***Brassinosteroids, A New Class of Plant Hormone*; V.A. Khripach, V.N. Zhabinskii and A.E. de Groot, Academic Press, San Diego, 1999. 456 pp. $85. ISBN 0-12-406360-8.**

Plants have the ability to biosynthesise a wide range of phytosterols, from ajugalactone, an ecdysteroid from *Ajuga* to withanolide D, from *Withania somnifera*. However, it was not until 1979 that the first brassinosteroid was isolated: brassinolide from bee-collected pollen of *Brassica napus*. Two years later, castasterone was found in insect galls of *Castanea crenata*. Subsequently, 38 other related steroids have been characterised, mainly from pollen and immature seed, bringing the total number of known brassinosteroids to forty. These phytohormones stimulate cell enlargement and cell division and, at the molecular level, have an effect on gene expression and nucleic acid metabolism. They are generally accepted to be a new group of plant hormones and the present volume constitutes the first comprehensive account of these highly active plant metabolites.

The first two chapters provide the necessary historical background and list the known structures. Chapters 3 and 4 cover isolation procedures and spectroscopic structure determination. While chapter 5 covers biosynthesis, chapters 6–8 describe the syntheses of natural brassinosteroids, as well as of structural analogues. Chapters 9 and 10 review the plant physiology literature and consider structure–activity relationships. The final chapter considers practical applications, which are concerned with increasing crop yields. One substance, epibrassinolide, has been licensed for use on crops in the former Soviet Union since 1992.

The book concludes with an appendix, listing the structures, occurrences and physical properties of all natural brassinosteroids and there are no less than 70 pages of references. Although written by three scientists whose first language is Russian or Dutch, this book is in impeccable English. Altogether, it provides a valuable source of information on this latest group of plant hormones to be discovered, and at eighty five dollars, it is not unreasonably priced.

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***Basic One- and Two-Dimensional NMR Spectroscopy*; H. Friebolin, Translated by J.K. Becconsall, Wiley-VCH Verlag GmbH, Weinheim, Germany, 1998, 386 pp. ISBN: 3-527-29513-5 (Third Revised Edition), DM 72**

The author and his faithful translator have now produced a considerably revised edition of the text that originally appeared in 1988. As the title implies this book is aimed at those students and scientists beginning in the field of modern NMR spectroscopy. The text provides a sound introduction to the physical principles, measurement techniques, descriptions of the NMR parameters, and the analysis and interpretation of NMR spectra. This edition now includes several advances in techniques that are now routinely used in structure elucidation, in particular the crucially important inverse two-dimensional one-bond and multiple-bond heteronuclear correlations. Fortunately continuous wave methodology has now been excluded.

The book is conveniently divided into fourteen chapters. The first seven, aimed at the beginner and accounting for half the text, cover the basic principles and discuss in some detail ^{1}H and ^{13}C chemical shifts, coupling constants and relaxation phenomena. Also included here are chapters on spectral analysis, spin decoupling and simple assignment techniques. At this point the text changes gear and the more difficult concepts of pulse sequences are enumerated in the two longest chapters dealing with one-dimensional complex pulse sequences and two-dimensional NMR. My feeling is that these are going to be the most used sections of the book. Perhaps the reader will find it best to dip into the first of these chapters and concentrate more on the two-dimensional through-bond correlation techniques as these are now the bread and butter of structural elucidation. The through-space two-dimensional

NOESY experiment is also described rather cursorily and no mention is made of the alternative rotating frame experiment. Perhaps this would have been better fitted into the short chapter on the nuclear Overhauser effect. These are followed by more specialised chapters on dynamic NMR, shift reagents, macromolecules and biological applications of NMR. Curiously there is a chapter on tomography.

The book is particularly well illustrated with numerous carefully documented figures and clear examples that illustrate points made in the text. Each chapter is divided into numerous subsections that are particularly helpful for quick reference, while a bibliography at the end of each chapter provides a starting point for further reading. The text is, of course, correctly biased towards the use of NMR spectroscopy for structure elucidation and concentrates on the two most commonly encountered nuclei, ^{1}H and ^{13}C. As one would expect the major part of the text deals with the analysis of small molecular weight compounds and it is only towards the end of the book that macromolecules, in this case synthetic polymers, are considered. Those readers looking for an introduction to peptide and protein NMR techniques will find some of the basic techniques here, although they will have to look elsewhere for the more advanced (3D) techniques using labelled material as these are outside the scope of this work.

One must conclude that the author and his translator have cooperated to produce a valuable comprehensive introductory text suitable for a wide-range of natural product chemists and phytochemists interested in learning the proper use of one- and two-dimensional NMR spectroscopy.

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