

Atractyloside Chemistry, Biochemistry and Toxicology

Edited by R. Santi and S. Luciani
Piccin Medical Books; Padova, 1978
127 pages. \$12.00

This book, although short, provides a valuable account of the large body of information which has accumulated on the chemistry and biochemistry of atractyloside and carboxyatractyloside. Over half of the book (70 pages) is devoted to two chapters by Klingenberg and Vignais which describe the mechanism of action of the atractylosides on the mitochondrial adenine nucleotide translocator protein. These chapters contain very thorough and readable summaries of the experimental results and ideas emanating from these two laboratories, both of which have contributed heavily to the elucidation of the chemistry of the translocator protein. However, the experiments and the concepts represented are directed toward the specialist, and are probably beyond the scope of interest of the natural products chemist or the toxicologist, for whom the remainder of the book would be of interest. Three of the remaining chapters should appeal specifically to the natural products chemist, one on the pharmacognosy of *Atractylis sumnifera*, and one each on the chemistry of atractyloside and carboxyatractyloside. The two latter chapters emphasize the historical and chrono-

logical developments which led to the establishment of the structures of carboxyatractyloside and atractyloside. Unfortunately, no attempts were made to relate the chemistry of these compounds to their biological and inhibitory activities, and the result is that these chapters contain little information which is relevant to the needs of the biochemist.

The remainder of the book is composed of two short chapters, one dealing with the effects of atractyloside on the whole animal, and a second which describes new plant species found to contain atractyloside. The former chapter contains useful toxicological data on atractyloside, which may be difficult to find elsewhere. The experimental results reported in this chapter are not, however, surprising, and are generally in keeping with the toxic site of action of these compounds on oxidative phosphorylation.

Although this book covers a rather narrow subject area, it will undoubtedly be of value to those working on carboxyatractyloside and atractyloside per se, as well as those interested in the mitochondrial adenine translocator protein.

B. Nelson

Advances in Enzymology, volume 47

Edited by A. Meister
John Wiley and Sons; Brisbane, Chichester, New York, Toronto, 1978
viii + 500 pages. £23.00

Whilst the rationale for the apparently arbitrary choice of articles that comprise this volume is unfortunately not made clear by the present editor, the success of the series can be gauged by the fact that

this is the forty-seventh volume. From all accounts a high proportion of the articles have proven valuable and have stood the test of time, both as sources of research information and teaching material at graduate

and senior undergraduate level. This would seem to have been the outcome of the judicious choice of authors who were leaders in their fields coupled with enough editorial work to ensure reasonable digestibility. This volume of advances in enzymology and related areas of molecular biology maintains these traditions. A clear example of a review that will be of lasting value is that by Chou and Fasman on the prediction of protein secondary structure, which specifically highlights their own contribution. Already our departmental copy of this volume is well thumbed at this point.

Enzymology *per se* is represented by Pocker and Sarkanen with an encyclopaedic review of present knowledge on carbonic anhydrase, the first zinc metalloenzyme to have been discovered, and a personal state of the art account by Bollum of his terminal deoxynucleotidyl transferase. This latter enzyme whilst of considerable general enzymological interest and with important application in the newly developing area of DNA recombinant technology may have considerable biological importance in the generation of the immune response.

More in the area of molecular biology is the useful contribution by Feigelson and Kurtz on the hormonal

modulation of specific messenger RNA species in normal and neoplastic rat liver. Specific reference is made to the messengers for the proteins tryptophan oxygenase and alpha 2U-globulin whose appearance seems to be regulated at the transcriptional rather than translational level. Translation is dealt with more specifically in a stimulating article by Jukes with particular emphasis on present views regarding the evolution of the amino acid code.

Amongst other contributions, Gunsalus and Sligar very effectively up-date current knowledge concerning physical biochemistry of mixed function oxidation reactions catalysed by cytochrome *P*-450. As they point out, recent years have witnessed a quantum jump in the precision of our understanding of mixed function oxidation reactions in terms of fundamental thermodynamic and rate laws.

Finally the coenzyme aspect of enzymology is not neglected. Huennekens, Vitol and Henderson review recent information relevant to specific transport systems for essential folate compounds in both bacterial and mammalian cells.

Roy H. Burdon

Immunochemistry

An Advanced Textbook

Edited by L. E. Glynn and M. W. Steward

John Wiley and Sons; Brisbane, Chichester, New York, Toronto, 1977

x + 628 pages. £24.00

This book represents a relatively current and complete treatment of immunochemistry at an advanced level. It consists of 16 independently authored chapters covering most aspects of immunochemistry. The subjects considered include immunoglobulin structure, function, biosynthesis, genetics and abnormalities, as well as the origin of antibody diversity. Immunogenicity and antigenicity are covered both in general terms and specifically with regard to proteins, polysaccharides and collagen. Also included in this

book are chapters on the pathways of complement activation, the affinity of antigen-antibody reactions, antigen-antibody complexes, amyloid, adjuvants and cell-surface immunochemistry. All of these subjects are covered in considerable detail by contributors who are, in general, primary authorities in their areas. Most chapters thus present not only the most recent information available in an area, but also the special insights which active investigators have for their own field and its future direction.