DESCRIPTION

Destined to set the standard, this book meets the need for a didactic textbook focusing on the role of model systems in bioinorganic chemistry. The first part features concepts in bioinorganic chemistry such as electron transfer, medicinal inorganic chemistry, bioorganometallics and metal DNA complexes, while the second part presents inorganic model chemistry on metallo-enzymes, organized by metal ion.

Experts in the pertinent fields provide a didactically well-organized background on relevant biological systems, as well as on their structural, functional and spectroscopic properties. All chapters are similarly structured, each one beginning with a timeline featuring the most important historical facts on the subject, followed by a table of the most significant enzymes. The authors also summarize key developments and open questions within the respective model systems.

This book is aimed at senior undergraduate and graduate students in chemistry, biochemistry, life science and related fields.

ABOUT THE AUTHOR

Heinz-Bernhard Kraatz obtained his Ph.D. from the University of Calgary in 1993 (inorganic chemistry, with P. M. Boorman). After a shorter stay at the University of Maryland, he spent two years at the Weizmann Institute as a Minerva postdoctoral fellow (1994-1995). He was a Research associate at the National Research Council of Canada (1996-1997). In 1998 he was appointed to the University of Saskatchewan, where he was Associate Professor since 2001 and became full Professor in 2006. HBK
is the Canada Research Chair in Biomaterials. He received several awards and was the organizer of meetings in bioinorganic chemistry and electrochemistry in Canada. Research in his group focusses on the design of peptides and surface-supported peptide assemblies modified by inorganic and organometallic moieties to study electron transfer and to develop new biosensors.

Nils Metzler-Nolte (né Metzler) obtained his Ph.D. from the University of Munich in 1994 (Organoboron chemistry, with H. Nöth). After a postdoctoral year with M. L. H. Green in Oxford, he started independent research at the Max-Planck-Institut für Strahlenchemie (now MPI for Bioinorganic Chemistry). He obtained his Habilitation at the University of Bochum in May 2000 and was soonafter appointed Professor for bioinorganic chemistry at the University of Heidelberg. In 2006, he accepted a Chair for Inorganic Chemistry at the University of Bochum. His work has been recognized by several awards and he has organized national and international conferences in bioorganometallic chemistry. His research interest is in bioorganometallic chemistry and functional bioconjugates with transition metals, including aspects of medicinal inorganic chemistry.

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