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Nota di contenuto	Ch. 1. Overview of Bioinorganic Chemistry -- Ch. 2. Principles of Coordination Chemistry Related to Bioinorganic Research -- Ch. 3. Properties of Biological Molecules -- Ch. 4. Physical Methods in Bioinorganic Chemistry -- Ch. 5. Choice, Uptake, and Assembly of Metal Containing Units in Biology -- Ch. 6. Control and Utilization of Metal-Ion Concentration in Cells -- Ch. 7. Metal Ion Folding and Cross-Linking of Biomolecules -- Ch. 8. Binding of Metal Ions and Complexes to Biomolecule-Active Centers -- Ch. 9. Electron-Transfer Proteins -- Ch. 10. Substrate Binding and Activation by Nonredox Mechanisms -- Ch. 11. Atom- and Group-Transfer Chemistry -- Ch. 12. Protein Tuning of Metal Properties to Achieve Specific Functions -- Ch. 13. The Frontiers of Bioinorganic Chemistry.
Sommario/riassunto	As one of the most dynamic fields in contemporary science, bioinorganic chemistry lies at a natural juncture between chemistry, biology, and medicine. This rapidly expanding field probes fascinating questions about the uses of metal ions in nature. Respiration, metabolism, photosynthesis, gene regulation, and nerve impulse transmission are a few of the many natural processes that require metal

ions, and new systems are continually being discovered.

The use of unnatural metals - which have been introduced into human biology as diagnostic probes and drugs - is another active area of tremendous medical significance.

This introductory text, written by two pioneering researchers, is destined to become a landmark in the field of bioinorganic chemistry through its organized unification of key topics. Accessible to undergraduates, the book provides necessary background information on coordination chemistry, biochemistry, and physical methods before delving into topics that are central to the field: What metals are chosen and how are they taken up by cells?

How are the concentrations of metals controlled and utilized in cells?

How do metals bind to and fold biomolecules? What principles govern electron transfer and substrate binding and activation reactions? How do proteins fine-tune the properties of metals for specific functions?

For each topic discussed, fundamentals are identified and then clarified through selected examples.

. An extraordinarily readable writing style combines with chapter-opening principles, study problems, and beautifully rendered two-color illustrations to make this book an ideal choice for instructors, students, and researchers in the chemical, biological, and medical communities.

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