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Titolo	Chemical Evolution : The Biological System of the Elements // by Bernd Markert, Stefan Fränzle, Simone Wünschmann
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Edizione	[1st ed. 2015.]
Descrizione fisica	1 online resource (295 p.)
Disciplina	546
Soggetti	Chemistry, Inorganic Biochemistry Environmental toxicology Bioorganic chemistry Geochemistry Inorganic Chemistry Biochemistry, general Ecotoxicology Bioorganic Chemistry
Lingua di pubblicazione	Inglese
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Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Chemical Evolution: Definition, History, Discipline -- The Biological System of the Elements (BSE) -- Analyzing the Biological Roles of Chemical Species -- Stoichiometric Network Analysis (SNA)- Studies on Chemical Coordinative Reactions within Biological Material -- Significance of Water, Soil and Atmosphere for the Chemical Evolution -- Present and Future Projects on Chemical Evolutionby Means of Space Research -- Appendix.
Sommario/riassunto	This book is written for researchers and students interested in the function and role of chemical elements in biological or environmental systems. Experts have long known that the Periodic System of Elements (PSE) provides only an inadequate chemical description of elements of biological, environmental or medicinal importance. This book explores the notion of a Biological System of the Elements (BSE) established on accurate and precise multi-element data, including evolutionary

aspects, representative sampling procedures, inter-element relationships, the physiological function of elements and uptake mechanisms. The book further explores the concept Stoichiometric Network Analysis (SNA) to analyze the biological roles of chemical species. Also discussed is the idea of ecotoxicological identity cards which give a first-hand description of properties relevant for biological and toxicological features of a certain chemical element and its geo biochemically plausible speciation form. The focus of this book goes beyond both classical bioinorganic chemistry and toxicology.
