This publication is suitable for food scientists and technologists; food, analytical, and brewing chemists; biochemists; toxicologists and microbiologists; quality assurance and control, composition, nutrition, materials testing, biochemical, and food safety engineers; spectroscopists and chromatographic analysts; and graduate students in these disciplines.

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***A Complete Introduction to Modern NMR Spectroscopy*; R.S. Macomber; Wiley, Chichester, 1998, xvii + 382 pages, ISBN 0-471-15736-8, £45.00**

Nuclear Magnetic Resonance (NMR) spectroscopy has made astonishing progress during the last decade. Computer-controlled NMR spectrometers with high-field superconducting magnets, previously only available to well-funded institutions, are now relatively commonplace. Indeed, NMR techniques are utilised in a range of divergent fields, e.g. chemistry, physics, materials science, biology, medicine, forensic science, etc. The aim of this volume is to provide a monograph for a broad range of individuals, not just chemists, and it is therefore assumed that the reader only has a basic scientific background, all of the necessary details being developed from the most basic level. The overall approach is relatively non-mathematical, however, by the end of the book the reader should be well prepared for solving any molecular structure problem given a complete set of NMR data.

The first three chapters of the book discuss the physics of NMR signal generation by covering some preliminary considerations, the magnetic properties of nuclei, and obtaining an NMR spectrum, respectively. The majority of readers will be interested in the use of NMR for the elucidation of molecular structure and hence a large portion of this volume, namely Chapters 4–12, aims to provide all of the information necessary for the reader to perform such tasks efficiently. Chapter 13 discusses the use of two-dimensional NMR techniques, which have developed into indispensable tools for the elucidation of the structure of complex molecules. This leads nicely into the following chapter, which outlines NMR studies of biologically important molecules, such as proteins, nucleic acids, lipids, and carbohydrates. The penultimate chapter covers solid-state NMR spectroscopy. NMR techniques are extremely important with respect to medical diagnosis, in the form of magnetic resonance imaging (MRI), which is discussed in the final chapter.

Modern NMR Spectroscopy is an extremely clear and logical introduction to one of the most important, and potentially complex, analytical techniques in use today. The chapters directly follow on from each other, gradually enhancing the knowledge of the reader. There are frequent example problems (with solutions) throughout each chapter, and at the end of each chapter is a summary and several review problems to assess mastery of the concepts in the chapter. There are also two self-tests (after Chapters 7 and 13) that assist in assessing overall mastery of the subject. The answers to these reviews and self-tests are located in the appendices. In conclusion, this volume is highly recommended to individuals of any scientific discipline with interests in NMR spectroscopy, specifically those who are new to the utilisation of NMR spectroscopic techniques for the elucidation of molecular structure.

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***Organozinc Reagent: A Practical Approach*; P. Knochel, P. Jones (Eds); Oxford University Press, Oxford, 1999, xiv + 354 pages, ISBN 0-19-850121-8, £60.00**

Methodologies for the synthesis of organozinc reagents have been known since the middle of the nineteenth century, however it is only in the last decade that they have begun to fulfil their potential as one of the most useful classes of organometallic reagents for organic synthesis. This volume details the application of organozinc reagents to organic synthesis and aims to highlight the synthetic opportunities offered by such versatile reagents which will tolerate a wide spectrum of functionality. This is facilitated by redressing the common misconception that they behave like other organometallic reagents, such as organolithium and Grignard reagents, which are incompatible with many functional groups.

The first eight chapters of this volume illustrate the numerous methodologies available for the preparation of a wide range of organozinc reagents, e.g. organozinc halides, fluorinated organozincs, diorganozincs, triorganozincates, 1,***n***-bismetallic reagents, etc. The following seven chapters demonstrate the potential afforded by these mild and highly selective reagents by focusing upon specific types of reactions involving organozinc reagents, e.g. uncatalysed and catalysed reactions, asymmetric additions, cyclopropanation, the Reformatsky reaction, and Barbier reactions. Detailed experimental protocols are provided throughout all chapters

and the appendices include a compilation of organozinc reagents and a list of suppliers. Organozinc reagents offer an efficient and elegant opportunity for organic synthesis, by providing a concise synthetic route to a target molecule without the need for a highly laborious and costly protection-deprotection sequence, typically associated with classical methodologies.

'Organozinc Reagents' continues the tradition established in previous volumes of the 'Practical Approach in Chemistry' series by providing a detailed insight into its subject matter and including tried and tested protocols developed by leading authorities in the field that allow other researchers to achieve the desired end result. This volume is written in a clear and concise manner, contains step-by-step experimental procedures, and can justifiably be considered as a comprehensive text covering all aspects of organozinc chemistry. As such it is a valuable resource to all researchers involved in organic synthesis.

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