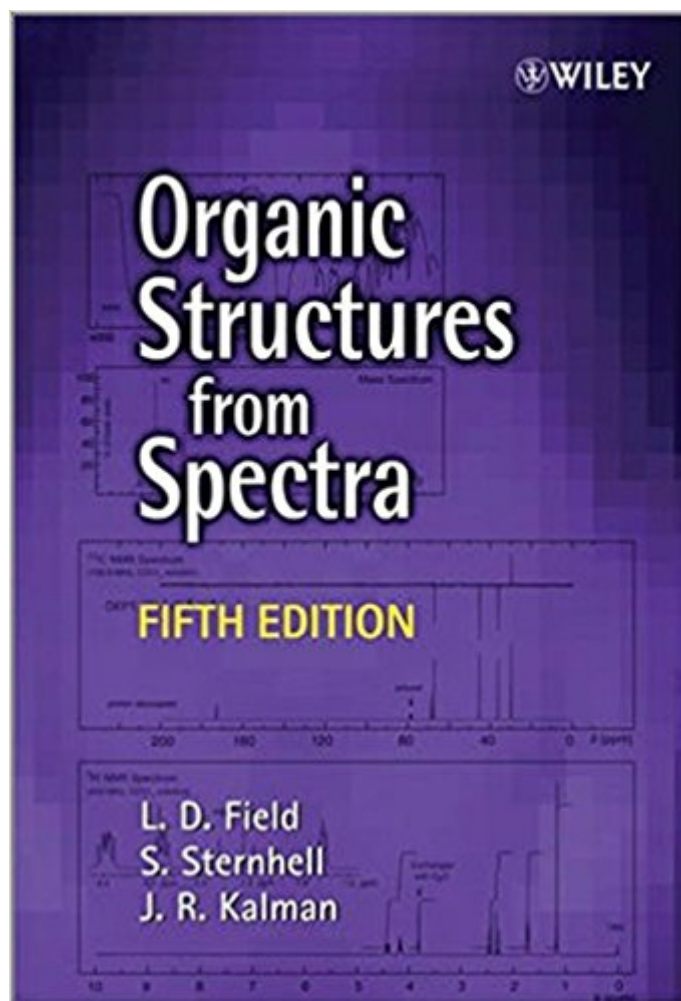


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Organic Structures From Spectra



Synopsis

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 student's understanding of how structures are determined from spectra. Organic Structures from Spectra, Fifth Edition is a carefully chosen set of more than 280 structural problems employing the major modern spectroscopic techniques, a selection of 27 problems using 2D-NMR spectroscopy, more than 20 problems specifically dealing with the interpretation of spin-spin coupling in proton NMR spectra and 8 problems based on the quantitative analysis of mixtures using proton and carbon NMR spectroscopy. All of the problems are graded to develop and consolidate the student's understanding of organic spectroscopy. The accompanying text is descriptive and only explains the underlying theory at a level which is sufficient to tackle the problems. The text includes condensed tables of characteristic spectral properties covering the frequently encountered functional groups. The examples themselves have been selected to include all important common structural features found in organic compounds and to emphasise connectivity arguments. Many of the compounds were synthesised specifically for this purpose. There are many more easy problems, to build confidence and demonstrate basic principles, than in other collections. The fifth edition of this popular textbook: • includes more than 250 new spectra and more than 25 completely new problems; • now incorporates an expanded suite of new problems dealing with the analysis of 2D NMR spectra (COSY, C H Correlation spectroscopy, HMBC, NOESY and TOCSY); • has been expanded and updated to reflect the new developments in NMR and to retire older techniques that are no longer in common use; • provides a set of problems dealing specifically with the quantitative analysis of mixtures using NMR spectroscopy; • features proton NMR spectra obtained at 200, 400 and 600 MHz and ¹³C NMR spectra include DEPT experiments as well as proton-coupled experiments; • contains 6 problems in the style of the experimental section of a research paper and two examples of fully worked solutions. Organic Structures from Spectra, Fifth Edition will prove invaluable for students of Chemistry, Pharmacy and Biochemistry taking a first course in Organic Chemistry.

Contents Preface Introduction Ultraviolet Spectroscopy Infrared Spectroscopy Mass Spectrometry Nuclear Magnetic Resonance Spectroscopy 2DNMR Problems Index

Reviews from earlier editions • "Your book is becoming one of the • books for teaching structure determination here in the States. Great work!" • "I would definitely state that this book is the most useful aid to basic organic spectroscopy teaching in existence and I would strongly recommend every instructor in this area to use it either as a source of examples or as a class

textbook • Magnetic Resonance in Chemistry • Over the past year I have trained many students using problems in your book - they initially find it as a task. But after doing 3-4 problems with all their brains activities... working out the rest of the problems become a mania. They get addicted to the problem solving and every time they solve a problem by themselves, their confident level also increases. • I am teaching the fundamentals of Molecular Spectroscopy and your books represent excellent sources of spectroscopic problems for students. •

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This is a great workbook for my undergraduate Spectroscopy class. There are 282 IR-MS- ^1H - ^{13}C -UV combo problems, and 64 more NMR problems (2D, mixture, J analysis etc). The problems start out simple but the difficulty level gradually increases. This is the first time I teach this class, and I spent some time to solve all the problems to select problems to cover in class. I like that the problems bundled with themes (e.g. alkyls, aromatics, S-containing molecules, isomers, etc). I particularly like the groups of isomers. The theory sections are minimal, and the instructor will need to fill in some more as the class proceeds.

Pros: this book has a lot exercise problems, and its theory part is easy to understand
Cons: There were no answers, and the theory was not explained with depth.
Overall, definitely a good book for beginners!

Great book. Was exactly what I expected. Worked great in class. The cover was damage free. It was packaged appropriately. Condition was as described in description before buying.

Very clear explanation of the principles and the Problems are excellent to really understand the concepts.

exactly as pictured, good book for Ochem

best spec book

This is more of a workbook than a text book. Although some of the content is useful. It is not as useful as a textboook.

Horrible

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