GENERAL CHEMISTRY

Protein Folding and Metal Ions

Mechanisms, Biology and Disease

The role of metal ions in protein folding and structure is a critical topic to a range of scientists in numerous fields, particularly those working in structural biology and bioinorganic chemistry, those studying protein folding and disease, and those involved in the molecular and cellular aspects of metals in biological systems. ***Protein Folding and Metal Ions: Mechanisms, Biology and Disease*** presents the contributions of a cadre of international experts who offer a comprehensive exploration of this timely subject at the forefront of current research.

Divided into four sections, this volume:

- Provides case study examples of protein folding and stability studies in particular systems or proteins that comprise different metal ions of cofactors
- Reviews the proteins that shuttle metal ions in the cell to a particular target metalloprotein
- Illustrates how metal binding can be connected to pathological protein conformations in unrelated diseases, from cancer to protein deposition disorders such as Parkinson's disease
- Addresses protein redesign of metal-containing proteins by computational methods, folding simulation studies, and work on model peptides — dissecting the relative energetic contribution of metals sites to protein folding and stability

The thirteen chapters in this text cogently describe the state of the science today, illuminate current challenges, propose future possibilities, and encourage further study in this area of much promise.

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