

This article was downloaded by:

On: 25 January 2011

Access details: *Access Details: Free Access*

Publisher *Taylor & Francis*

Informa Ltd Registered in England and Wales Registered Number: 1072954 Registered office: Mortimer House, 37-41 Mortimer Street, London W1T 3JH, UK



Journal of Liquid Chromatography & Related Technologies

Publication details, including instructions for authors and subscription information:

<http://www.informaworld.com/smpp/title~content=t713597273>

To cite this Article (1992) ", Journal of Liquid Chromatography & Related Technologies, 15: 15, 2931 — 2934

To link to this Article: DOI: 10.1080/10826079208016359

URL: <http://dx.doi.org/10.1080/10826079208016359>

PLEASE SCROLL DOWN FOR ARTICLE

Full terms and conditions of use: <http://www.informaworld.com/terms-and-conditions-of-access.pdf>

This article may be used for research, teaching and private study purposes. Any substantial or systematic reproduction, re-distribution, re-selling, loan or sub-licensing, systematic supply or distribution in any form to anyone is expressly forbidden.

The publisher does not give any warranty express or implied or make any representation that the contents will be complete or accurate or up to date. The accuracy of any instructions, formulae and drug doses should be independently verified with primary sources. The publisher shall not be liable for any loss, actions, claims, proceedings, demand or costs or damages whatsoever or howsoever caused arising directly or indirectly in connection with or arising out of the use of this material.

THE BOOK CORNER

CARBON, NITROGEN, AND SULFUR POLLUTANTS AND THEIR DETERMINATION IN AIR AND WATER, by J. Greyson, Marcel Dekker, Inc., New York, 1990, 338 pages; Price: \$99.75 (U.S. and Canada), \$119.50 (all other countries).

Carbon, nitrogen and sulfur are three of the most abundant elements, and are also major players in life-cycling biogeochemical regions of the biosphere and are found in the Earth's crust, oceans, rivers, streams and in the atmosphere. Carbon is the fundamental building block of all the planet's life forms; sulfur is the cement that maintains the integrity and structure of proteins; and nitrogen, in addition to serving as an integral component of the cellular matter of living organisms, is an essential participant in virtually every biological phenomenon in the life process.

In terms of environmental impact, therefore, major focus has recently been directed to control of these three life-sustaining elements because of their mobility and their ubiquitous introduction into the biosphere through industrialization and the consumption of vast quantities of energy.

According to the author, "This monograph is intended for those engineers and chemists who are suddenly faced with a request to determine the level of sulfur in the factory's stack gas or carbon in its waste stream, as examples, but who have always worked in unrelated work areas. Its goal is to present the underlying principles and some of the limitations of available methods to analyze for carbon, sulfur, or nitrogen - including newer approaches, such as fluorescence, chemiluminescence, and ion chromatography, which are not covered in most of the existing treatises on organic analysis. And with the thought that method development is the province of the analytical chemist, not the environmentalist, and also as a way to avoid a volume of encyclopedic proportions, the discussion, with the exception of the section on analytical applications of enzymes and immunochemicals, has been confined to procedures that are generally available commercially." I agree with the author that methods development in analytical chemistry should be left to the analytical chemist, who is trained and qualified to do so.

The monograph is divided into four parts. Part I is an introduction of the subject. Part II deals with the chemistry of the three elements as pollutants in a very basic and elementary way. Part III deals with the analysis and is comprised of six chapters, each dealing with a different analytical topic (see Table of Contents). Part IV is very short and deals with commercial equipment.

As mentioned earlier, the author, by his own admission, wrote this monograph for those "with no more background than is provided by typical introductory college level courses in chemistry and calculus". In order to realize such a goal, which he attained, he eliminated a lot of useful and theoretical material, which would have helped the environmentalist select the right method or procedure for the analysis of his samples. For example, the discussion of reversed-phase liquid chromatography and selection of a column is weak and almost non-existent although more than 80% of all analyses today are done on RP materials. It is acceptable to write an analytical book for the non-analytical chemist or engineer, but let us give them a bit of "food for thought" and not just a "black box".

Table of Contents:

1. **Pollutants in the Environment: Past and Present**, (3).
2. **The Biosphere and Biogeochemical Cycles**, (15).
3. **Carbon, Nitrogen, and Sulfur Chemistry**, (27).
4. **Carbon, Nitrogen, and Sulfur in Water Pollution**, (80).
5. **Carbon, Nitrogen, and Sulfur in Air Pollution**, (102).
6. **The Use of Analytical Methods**, (125).
7. **Physical Methods**, (138).
8. **Electrochemical Methods**, (181).
9. **Chromatography**, (212).
10. **Chemical Methods**, (252).
11. **Bioanalytical Methods**, (298).
12. **Some Comments on Commercial Equipment**, (319).

GUIDE TO PROTEIN PURIFICATION, Edited by M. P. Deutscher, Methods in Enzymology Series, Vol. 182, Academic Press, Inc., New York, 894 pages, 1990, paperback. Price: \$49.95.

This manual, which deals with all aspects of protein purification, is divided into 11 sections and an appendix. The manual starts with the question, "why purify enzymes?" The answer is given in the following four pages and has its root in the

work of Warburg of the 1930's. Each section of the manual contains one or more chapters depending on the topic of discussion. For example, Section VIII, which deals with electrophoretic methods, consists of five chapters written by authorities in that area. Although the book is written by many authors there is little duplication. Sections VII, VIII, and IX, which deal with purification procedures are especially valuable. So is the section on protein characterization. They are well written, concise, up-to-date and to the point. Overall, the book is well written and will serve as an excellent manual for the novice and the advanced scientist. Dr. Deutscher should be commended on a job well done.

Table of Contents:

- Section I. **Developing Purification Procedures**, (9).
- Section II. **General Methods for Handling Proteins and Enzymes**, (19).
- Section III. **Optimization of Starting Materials**, (93).
- Section IV. **Preparation of Extracts and Subcellular Fractionation**, (147).
- Section V. **Solubilization Procedures**, (239).
- Section VI. **Purification Procedures: Bulk Methods**, (285).
- Section VII. **Purification Procedures: Chromatographic Methods**, (309).
- Section VIII. **Purification Procedures: Electrophoretic Methods**, (425).
- Section IX. **Specialized Purification Procedures**, (499).
- Section X. **Characterization of Purified Proteins**, (555).
- Section XI. **Immunological Procedures**, (663).
- Section XII. **Additional Techniques**, (721).
- Section XIII. **Concluding Remarks**, (779).
- Appendix. **Personal Perspectives on Enzyme Purification**, (783).

CHROMATOGRAPHY TODAY, by C.F. Poole and S.K. Poole, Elsevier Science Publishing Co., Inc. Amsterdam, The Netherlands and New York, 1991, IX + 1026 pp., ISBN: 0-444-89161-7 (Paperback). Price US\$75.00/DFL. 150.00 (Paperback).

The book provides a comprehensive review of various chromatographic modalities, e.g. gas, liquid, thin-layer and supercritical fluid chromatography along

with a chapter devoted to hyphenated methods for identification and sample preparations, etc. The book consists of nine chapters with the following titles:

1. **Fundamental Relationships of Chromatography**
2. **The Column in Gas Chromatography**
3. **Instrumental Aspects of Gas Chromatography**
4. **The Column in Liquid Chromatography**
5. **Instrumental Aspects of High Pressure Liquid Chromatography**
6. **Supercritical Fluid Chromatography**
7. **Thin-Layer Chromatography Analysis**
8. **Sample Preparation for Chromatographic Analysis**
9. **Hyphenated Methods for Identification after Chromatographic Separation.**

At the end of each chapter there is a list of references related to the topic discussed, with some as recent as 1990, for further reading. The book is extensively illustrated with over 200 figures and 110 tables.

I believe that the book is an excellent reference and can be used as a textbook in chromatography for graduate students as well as for scientists who apply chromatography in various disciplines.

The valuable information compiled in this book justifies its modest cost.

Reviewed by
Hassan Y. Aboul-Enein, PhD, FRSC
Drug Development Laboratory
Radionuclide & Cyclotron Operations - MBC-03
King Faisal Specialist Hospital & Research Centre
P.O. Box 3354, Riyadh 11211
Kingdom of Saudi Arabia