

son) and via cycloadditions of nitrones and nitroso species.

The next three chapters cover the synthesis of complex nucleoside antibiotics (P. P. Garner); milbemycins and avermectins (M. T. Crimmins *et al.*); and anthracyclones, rifamycin-S, sesbanamide (again!), and various polyunsaturated acids (A. V. Rama Rao). Much of this material has been amply reviewed elsewhere; but the final four chapters provide timely reports of new synthetic methodology. The accounts of the use of tropone for the construction of pseudoguaianolides and ophiobolanes (J. H. Rigby); and of the new reagents used for biomimetic olefine cyclisation (M. Nishizawa), make fascinating reading. A second mammoth chapter gives details of the strategic use of homochiral ketals and acetals in synthesis (E. A. Mash), and there are extensive tabular surveys of diastereoselective reductions, intramolecular cyclisations, alkylations and etc. This is probably the most useful chapter in the whole book. Finally, there is the usual tour

de force from K. Mori, who describes an impressive list of personal synthetic achievements using intermediates produced with the aid of enzymes. He even provides full experimental details for the enzyme-mediated preparations.

The book is well-produced from camera-ready copy, and there is a sister volume concerned with structure elucidation.

Both are entitled 'Part A', so we can expect further parts to appear in due course. The price seems a bit on the high side, especially as there were no typesetting costs. This will inevitably ensure that the book is only purchased by libraries and experts; and this is a pity because it contains a wealth of interesting synthetic chemistry, and deserves to be widely read.

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Plant Flavonoids in Biology and Medicine II; Biochemical, Cellular and Medicinal Properties; edited by VIVIAN CODY, ELLIOTT MIDDLETON, JR, JEFFREY B. HARBORNE and ALAIN BERETZ, Alan R. Liss, New York, 1988. 484 pp. \$80.00.

This book, which is volume 280 of the series, "Progress in Clinical and Biological Research", contains a collection of reports given at the meeting on Plant Flavonoids in Biology and Medicine held in Strasbourg, France in 1987. These reports represent authoritative reviews by experts on a series of topics relating to the significance of the role of flavonoids in plants and mammals. The book covers such areas as crystal and molecular structure of flavonoids, the use of HPLC/MS techniques for flavonoid isolation from crude extracts, biological activity in relation to molecular shape and bacterial metabolism of flavonoids. There are also reports on flavonoids in medicinal plants and plant cell cultures.

The major part of the book is concerned with the potential of flavonoids in the medicinal field. The antifungal and antiviral activities of flavonoids are well reviewed. However, most the book is concerned with reviews of flavonoids as antiinflammatory, antiallergenic, anticarcinogenic, antihepatotoxic, antithyroid compounds and as moderators of capillary fragility. In considering the importance of flavonoids in these areas there are reports on flavonoids and arachidonic acid metabolism, in particular the effects of flavonoids on lipoxygenases and cyclooxygenase, key enzymes of this pathway, are well reviewed along with the related effects of flavonoids on human platelet aggregation and protein kinase C.

Other reports cover the importance of recent work on solid tumours in relation to flavonoid antitumour activity with preclinical data on flavone acetic acid, data on the inhibition by flavonoids of basophil histamine release and on the inhibition by flavonoids of cell adhesion to and spread on laminin substrates, an important part of malignant tumour invasion. There are also reports on the effects of flavonoids on hepatic drug metabolising enzymes and the specific binding of the liver regenerating drug, silybinin, to the estradiol receptor. One of the more interesting areas considered with, perhaps, far reaching implications for the future is the role of flavonoids as oxygen free radical scavengers and the importance of flavonoids in modulation of the immune response. The book finishes with reports on the side effects of flavonoids used in medicine with a discussion of the importance of flavonoids in traditional medicine.

The book represents a useful companion to Volume I, published in 1986 by A. R. Liss, and can be recommended as a valuable source of information for enzymologists, biochemists, phytochemists, physiologists, immunologists and pharmacologists. It should also be of interest to clinical researchers in mutagenesis, allergy, inflammation, oncology and viral infections. At eighty dollars the book may be somewhat expensive for the individual but for the library with an interest in these areas it is an essential addition to the knowledge of the biological activities of the flavonoids in relation to their potential use in medicine.

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