

Book Review

Human Cell Culture Protocols (Methods in Molecular Medicine)

Edited by Gareth E. Jones

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xiv + 545 pages

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The last few years have seen publication of a plethora of books devoted to cell culture protocols. What obviously marks this book out is that it is concerned with protocols for human cell culture, and as such is to be warmly welcomed. The book comprises thirty-eight chapters devoted to the culture of a wide variety of cell types, with examples from all the major body systems, together with two chapters which describe the use of modern molecular techniques coupled with cell culture in the study of disease (cystic fibrosis in this case), and one chapter on detection of mycoplasma infection in cell culture.

The chapters follow a uniform five-section format of Introduction, Materials, Methods, Notes, and References.

Most, but not all, of the chapters present photomicrographs of

the cell type under consideration and I feel that the lack of such micrographs in some chapters limits their usefulness—after all, the intention of this book is to describe protocols for those who are new to a particular area. Although a number of contributors discuss the safety aspects of this type of work, the need for the appropriate containment facilities, hepatitis B vaccination of the workers, and proper decontamination and disposal procedures, I feel that this would be better covered in a chapter solely devoted to this aspect.

The uniform presentation of the chapters, together with a generally good level of grammatical and typographic accuracy, contribute to a book that is a pleasure to read. I am sure that it will become a valuable resource to those new to a particular system and to those more experienced, who will find some useful new tricks for their own work. The contributors, editor, and publisher are to be congratulated on putting this book together.

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Book Review

Ultraviolet-Visible Spectrophotometry in Pharmaceutical Analysis

Sándor Görög

Published 1995 CRC Press, Boca Raton

387 pages

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This excellent book reviews the development and current status of UV-visible spectrophotometry, a technique which revolutionized analytical chemistry early in this century but which has fallen out of vogue of late. Reading this book one is reminded of the power and breadth of utility of the technique, whilst the chapters on chemical derivatization elegantly reflect the lost art of "chemistry" in the solution of analytical problems.

It comprises an introductory chapter followed by eight chapters addressing the theory of qualitative and quantitative spectrophotometry, the combination of spectrophotometry with chromatography, the use of chemical derivatization in spectrophotometric analysis and instrumental techniques such as difference spectrophotometry. There then follows a general chapter on the spectrophotometric analysis of pharmaceuticals dealing with sub-topics such as bulk materials, various formulations (tablets, capsules, suppositories, solutions, creams and ointments) stability samples, biological samples and natural products. The final chapter comprises sixteen sub-chapters on the analysis of specific classes of drugs such as catecholamines, salicylates, sulphonamides, alkaloids, barbiturates, benzodiazepines, antibiotics, vitamins etc.

The introductory chapter contains a short resume of the history of UV-spectrophotometry which is most interesting, discussing the origins of the technique and its somewhat reduced role in modern analysis. Spectrophotometry retains its popularity in technologically less-developed countries from where much of the published developments arise. This chapter is followed by one discussing the instrumental parameters affecting analytical performance. This is an extremely useful chapter, discussing as it does the effects of

such things as slit-width, stray-light and calibration. It contains a number of tips for the practising spectroscopist. There then follows a number of chapters dealing with the theoretical aspects of spectrophotometry such as absorption-band theory, the relationship between structure and absorption and the quantitative role of natural light absorption. Techniques for background-correction are compared and discussed. Two chapters are devoted to the use of chemical derivatization in facilitating qualitative and quantitative analysis under such headings as acylation, condensation, redox, acid-catalysed reaction, metal complexation, ion-pair formation, enzymatic methods and charge-transfer complexation. A case study of the analysis of prednisolone-21-mesylate is presented in what is a very wide-ranging chapter. Two further chapters discuss instrumental aspects such as difference spectrophotometry and application to chromatographs.

If the book has a weak point, it is the imperfect translation from the original Hungarian which has led to the appearance of a few ambiguities and grammatical non-sequiturs. These are easily spotted and do not generally detract from the sense of the book. Curiously, a section on automation appears in the chapter discussing analysis of pharmaceutical dosage forms whilst validation of methodology appears in the chapter devoted to chemical derivatization. The book is packed with reference material, discussing over 200 drugs and citing over 2000 references. There are subject and reagent/derivatization indices and derivatization procedures for an impressive range of functional groups.

In conclusion, this book is both an up-to-date review of the subject and a comprehensive reference source of methodology. It would be a good addition to the bookshelves of students and practising analysts alike.

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