

This article was downloaded by:

On: 30 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



Spectroscopy Letters

Publication details, including instructions for authors and subscription information:

<http://www.informaworld.com/smpp/title~content=t713597299>

A review of “QUANTITATIVE ANALYTICAL CHEMISTRY, 4th Edition by James S. Fritz and George H. Schenk, 1979, published by Allyn and Bacon, Inc., Massachusetts, X plus 661 pages”

J. W. Robinson^a

^a Professor of Chemistry Louisiana State University, Baton Rouge, Louisiana

To cite this Article Robinson, J. W.(1980) 'A review of “QUANTITATIVE ANALYTICAL CHEMISTRY, 4th Edition by James S. Fritz and George H. Schenk, 1979, published by Allyn and Bacon, Inc., Massachusetts, X plus 661 pages”', Spectroscopy Letters, 13: 12, 933 — 934

To link to this Article: DOI: 10.1080/00387018008064078

URL: <http://dx.doi.org/10.1080/00387018008064078>

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.

BOOK REVIEW

QUANTITATIVE ANALYTICAL CHEMISTRY, 4th Edition by James S. Fritz and George H. Schenk, 1979, published by Allyn and Bacon, Inc., Massachusetts, X plus 661 pages

This book contains 34 chapters (624 pages) and Appendices. It is split into two parts. The first part is concerned with Principles and Theory including descriptions of molarity, activity coefficients, and chemical equations. The second chapter is concerned with Steps in Chemical Analysis--such as sampling, measuring, dissolving and evaluating the results. The third chapter is concerned with the treatment of analytical data, precision accuracy, significant figures.

The fourth chapter is on gravimetric analysis. The fifth chapter is devoted to Spectrophotometry and is essentially limited to UV absorption and colorimetric analysis.

The next nine chapters are devoted to titrimetric analysis in various forms, such as acid-base, oxidation-reduction.

Two chapters are devoted to electrochemistry, one to liquid-liquid extraction, and three to chromatography. One chapter is devoted to UV and one to IR analysis followed by a chapter on atomic spectroscopy which covers atomic absorption spectroscopy, flame photometry, and emission spectrography. Part Two is devoted to gravimetric analysis, volumetric analysis and electro-analytical chemistry.

The topics on classical analytical chemistry are very well written and the subject matter is covered exhaustively. The more recent topics such as spectroscopy and chromatography are not written in such depth. For this reason the book does not make a good preparation for chemistry majors who intend to enter graduate school in analytical chemistry. This book would

prepare a chemist for the practice of classical analytical chemistry. However, we have to wonder how many industries can afford to hire B.S. chemistry majors to perform classical analyses.

The massive preponderance of analyses carried out today are performed by instrumental techniques. A few of these topics are addressed accurately, but somewhat superficially.

The teaching of classical analytical chemistry is an admirable tool for teaching experimental techniques to all chemists, and students of related topics and its teaching must be continued for that reason. However, to the long suffering student in the 'Quant Lab', the image of analytical chemistry is often irrevocably damaged in the process. Modern Analytical Chemistry, such as ESCA, HPLC, NMR, MS, Xray, etc. are relegated to minor roles and the student is not prepared for the modern explosive field of Analytical Chemistry. Perhaps the dilemma could be solved by teaching classical qualitative and quantitative analytical chemistry to Freshman and calling it 'Laboratory Techniques'.

In summary, this book gives an excellent account of classical analytical chemistry. But shouldn't a recent book in analytical chemistry be devoted to the topics pertinent to modern analytical chemistry?

J. W. Robinson
Professor of Chemistry
Louisiana State University
Baton Rouge, Louisiana 70803