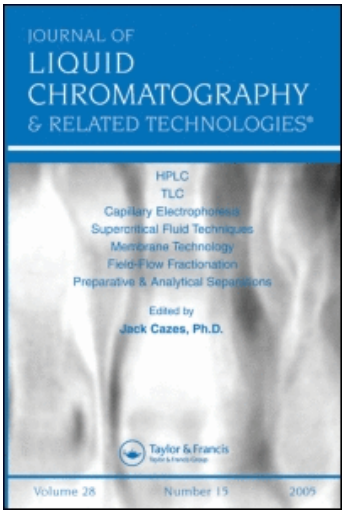

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The Book Corner

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THE BOOK CORNER

ANALYSIS OF ADDICTIVE AND MISUSED DRUGS, edited by John A. Adamovics, Marcel Dekker, Inc., New York, New York, 1995, viii + 671 pp. , $ 195.00; ISBN: 0-82 47-9230-6.

This book is a welcome addition in the field of the analysis of drugs abuse with the testing for banned substances in athletes. The book examines both the chromatographic and non chromatographic methods available to identify, analyze, screen for these controlled-use drugs.

The book consists of two parts. The first part consists of ten chapters written by fifteen international contributors who are experts in the field. Chapter 1 discusses the use of enzyme immunoassays in the analysis of drugs of abuse. This is followed by a chapter describing the development of biosensors for the direct, sensivitive, and selective assay of misused drugs. The third chapter describes a paper chromatographic technique extensively used to screen for drugs in biological matrices. The next chapter is devoted to the uses of reversed--phase high-performance liquid chromatography in the analysis of drugs of forensic interest, which is followed by a chapter on the often overlooked use of underivatized silica gel with polar solvents. Chapter 6 assesses the applicability of the relatively new and exciting technique of capillary electrophoresis for the separation of illicit drugs. Chapter 7 discusses a simple and sensitive identification system for the detection of a broad spectrum of drugs using thin-layer chromatography for screening and gas chromatography/mass spectrometry for confirmation. For analysts overwhelmed by a large number of samples, Chapter 8 presents the most current robotic technology. The next chapter presents a comprehensive sports drug testing program. Finally, Chapter 10 is devoted to the approaches to solving forensic problems in developing countries with limited resources.

The second part of the book consists of an appendix printed in 236 pages. This appendix provides a comprehensive alphabetic listing of over 400 drugs identified by either the U. S. Drug Enforcement Adminstration or the International Olympic Committee. This appendix is tabulated to include the drug name, sample matrix, handling procedure, testing procedure, mode of detection and references which render it a valuable quick reference source for forensic analysis.

I congratulate the Editor for including this appendix, as it represents a compendium for all testing laboratories that analyze for abused and misused drugs.

The book contains over 1700 bibliographic citations up to 1993, with over 1100 references present in the appendix alone.

This book is highly recommended to own as it presents the state-of-the-art in this field and can be used as a practical daily reference for analytical, clinical, forensic, pharmaceutical chemists, pharmacologists, toxicologists, graduate students among other disciplines who are involved with abused and misused drug analysis. This book is also a must for analysts involved in drugs of abuse testing and athletic drug testing.

HPLC: A PRACTICAL USER'S GUIDE, by Marvin C. McMaster, VCH Publishers, Weinheim, Germany, 1994, xii + 211 pp., DM 98.00; ISBN: 1-56081-636-8

This book is very useful manual for all scientists and technicians whose work involves the use of HPLC, either routinely, or in research applications. It focuses on setting up and running an HPLC system efficiently, cleaning and trouble shooting column and system problems, means for obtaining separations and maximizing information from a system.

The book consists of three parts. Part I discusses the advantages and disadvantages of HPLC and basics in selecting and running an HPLC system. Part II, entitled HPLC optimization, and consists of six chapters as follows:

- Separation Models
- Column Preparation
- Column aging, diagnosis and healing
- Modification of Partition Chromatography
- "Non Partition" Chromatography
- Hardware Specifics
- Trouble Shooting and Optimization

This part represents the basic core of information the chromatographers should be aquainted with.

Part III discusses HPLC utilization and consists of five chapters. A chapter is dedicated to preparative chromatography and another to sample preparation and methods development. The other three chapters deal with automation, interfacing to computers and data acquisition devices, HPLC/mass spectrometry and with application logic. The author includes the following five appendices at the end of the book: (a) personal separation guide to point out starting points for chromatographic separations and trends in usage of columns, mobile phases and detectors, (b) a glossary of HPLC terms, (c) HPLC trouble shooting quick reference. This appendix is helpful to tackle quick problems which may arise; (d) laboratory experiments. This appendix consists of three experiments designed to familirize the student with several HPLC techniques used in HPLC systems such a as system start-up and column calibration, sample preparation and method development and column and solvent switching; (e) selected reference list to give a beginner starting point for literature in the field.

The book is recommended for all undergraduate and graduate students using HPLC as a tool for separation and analysis. Also, analytical chemists in pharmaceutical, biotechnology, environmental industries and other related fields as well as academic professionals who will find this book of high practical value.

HPLC DETECTION: NEWER METHODS, edited by G. Patonay, VCH Verlagsgesellschaft, Weinheim, Germany, 1993; xii + 236 pages, ISBN: 3-527-78219X; DM 158 + £ 65.00

This book provides an extremely valuable survey for the most powerful and less conventional detection methods used in HPLC. With the advancement

of several analytical methods, new detection methods have become available which have more advantages than the conventional detection methods, thus offering chromatographers new horizons in separation analysis techniques. Long-lived luminescence, fourier transform infrared spectroscopy (FTIR), HPLC-mass spectroscopy are among the topics discussed. The book consists of 9 chapters written by several contributors who are experts in the field of HPLC. Each chapter concludes with a list of references up to 1991, and most of the chapters contain good illustrations and figures.

In Chapter 1 measurement concepts are presented for detection in micro-HPLC separations using lasers. In Chapter 2, the advantages of using long-lived luminescence detection methods are discussed to illustrate its applications with trace concentrations. The utility of chemiluminescence in HPLC detection is presented in Chapter 3, Chapter 4 discusses near infrared semiconductor laser fluorescence, one of the latest emerging detection methods of ultra trace concentrations. The somewhat more conventional electrochemical detection method is discussed in Chapter 5, however, with a special emphasis on less conventional applications. Chapter 6 discusses powerful photothermal detection methods. The last three chapters focus on detection methods that are providing information about the structure and identification of the analyte molecule by the detector.

The titles of these chapters are:

- HPLC detection using fourier transform infrared spectroscopy
- HPLC detection using mass spectrometry
- HPLC chromatography proton nuclear magnetic resonance on-line coupling

These methods could offer enough information to identify the solute(s), thus, improving the utility and application of HPLC. The authors of these chapters offered an overview for those modern detection techniques and updated status to the developments required to improve the potential of these techniques.

This book is an excellent contribution to HPLC modality and is essential to be in any library in academia, industry, government and hospitals. It is also recommended for concerned chromatographers to have their own copy.

Reviewed by:

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