

BIOLOGICAL INORGANIC CHEMISTRY

A New Introduction to Molecular Structure and Function

The new edition is divided into 3 distinct sections covering principles, metals and health. Principles introduces this exciting and dynamic field by clearly explaining chemical and biological concepts and ways to investigate structures and mechanisms. Subsequent chapters explain pathways of metal assimilation, storage and transport, as well as metal homeostasis. Thereafter the roles of sodium and potassium, magnesium, calcium, zinc, iron, copper, nickel and cobalt, manganese, and molybdenum, vanadium, tungsten and chromium are discussed. A chapter reviewing the importance of selected non-metals is an important new addition.

The book concludes with an expanded section investigating the use of metals in health, including a tantalising view of the roles of metals in brain function, biomineralization and an examination of metals in the environment, and in particular pollution aspects.

KEY FEATURES

- Takes a biochemist's approach, allowing the reader to more readily grasp the biological and clinical relevance of the subject
- Enables visualization of molecular mechanisms with over 150 full-color illustrations
- Features a conversational, student-friendly tone, as well as anecdotes and footnotes that put theory into context
- Clear summary and learning goals provided for each chapter

Biological Inorganic Chemistry is an ideal text for instructors teaching courses in the role of metals in biological systems, whether designated Bioinorganic Chemistry or Inorganic Biochemistry. The text is addressed to student readers with either a biology or chemistry background, not to forget those coming from a medical or environmental formation.

Review of the first edition:

I recommend [the book] wholeheartedly to students or researchers involved in chemistry, biochemistry, biology and medicine, and to anyone else who wishes to have a first contact with inorganic biochemistry. It is a must, and no lecture course in this area can afford not to use it."--Professor Istvan E. Marko, Universite Catholique de Louvain, Belgium.

Robert R. Crichton has more than thirty years experience in teaching the subject, has published over 200 scientific articles and several books. He has organised a series of advanced courses on the subject, held in Louvain-la-Neuve over twenty years, which have trained over 800 doctoral and postdoctoral students, many of whom are today leaders in the field.

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