



# The Biological Chemistry of the Elements: The Inorganic Chemistry of Life

By J. J. R. Frausto da Silva, R. J. P. Williams

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The study of the chemistry of living processes has traditionally centered on the behavior of organic compounds in water; together they account for 99 per-cent of the matter in living systems. However, we also know that about 20 "inorganic" elements are also essential for life, and that they are found in similar amounts in most living systems. This book's objective is to examine and explain the importance of these elements. The authors begin with a survey of the chemical and physical factors controlling the elements of life. The essential functions of individual inorganic elements are then detailed. A final section consolidates a major theme of the book -- the cooperative interaction of elements in living systems. These chapters discuss the relationships between chemical activity and morphology and the effect that changes in the availability of elements have on life -- not only in providing evolutionary pressures but also in the context of the use of medicines and the spread of pollutants. This major graduate-level chemistry text provides a completely new way of looking at the chemistry of living processes. It is essential reading for all scientists interested in bioinorganic chemistry, including biologists, biochemists, chemists and physicists.

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