This text covers material that could be included in a one-quarter or one-semester course in bioinorganic chemistry for graduate students and advanced undergraduate students in chemistry or biochemistry. The authors believe that such a course should provide students with the background required to follow the research literature in the field. The topics were chosen to represent those areas of bioinorganic chemistry that are mature enough for textbook presentation. Although each chapter presents material at a more advanced level than that of bioinorganic textbooks published previously, the chapters are not specialized review articles.

• Front Matter

• 1: Transition-Metal Storage, Transport, and Biomineralization

• 2: The Reaction Pathways of Zinc Enzymes and Related Biological Catalysts
3: Calcium in Biological Systems

4: Biological and Synthetic Dioxygen Carriers

5: Dioxygen Reactions

6: Electron Transfer

7: Ferredoxins, Hydrogenases, and Nitrogenases - Metal-Sulfide Proteins
8: Metal/Nucleic Acid Interactions

9: Metals in Medicine

Back Matter

Thumbnail: The ball-and-stick model of diisobutylaluminium hydride, showing aluminium as pink, carbon as black, and hydrogen as white. Image used with permission (Public Domain; Benjah-bmm27).

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