Metal Ions In Biological Systems: Unlocking the Secrets of Life's Elemental Architecture

Metal Ions in Biological Systems: Volume 36: Interrelations Between Free Radicals and Metal Ions in Life Processes by Roberto Battiston

4.7 out of 5

Language	: English
File size	: 101024 KB
Print length	: 848 pages
Screen Reader	: Supported

In the intricate tapestry of life, metal ions play a pivotal role, shaping the structure and function of biological molecules and orchestrating countless biochemical reactions. Metal Ions In Biological Systems, a groundbreaking book written by a team of renowned experts, delves deep into this fascinating realm, revealing the profound impact of metal ions on our biological existence.

A Comprehensive Exploration of Metal Ions' Biological Significance

This comprehensive volume encompasses a vast array of topics, providing an exhaustive analysis of metal ions in biological systems. From their fundamental chemistry to their specific roles in metalloproteins and metalloenzymes, the book covers a wide spectrum of subjects, including:

- The essential and toxic aspects of metal ions in living organisms

- The intricate mechanisms of metal ion transport and homeostasis
- The structural and functional diversity of metalloproteins
- The catalytic prowess of metalloenzymes in various biochemical pathways
- The development and application of metal-based drugs in medicine

Unveiling the Hidden World of Metalloproteins and Metalloenzymes

Metalloproteins and metalloenzymes are the cornerstones of countless biological processes, enabling a myriad of essential functions. Metal Ions In Biological Systems offers an in-depth exploration of these fascinating molecules, unraveling their intricate structures, diverse functions, and vital contributions to life.

Through detailed descriptions and insightful illustrations, the book showcases the breathtaking complexity of metalloproteins, highlighting their intricate metal-binding sites and the remarkable ways in which they facilitate essential biochemical reactions. From the oxygen-carrying capabilities of hemoglobin to the electron transfer prowess of cytochrome c, the book unveils the intricate mechanisms by which metalloproteins orchestrate the symphony of life.

Metalloenzymes, the catalytic powerhouses of biological systems, are also meticulously examined in this volume. The book delves into their active sites, substrate specificities, and catalytic mechanisms, revealing how these enzymes harness the unique properties of metal ions to perform a vast array of biochemical transformations. From the digestion of proteins by proteases to the synthesis of DNA by polymerases, the book unveils the critical roles of metalloenzymes in maintaining the delicate balance of life.

Harnessing Metal Ions for Therapeutic Advancements

The medicinal applications of metal ions have revolutionized modern medicine, giving rise to a wide range of metal-based drugs that combat a variety of diseases. Metal Ions In Biological Systems provides a comprehensive overview of these therapeutic agents, exploring their mechanisms of action, clinical applications, and potential side effects.

The book delves into the use of metal ions in antibiotics, anticancer drugs, and imaging agents, showcasing the remarkable versatility of these elements in the realm of medicine. From the antibacterial properties of silver ions to the cancer-fighting potential of platinum compounds, the book highlights the transformative impact of metal-based drugs on human health.

An Invaluable Resource for Scientists, Clinicians, and Students

Metal Ions In Biological Systems is an indispensable resource for scientists, clinicians, and students seeking to delve into the captivating world of metal ions in biological systems. With its comprehensive coverage, cutting-edge insights, and practical applications, this book is an essential addition to the libraries of those seeking to understand the fundamental principles and groundbreaking advancements in this rapidly evolving field.

Embark on a captivating journey into the enigmatic world of metal ions and their profound influence on life's elemental architecture. Discover the latest research, groundbreaking insights, and practical applications in Metal Ions In Biological Systems, a comprehensive volume that unlocks the secrets of this fascinating realm.

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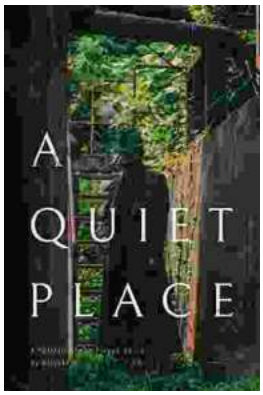

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