

Densitometry in Thin Layer Chromatography: Practice and Applications

Edited by J. C. Touchstone and J. Sherma

John Wiley and Sons; Brisbane, Chichester, New York, Toronto, 1979

xvi + 748 pages. \$39.55, £21.00

Densitometry is becoming an increasingly important aid in quantitative thin-layer chromatography (TLC), which is itself becoming more widely practised. This book (a 'first-of-its-kind work', according to the blurb) is therefore timely, and generally succeeds in providing an introduction to the techniques of densitometry reinforced by practical examples from widely varying analytical systems.

The first 130 pages consist of a brief historical introduction, two well-written chapters on the theory of densitometry and densitometers, a chapter on materials and methods, and another on instrumentation (which includes a survey of currently available instruments). This section, given that it is written for those who already have experience of TLC, fulfils its purpose admirably in concisely providing sufficient information for successful utilization of densitometry. The editors point out that this purpose can only be achieved if the whole of the TLC process is performed satisfactorily, from application of the sample to final evaluation of the chromatogram, and all the essential steps are in fact dealt with.

The remainder of the book consists of 28 chapters dealing with specific applications of TLC with densitometry as an end-step. (Actually, in one chapter, on

bioautography, the quantitation is by planimetry, but the editors felt that the technique is sufficiently important to be included anyway. This is undoubtedly so. What is less immediately apparent is why it was necessary for this 20-page chapter to be written by 9 co-authors, all from the same institution. The range of topics is intentionally representative rather than comprehensive and covers such things as alkaloids, colorants in food and drugs, drugs in serum, mycotoxins, prostaglandins and steroids. The quality of the chapters is somewhat variable, but each provides useful detail for its specific topic and usually a number of hints and insights of more general application.

The standard of production is high, the diagrams are clear and the print is easily legible (apart from the rather quaint substitute used for italic script). The editorial control is generally good, although Quaternary Ammonia Compounds as a chapter title is one horror that should have been weeded out, and the book is much more readable than, for example, some of Professor Touchstone's earlier productions. It can be recommended for all those using, or intending to use, densitometry for quantitative TLC.

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Electrokinetic Separation Methods

Edited by P. G. Righetti, C. J. Van Oss and J. W. Vanderhoff

Elsevier/North-Holland; Amsterdam, New York, 1979

xiv + 476 pages. \$68.25, Dfl 140.00

As pointed out in the Introduction, the appearance of another book on electrophoretic techniques requires justification. Indeed this might not have been achieved but for the chapters by Righetti and by

Chrambach. Together they have covered the most rapidly advancing aspects of electrokinetic separation methods. Thus, although the 20 chapters are uneven, both stylistically and in the number of times each

fact has already been published (at a guess this 'boringness' factor must vary by several orders of magnitude), the book is very useful.

Righetti's contributions are outstanding, not only because he is extremely well informed about iso-electrofocusing, but also because of his frank and uninhibited approach. Thus he does not hesitate to criticize individuals, e.g., Vesterberg who, after filing a Swedish patent in 1964 for the synthesis of ampholytes, refrained for 5 years from publishing a scientific paper on the method. Further on, he states that after 'buying the LKB Multiphore apparatus, the first intelligent thing to do is to throw away the rubber gasket used for the gel sandwich'. By giving a thinner gel, this saves ampholine 'which costs 2.2-times more than gold'.

The chapters by Chrambach on Disc Electrophoresis and on Preparative Electrophoresis, Isotachopheresis and Electrofocusing are also very useful. In the first, he succeeds in outlining a 'rational fractionation strategy for quantitative PAGE', and in the second, he argues against the current idea that in isotachopheresis, addition of amino acids or ampholines as

spacers may lead to increased load capacity and/or resolving power. Unfortunately the 2 chapters by Righetti and the 2 by Chrambach are all remarkable, in a negative sense, because of numerous weakly constructed sentences and typographical errors. For readers already familiar with the subjects covered, the underlying meaning can be worked out, but do not buy this book unless you can put up with the following reference in the text: w?v&!c&mn et al., and the figure on page 340 which includes 16 numbers, only 12 of which are explained, and finally, the diagram on page 390, part of which is in Japanese!

No further review space will be devoted to errors because the positive aspects of this book far outweigh the negative. In all, the contributions of the 26 authors, many of whom are leaders in their own fields, are a useful aid towards a fuller understanding of the interactions between buffer ions, large molecules, particles and the matrices through which they migrate. The chapter by J. R. Cann on electrophoresis and isoelectrofocusing of interacting systems is an excellent example.

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Allen, G. E. Thomas Hunt Morgan: the man and his science. Princeton University Press; Princeton, NJ, 1979. xviii + 448 pp. \$25.00. Reviewed in: *Science*, 18 May 1979, 204, 724 by D. J. Kevles.

Atassi, M. Z. (ed) *Immunochemistry of proteins*, vol. 3. Plenum; New York, 1979. 321 pp. \$35.00.

Atassi, M. Z. and Stavitsky, A. B. (eds) *The immunobiology of proteins and peptides*, I. Plenum; New York, 1978. 513 pp. \$45.00. Reviewed in: *Mol. Immunol.*, 1979, 16, 533 by R. N. Hiramoto.

Bach, M. K. (ed) *Immediate hypersensitivity: modern concepts and developments*. Immunology series, vol. 7. Noel Ross (ed) Marcel Dekker; Basel, New York, 1978. 872 pp. SFr 130. Reviewed in: *Immunology*, 1979, 37, 915 by D. R. Stanworth.

Ballard, R. E. *Photoelectron spectroscopy and molecular orbital theory*. Adam Hilger; Bristol, 1978. 192 pp. £18. Reviewed in: *Nature*, 3 May 1979, 279, 88 by D. W. Turner.

Bergan, T. and Norris, J. R. (eds) *Methods in microbiology*, vol. 12. Academic Press; London, 1978. 268 pp. \$25.50; £12.00.

Boudreaux, H. B. *Arthropod phylogeny: with special reference to insects*. John Wiley; Chichester, New York, 1979. 320 pp. £15. Reviewed in: *Nature*, 6 Sep. 1979, 281, 88 by R. G. Davies.

Bracegirdle, B. A *history of microtechnique*. Heinemann Educational Books; London, 1978. 359 pp. £22.50. Reviewed in: *Histochem. J.*, 1979, 11, 500 by P. B. Gahan. *also* in: *Nature*, 11 Jan. 1979, 277, 155 by S. Bradbury.

Brock, T. D. *Thermophilic microorganisms and life at high temperatures*. Springer; Berlin, Heidelberg, New York, 1978. 465 pp. \$29.70; DM 54.— Reviewed in: *Nature*, 14 Jun. 1979, 279, 658 by G. D. Anagnostopoulos.

Brown, G. B., Manecke, G. and Wingard, L. B., jr (eds) *Enzyme engineering*, vol. 4. Plenum; New York, 1978. 492 pp. \$24.88. Reviewed in: *Immunology*, 1979, 38, 207 by M. W. Turner.

Cavins, J. *Cancer, science and society*. Freeman; Reading, San Francisco, 1979. 199 pp. £6.20 hardback; £2.90 paperback. Reviewed in: *Nature*, 5 Jul. 1979, 280, 89 by R. Peto.