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Nota di contenuto	Chapter 1: Introduction to Nanotechnology and Bionanotechnology -- Chapter 2: The Fundamentals of Biological Systems -- Chapter 3: Synthesis and Manufacturing of Bionanomaterials -- Chapter 4: Interaction of Nanomaterials with Biological Systems -- Chapter 5: Bionanotechnology: Biological self-assembly -- Chapter 6: Bio-Nanorobotics: Mimicking Life at the Nanoscale -- Chapter 7: Bioanalytical Techniques for Bionanotechnology -- Chapter 8: Bionanotechnology in Medicine -- Chapter 9: Bionanotechnology in Pharmaceuticals -- Chapter 10: Bionanotechnology in Biotechnology -- Chapter 11: Bionanotechnology in Agriculture, Food and Cosmetics -- Chapter 12: Bionanotechnology in Environment.

Sommario/riassunto

This is a comprehensive overview of bionanotechnology to students in nanotechnology, biotechnology, bionanotechnology, related fields such as biology, chemistry, physics, and materials science and also everyone who is interested in this research area. It describes the definition of bionanomaterials, how they can be synthesized, characterized and applied in different fields. The current status and future of bionanotechnology, as well as its advantages and limitations, are comprehensively discussed throughout the book. This is an entry-level book which is easy for readers to understand its contents. In this book, we tried to identify the definition of bionanotechnology. Briefly, Bionanotechnology is the emerging research field that comes from the intersection of nanotechnology and biotechnology. Nanotechnology is referring to the design, development, and application of materials which at least one dimension at nanometer scale meanwhile biotechnology is developed based on knowledge about living systems and organisms to create or improve different products. The association of nanotechnology and biotechnology pave a way to develop a hybrid technology with unique features. Thus, this novel technology will be used to improve our living standard in different aspects from developing new medicine, food, and functional cosmetics, introducing new methods to analyze and treat cancer to protect environmental problems.
