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Book Reviews

Comprehensive Natural Products Chemistry

Sir Derek Barton, Koji Nakanishi (Eds.), Otto Meth-Cohn (Executive Editor), Pergamon, an imprint of Elsevier Science, Oxford. ISBN 0-08-042709-X, in 9 volumes (Volume 9 being a Cumulative Index), EUR 3,744, US\$ 3,744.

Comprehensive Natural Products Chemistry, Volume 1: Polyketides and Other Secondary Metabolites Including Fatty Acids and Their Derivatives

U. Sankawa (Volume Editor), Pergamon, an Elsevier Science Imprint, Oxford, 1999, 1007 pp., ISBN 0-08-0431453-4. Price EUR 387.50, US\$ 387.50.

This is the first of an 8 volume series aimed at providing a unifying theme in natural products of “How does nature make all these molecules of life?”. It was with some delight that I undertook to review this large volume, containing 31 separate chapters, especially as several genomes have now been completely sequenced and the next major biological problem is one of functional genomics. This will have to address how metabolites are made, what their biological importance is and how their biosynthesis is regulated. International efforts are being focused in this area and a treatise pulling together diverse fields of Natural Product chemistry is invaluable as a starter to gain insight into the challenges facing biologists of the future. The major bottleneck when applying genomic (DNA chip), proteomic and metabolomic technology will be one of bioinformatics. To reduce the need to consult the literature at a primary level reviews are invaluable. Good reviews give an evaluation of what has been done and are not simply a record of what is out there—this collection of articles is excellent and up to date. The authors not only review the literature but also add significant insights to biosynthetic pathways. For those requiring specialist knowledge on topics in Natural Pro-

duct Chemistry this provides an excellent starting place. I was a little disappointed at some obvious minor errors on the pyridine nucleotide specificity of the enzymes of fatty acid biosynthesis—enoyl reductase uses NADH as reductant! Notwithstanding that this is an exceptionally valuable reference textbook for the library and a good balance between biology and chemistry. The introductory historical perspective is full of interesting details required to stimulate undergraduate lectures and areas as diverse as polyketide biosynthesis, fatty acid biosynthesis and degradation, eicosanoid metabolism, platelet-activating factor, aflatoxins, coumarins, lignans, flavonoids/isoflavonoids and cyanogenic glycosides are covered amongst others. I doubt if any one individual would have sufficient interest and time to read every chapter in detail—I had occasion to as I was in hospital and learned quite a lot. The chapters are well written, easy to follow and I think this text is not liable to be outdated. The contributing authors should be thanked for their efforts. I would strongly recommend it for purchase by libraries serving both Biological Sciences and Chemistry Departments. The one pity is that it is not available on disc or can be pulled down from the WEB. The authors of such a comprehensive treatise should have perhaps thought of this.

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Comprehensive Natural Products Chemistry, Volume 2: Isoprenoids Including Carotenoids and Steroids

D.E. Cane (Volume Editor), Pergamon, an Elsevier Science Imprint, Oxford, 1999, 446 pp., ISBN 0-08-043154-2. Price EUR 387.50, US\$ 387.50.

This book is the second volume of a series of eight dealing with natural products. The title of the series is slightly mis-

leading, as the aim of the series is to cover biosynthesis, rather than chemical structure or biological function, although there are sections in most chapters on these two topics in this volume. In the case of the isoprenoids, there are 14 chapters, which mainly cover biosynthetic pathways, and to a lesser extent gene cloning and expression and the isoprenylation of proteins. The sequence of chapters is largely in order of the biosynthetic pathway, starting with acetate.