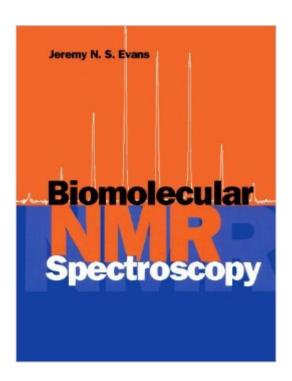
The book was found

Biomolecular NMR Spectroscopy





Synopsis

The technique of nuclear magnetic resonance (NMR) spectroscopy is an important tool in biochemistry and biophysics for the understanding of the structure and, ultimately, the function of biomolecules. This textbook explains the salient features of biological NMR spectroscopy to undergraduates and postgraduates taking courses in NMR, 4iological NMR, physical biochemistry, and biophysics. Unlike other books in the general field of NMR (except the advanced treatises), the approach here is to introduce and make use of quantum mechanical product operators as well as the classical vector method of explaining the bewildering array of pulse sequences available today. The book covers two-dimensional, three-dimensional, and four-dimensional NMR, and their application to protein and DNA structure determination. A unique feature is the coverage of the biological aspects of solid-state NMR spectroscopy. The author provides many selected examples from the research literature, illustrating the applications of NMR spectroscopy to biological proteins.

Book Information

Paperback: 464 pages

Publisher: Oxford University Press; 1 edition (September 28, 1995)

Language: English

ISBN-10: 0198547668

ISBN-13: 978-0198547662

Product Dimensions: 9.8 x 1 x 7.5 inches

Shipping Weight: 2.1 pounds (View shipping rates and policies)

Average Customer Review: 4.0 out of 5 stars Â See all reviews (2 customer reviews)

Best Sellers Rank: #763,754 in Books (See Top 100 in Books) #141 in Books > Science & Math > Biological Sciences > Biophysics #542 in Books > Textbooks > Medicine & Health Sciences > Medicine > Clinical > Radiology & Nuclear Medicine #559 in Books > Science & Math > Biological

Sciences > Biology > Molecular Biology

Customer Reviews

I needed quick education in the basics of how NMR helps understand structure in proteins, DNA, and RNA. I have only a general background in science, but hoped I could pick up an outsider's knowledge of the basics. This book has been helpful. Any problems are in my own preparation for reading it, not in the book itself. This dives straight in at the deep end, going over the quantum mechanics of spin-coupled nuclei. Given that base, it follows an orderly path through the menagerie of biomolecules. That starts with structures of single proteins, even in cases where they can't be

crystallized. The discussion includes a number of brief case studies of specific proteins. Next, it covers enzymes in bound and unbound states, also in terms of case studies. This section makes clear some of NMR's advantages over other techniques: cryological studies of intermediate states, in vivo studies, and information from light-isotope tagging. The following section discusses DNA at length. I guess that interest in RNA secondary structure entered the main stream after this book was published - more discussion of RNA structure would have been helpful. This section also addresses DNA/drug interactions, a topic of clear interest. The chapter ends with a short discussion of saccharides and glyoproteins. This is an area that I keep my eye on. Sugar chemistry is more complicated than DNA or proteins - it can be non-linear, for one thing - and just as important in a functioning organism. (Because of polysaccharides' complexity and indirect connection to genetic molecules, they are not well studied. I look for this to change in coming years.) The next section follows logically: protein interactions with lipids, as found in cell membranes and virus interactions.

Download to continue reading...

Biomolecular NMR Spectroscopy NMR and Chemistry: An introduction to modern NMR spectroscopy, Fourth Edition Modern NMR Spectroscopy: A Guide for Chemists NMR Spectroscopy in Inorganic Chemistry (Oxford Chemistry Primers) Symmetry and Spectroscopy: An Introduction to Vibrational and Electronic Spectroscopy (Dover Books on Chemistry) Handbook of Raman Spectroscopy: From the Research Laboratory to the Process Line (Practical Spectroscopy) From Neural Networks and Biomolecular Engineering to Bioelectronics (Electronics and Biotechnology Advanced (Elba) Forum Series) NMR: The Toolkit: How Pulse Sequences Work (Oxford Chemistry Primers) Principles of High Resolution Nmr in Solids NMR in Organometallic Chemistry A Practical Guide to Understanding the NMR of Polymers Vacuum Ultraviolet Spectroscopy II, Volume 32 (Experimental Methods in the Physical Sciences) Molecular Spectroscopy The Chemistry of Heterocyclic Compounds, Oxazoles: Synthesis, Reactions, and Spectroscopy, Part B (Chemistry of Heterocyclic Compounds: A Series Of Monographs) (Volume 60) Photothermal Spectroscopy Methods for Chemical Analysis Dynamic Light Scattering: Applications of Photon Correlation Spectroscopy Electrochemical Impedance Spectroscopy and its Applications Student Solution Manual for Quantum Chemistry and Spectroscopy Student Solution Manual for Quantum Chemistry and Spectroscopy 3rd (third) Edition by Engel, Thomas [2012] Quantum Chemistry & Spectroscopy (2nd Edition)

Dmca