

Amino acid analysis

Amino Acid Determination: Methods and Techniques. Second edition. Edited by S. Blackburn. Pp. 367. (Marcell Dekker: New York and Basel, 1978.) Swiss Fr. 82.

THIS will be a most useful book which should find its way on to the shelves of every amino acid analyst. Old hands will find new and valuable information, and beginners will find a thorough introduction to the field. Perhaps its best features are the extensive and thorough bibliography which accompanies each chapter and the author index, covering over 1,000 authors. Nevertheless, and despite its subtitle, this is *not* a laboratory manual in the sense of providing recipes and precise details of procedural matters.

There are 13 chapters of which the editor has written a short introduction and recent history (chapter 1), an equally short tailpiece (chapter 13) and three other chapters. Of the remaining eight chapters, five are by George W. Robinson and the others by experts in their particular areas.

Chapter 2 (by Blackburn) describes the preparation and hydrolysis of samples before analysis and is a useful survey of the methods and pitfalls in this necessary preliminary. There follow four chapters (3–6) by Robinson on the standard ion-exchange methods used in modern automatic analysis, dealing with the theory, development, and practical aspects such as resins, buffers and detection systems. Chapter 7, entitled "Automatic Analysers", is the least satisfactory in the book. Admittedly, information on makes of instruments and their capabilities and defects is necessarily ephemeral material but it is nevertheless very valuable information for anyone undertaking the purchase of a new analyser. This chapter could therefore have said much more about the strengths and weaknesses of the different instruments and their makers. For example, although the editor mentions the Rank-Hilger Chromospek in chapter 1 as possessing some "novel features", neither the instrument nor its features are mentioned in chapter 7. In fact, novel though they may be, there are serious disadvantages that could well have been discussed and compared with the pros

and cons of other makers' instruments.

Blackburn's chapter 8 on "Gas Chromatography" will be found useful by GC buffs no doubt, but for a method which, in the words of the Editor in chapter 1, "has failed to displace the amino acid analyser" this chapter is extraordinarily long (78 pages compared to a total of only 69 in chapters 3–7 on the analyser). This may be necessary to do the method justice, as it does have specialist uses; but the balance seems wrong.

The use of computers in amino acid analysis is well covered in chapter 9, and chapter 10 is a rag-bag of miscellaneous procedures and applications containing a useful section on dansyl amino acids. An unexpected blessing, at least for those with medical interests, is chapter 11 on "Physiological Fluids". This is a real mine of densely packed information. Finally, chapter 12 is a useful account of the relatively new techniques using pyridoxal derivatives of amino acids.

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Viking missions

To the Red Planet. By Eric Burgess. (Columbia University Press: New York, 1978.) \$24.95.

ALTHOUGH all the plates and other illustrations in this book are in black and white, this is more than compensated for by the actual choice of graphic material and the informed, balanced and stimulating text. The opening chapters give a lucid account of the historical background and current state of knowledge regarding the planet Mars, the biophysical and biochemical bases of life as we know it, and how these topics relate to the objectives of the Viking missions.

Passages devoted to spacecraft instrumentation and hardware, which appear mainly in chapter 4, are treated in the contexts of the scientific rationale and mission planning. The emphasis here, as throughout the book, is sufficiently human in orientation that one does not lose sight of the involvement, the thoughts and reactions, of the project scientists; and the author pays due regard to maintaining the requisite attention to scientific and technical detail.

Burgess arranges his facts well and combines them with lively narrative and wit, not born of offhandedness nor

any trace of cynicism, but of the humour flexed by an author who really is in control of his material and who obviously feels a pressing need to communicate this to a wide spectrum of readers.

Each point of discussion is given a fresh paragraph, assisting the overall clarity, but a few sub-headings would not have gone amiss, particularly where the Viking lander experiments are described in chapter 7 and where conclusions are drawn in the final chapter. But this is not a serious detraction. Possibly through modesty the author may not have regarded his work as a book of reference. In view of the selection of topics and pictures discussed, and the high standard of his own exposition, it certainly could be regarded as such.

Burgess has undertaken a difficult task and performed it well; readers of the book will undoubtedly be rewarded. If they happen to be members of the public at large or specialists in planetary science, it will go a long way towards broadening their appreciation of the considerable amount of interdisciplinary thought, effort and coordination which has contributed to the success of the Mars Viking missions.

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