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Nota di contenuto	Chapter 1. Inorganic Polyphosphate and F0F1-ATP Synthase of Mammalian Mitochondria -- Chapter 2. Inorganic Polyphosphate in Mitochondrial Energy Metabolism and Pathology -- Chapter 3. Inorganic Polyphosphate, Mitochondria, and Neurodegeneration -- Chapter 4. Polyphosphate in Chronic Wound Healing: Restoration of Impaired Metabolic Energy State -- Chapter 5. Biomimetic Polyphosphate Materials: Towards Application in Regenerative Medicine -- Chapter 6. Effects of Polyphosphate on Leukocyte Function -- Chapter 7. Polyphosphate in Antiviral Protection: A Polyanionic Inorganic Polymer in the Fight Against Coronavirus SARS-CoV-2 Infection.
Sommario/riassunto	This volume focuses on the biomedical aspects of inorganic polyphosphates, a family of unique bio-inorganic polymers. In recent years, great advances have been made in understanding the development, metabolism, and physiological role of inorganic polyphosphates. These energy-rich polymers, which consist of long

chains of phosphate units, are evolutionary old molecules. The acidocalcisomes, conserved organelles from bacteria to humans, as well as the mitochondria play a central role in polyphosphate production and storage. Polyphosphates have been assigned multiple functions, some of which are closely related to medically important processes, such as blood coagulation and fibrinolysis, energy metabolism, cell cycle regulation, apoptosis, chaperon function, microvascularization, stress response, neurodegeneration and aging. The development of bioinspired polyphosphate particles, in combination with suitable hydrogel-forming polymers enabled the development of new strategies in regenerative medicine, in particular for hard and soft tissue repair, but also in drug delivery and antimicrobial defense. This book not only highlights the basic research in this area, but also discusses possible applications. Therefore, it appeals to scientists working in cell biology, biochemistry, and biomedicine and practicioners alike.