4.5 Cellulose-based Materials; 1.5 Conclusions and Remarks on Prospects; References 2 Biomimetic Synthesis of Self-Assembled Mineralized Collagen-Based Composites for Bone Tissue Engineering 2.1 Introduction; 2.2 Hierarchical Assembly of Mineralized Collagen Fibrils in Natural Bone; 2.2.1 Panorama of Natural Bone; 2.2.1.1 Chemical Composition of Bone; 2.2.1.2 Hierarchical Organization of Natural Human Bone; 2.2.2

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#### Sommario/riassunto

This book compiles all aspects of biomimetics from fundamental principles to current technological advances and their future trends in the development of nanoscale biomaterials and tissue engineering. The scope of this book is principally confined to biologically-inspired design of materials and systems for the development of next generation nanobiomaterials and tissue engineering. The book addresses the state-of-the-art of research progress in the applications of the principles, processes, and techniques of biomimetics. The prospective outcomes of current advancements and challenges in bio

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