DESCRIPTION

An updated, practical guide to bioinorganic chemistry

*Bioinorganic Chemistry: A Short Course, Second Edition* provides the fundamentals of inorganic chemistry and biochemistry relevant to understanding bioinorganic topics. Rather than striving to provide a broad overview of the whole, rapidly expanding field, this resource provides essential background material, followed by detailed information on selected topics. The goal is to give readers the background, tools, and skills to research and study bioinorganic topics of special interest to them. This extensively updated premier reference and text:

- Presents review chapters on the essentials of inorganic chemistry and biochemistry
- Includes up-to-date information on instrumental and analytical techniques and computer-aided modeling and visualization programs
- Familiarizes readers with the primary literature sources and online resources
- Includes detailed coverage of Group 1 and 2 metal ions, concentrating on biological molecules that feature sodium, potassium, magnesium, and calcium ions
- Describes proteins and enzymes with iron-containing porphyrin ligand systems-myoglobin, hemoglobin, and the ubiquitous cytochrome metalloenzymes-and the non-heme, iron-containing proteins aconitase and methane monooxygenase
Appropriate for one-semester bioinorganic chemistry courses for chemistry, biochemistry, and biology majors, this text is ideal for upper-level undergraduate and beginning graduate students. It is also a valuable reference for practitioners and researchers who need a general introduction to bioinorganic chemistry, as well as chemists who want an accessible desk reference.

ABOUT THE AUTHOR

ROSETTE M. ROAT-MALONE, PhD, is Adjunct Professor of Chemistry at Washington College in Chestertown, Maryland. She developed the advanced bioinorganic chemistry course that formed the basis for this book's predecessor, Bioinorganic Chemistry: A Short Course. Her research in the reactions of platinum coordination compounds used as anticancer agents with biological molecules has been supported by the National Science Foundation, the Petroleum Research Fund, and the Research Corporation.

FEATURES

KEY FEATURES

• Differs from its competitors by focusing on a select number of specialized bioinorganic topics of interest to students and researchers and develops them in great detail, rather than providing a general, comprehensive survey across all of bioinorganic chemistry. As a result, this is a more manageable and accessible text than other introductions to the field.

• Extensive material on computer modeling and medicinal chemistry not found in other books.

• Includes 8-page color insert.

OTHER FEATURES

• Presents comprehensive, up-to-date primary references for the specific bioinorganic areas covered.

• Offers detailed information on instrumental and analytical techniques used in discussions of the specific bioinorganic areas covered.

• Provides guidance on computer hardware, software, molecular drawing, design, and modeling programs and extensive listings of world wide web addresses of interest.

• Treats the area of inorganic species used in the diagnosis and treatment of diseases in more comprehensive fashion than competitors.
• Contains useful study problems and current bibliographic references

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