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Fortschritte der Chemischer Organischer Naturstoffe / Progress in the Chemistry of Organic Natural Products - 1970-02-02

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Guide to Fluorine NMR for Organic Chemists - William R. Dolliver - 2016-09-26

Following its well-received predecessor, this book offers an essential guide to chemistry for understanding fluorine in spectroscopy. With over 1000 compounds and 100 spectra, the second edition adds new data - featuring fluoro effects on nitrogen NMR, chemical shifts, and coupling constants. Explains how to successfully incorporate fluoro into target molecules and utilize fluoro substituents to structurally characterize organic compounds • Includes new data on nitrogen NMR, focusing on N-15, to portray the influence of fluorine upon nitrogen NMR chemical shifts and coupling constants • Expands on each chapter from the first edition with additional data and updated discussion from recent findings • “The flawless ordering of material covered in this stand-alone volume is such that information can be found very easily.” - Angewandte Chemie review of the first edition, 2010

13C-NMR of Natural Products - Atta-Ur-Rahman - 1992-01-31

Advances in natural product chemistry have led to a large number of drugs, both derived from medicinal plants, marine plants, and animals, and created as synthetic analogues of these sources. This ground-breaking, comprehensive volume presents the latest data on the 13C-NMR of monoterpenoids and sesquiterpenoids.

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Structural Analysis of Organic Compounds by Combined Application of Spectroscopic Methods

Eram Sharmin - 2012-12-02

This book presents the principles of the relationship between chemical structure and the NMR spectrum. The NMR spectrum is a key tool in determining the structure of molecules and it has become an indispensable technique in organic chemistry. The authors provide a comprehensive overview of NMR spectroscopy, covering topics such as the basics of NMR spectroscopy, the chemical shift, coupling constants, and the use of NMR in structural determination. The book also includes a practical guide to NMR spectroscopy, with a focus on organic compounds. It is an essential resource for students and researchers in the field of organic chemistry, as well as for those involved in pharmaceutical and materials science. The authors provide clear and concise explanations, supported by numerous examples and exercises, making it an ideal textbook for undergraduate and graduate students.

Carbon 13 NMR Spectroscopy: Methods and Applications in Organic Chemistry (Volume 3)

E. Breitmaier - 1987-08-04

This third edition of the book presents the principles of the relationship between chemical structure and the Carbon 13 NMR spectrum. The authors provide a comprehensive overview of Carbon 13 NMR spectroscopy, covering topics such as the basics of Carbon 13 NMR spectroscopy, the chemical shift, coupling constants, and the use of Carbon 13 NMR in structural determination. The book also includes a practical guide to Carbon 13 NMR spectroscopy, with a focus on organic compounds. It is an essential resource for students and researchers in the field of organic chemistry, as well as for those involved in pharmaceutical and materials science. The authors provide clear and concise explanations, supported by numerous examples and exercises, making it an ideal textbook for undergraduate and graduate students.

Guide to Spectroscopic Identification of Organic Compounds

Karen Feintstein - 2018-02-06

This book provides a logical, comprehensive, lucid and accurate presentation, thus making it easy to understand even through self-study. Theoretical aspects of spectral techniques necessary for the interpretation of spectra are covered in detail. The book is divided into two sections: the first section covers spectroscopic methods, their applications, and their significance as characterization tools, while the second section is dedicated to the applications of spectroscopic methods in pharmaceutical and biomedical analyses. This book would be useful for students, scholars, and scientists engaged in synthesis, and applications of organic compounds.

Organic Structure Determination Using 2-D NMR Spectroscopy

Jeffrey H. Simpson - 2012

This book presents the principles of the relationship between chemical structure and the 2-D NMR spectrum. The authors provide a comprehensive overview of 2-D NMR spectroscopy, covering topics such as the basics of 2-D NMR spectroscopy, the chemical shift, coupling constants, and the use of 2-D NMR in structural determination. The book also includes a practical guide to 2-D NMR spectroscopy, with a focus on organic compounds. It is an essential resource for students and researchers in the field of organic chemistry, as well as for those involved in pharmaceutical and materials science. The authors provide clear and concise explanations, supported by numerous examples and exercises, making it an ideal textbook for undergraduate and graduate students.

Spatially-resolved spectroscopic analysis

Vibrational, rotational and Raman spectroscopies

The new edition is aimed at professional scientists seeking to familiarize themselves with these techniques and applications of spectroscopy and spectrometry. Incorporates more than 150 color figures, 5,000 references, and 300 articles for a thorough examination of the field. Highlights new research and promotes innovation in applied areas ranging from food science and forensics to biomaterials and health. Presents a one-stop resource for all scientists looking to answer questions on topics covered in the book.
The derivation of structural information from spectroscopic data is now an integral part of organic chemistry courses at all universities. A critical part of any such course is a suitable set of problems to develop the students’ understanding of how organic structures are determined from spectra. The book builds on the very successful teaching philosophy of learning by hands-on problem solving; carefully graded examples build confidence and develop and consolidate a student’s understanding of organic spectroscopy.

Organic Structures from Spectra - L. D. Field - 2020-04-15

The text concentrates on the description of commonly-used experiments and explains in detail the theory behind how such experiments work. The quantum mechanical tools needed to analyse pulse sequences are introduced step by step, but the approach is relatively informal with the emphasis on obtaining a good understanding of how the experiments actually work. The use of two-colour printing and a new larger format improves the readability of the text. In addition, a number of new topics have been introduced: How product operators can be extended to describe experiments in AX2 and AX3 spin systems, thus making it possible to discuss the important APT, INEPT and DEPT experiments often used in carbon-13 NMR. Spin system analysis i.e. how shifts and couplings can be extracted from strongly-coupled (second-order) spectra. The presence of chemically equivalent spins leads to spectral features which are somewhat unusual and possibly misleading, even at high magnetic fields. A discussion of chemical exchange effects has been introduced in order to help with the explanation of transverse relaxation. The double-quantum spectroscopy of a three-spin system is now considered in more detail. Reviews of the first edition are as follows:

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Understanding NMR Spectroscopy - James Keeler - 2011-09-18

This text is aimed at people who have some familiarity with high-resolution NMR and who wish to deepen their understanding of how NMR experiments actually ‘work’. This revised and updated edition takes the same approach as the highly-acclaimed first edition. The text concentrates on the description of commonly-used experiments and explains in detail the theory behind how such experiments work. The quantum mechanical tools needed to analyse pulse sequences are introduced step by step, but the approach is relatively informal with the emphasis on obtaining a good understanding of how the experiments actually work. The use of two-colour printing and a new larger format improves the readability of the text. In addition, a number of new topics have been introduced: How product operators can be extended to describe experiments in AX2 and AX3 spin systems, thus making it possible to discuss the important APT, INEPT and DEPT experiments often used in carbon-13 NMR. Spin system analysis i.e. how shifts and couplings can be extracted from strongly-coupled (second-order) spectra. The presence of chemically equivalent spins leads to spectral features which are somewhat unusual and possibly misleading, even at high magnetic fields. A discussion of chemical exchange effects has been introduced in order to help with the explanation of transverse relaxation. The double-quantum spectroscopy of a three-spin system is now considered in more detail. Reviews of the first edition are as follows:

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