

Topics in Antibiotic Chemistry, Volume 2

Edited by P. Sammes
Ellis Horwood; Chichester, 1978
283 pages. £17.50

This book contains four distinct sections. Part A deals with antibiotics produced by marine organisms such as sponges, molluscs, worms, tunicates, coelenterates (what is a sea-pen?) and algae. Biologists might find the use of the word 'antibiotics' in this context somewhat misleading since it is used to describe any compound capable of inhibiting microbial growth under any conditions. Nevertheless, despite sharing with the author (Dr D. J. Faulkner) a mild disappointment that so few of these marine natural products have been subjected to any rigorous microbiological analysis of their growth-inhibitory properties, I found this section to be fascinating reading. In part B, Dr A. K. Ganguly presents a detailed account of the chemical methods used to establish the structures of oligosaccharide antibiotics, principally the everninomycins. This section was not written for me and I cannot be the judge of it, although as a biochemist I would have preferred to see structure-activity relationships given greater prominence.

The remainder of the book contains everything you always wanted to know about daunomycin

and adriamycin. Firstly, Dr F. Arcamone discusses in detail the establishment of the structures of daunomycin and its relatives by chemical degradation and total synthesis. This is followed by physico-chemical studies of their binding to DNA and, interestingly also, to proteins such as tubulin. A discussion of structure-activity relationships within this group of compounds then leads neatly into the final section in which Dr Stephen Neidle deals lucidly with molecular models of the binding of daunomycin to DNA. The Pigram-Fuller-Hamilton model is analysed critically, and is beautifully illustrated, before we return once more to the theme of structure-activity relationships in considering the effects of modification of the chromophore and sugar moieties. Neidle's conclusion is well taken: 'It is apparent that daunomycin and adriamycin have been endowed by Nature — with properties that have as yet been only rarely equalled, even in some respects, by human endeavour.' More strength to those who try!

Eric Cundliffe

Topics in Carbon-13 NMR Spectroscopy, Volume 3

Edited by George C. Levy
Wiley; Brisbane, Chichester, New York, Toronto, 1979
xii + 397 pages. £21.40

This series is intended 'to document current developments in ^{13}C NMR and bridge the gap between current research literature and available ^{13}C texts and reviews'. Volume 3, succeeds in this and it is a most useful book for those working with ^{13}C NMR. No chapter, more so perhaps than chapter 1 which is a multiauthored one on some of the recent advances in methods and

of those techniques which will find greater application in the future — such as two-dimensional Fourier transfer ^{13}C NMR.

This chapter alone makes the book good value — but additional enjoyment is provided by the variety of topics in the remaining chapters. These include, applications of relaxation measurements, a fairly