DESCRIPTION

An introduction to the physical principles of spectroscopy and their applications to the biological sciences

Advances in such fields as proteomics and genomics place new demands on students and professionals to be able to apply quantitative concepts to the biological phenomena that they are studying. Spectroscopy for the Biological Sciences provides students and professionals with a working knowledge of the physical chemical aspects of spectroscopy, along with their applications to important biological problems.

Designed as a companion to Professor Hammes's Thermodynamics and Kinetics for the Biological Sciences, this approachable yet thorough text covers the basic principles of spectroscopy, including:

* Fundamentals of spectroscopy

* Electronic spectra

* Circular dichroism and optical rotary dispersion

* Vibration in macromolecules (IR, Raman, etc.)

* Magnetic resonance

* X-ray crystallography
Mass spectrometry

With a minimum of mathematics and a strong focus on applications to biology, this book will prepare current and future professionals to better understand the quantitative interpretation of biological phenomena and to utilize these tools in their work.

ABOUT THE AUTHOR

GORDON G. HAMMES is University Distinguished Service Professor of Biochemistry at Duke University Medical Center in Durham, North Carolina. He is author of Thermodynamics and Kinetics for the Biological Sciences (also from Wiley) and more than 200 research articles.

FEATURES

• Includes the basic principles of spectroscopy with a minimum of mathematics and applications to the biological sciences

• Exercises to assist in student learning are presented at the end of each chapter

• Coverage includes fundamentals of spectroscopy, electronic spectra, circular dichroism and optical rotary dispersion, vibration in macromolecules (IR, Raman, etc), magnetic resonance, X-ray crystallography, mass spectrometry

• Together with Thermodynamics and Kinetics for the Biological Sciences, provides a primary text for a one-semester introductory physical chemistry course for biology and biochemistry majors at the upper-level undergraduate and graduate level

For additional product details, please visit https://www.wiley.com/en-us