

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 Sulfur Chemistry

Publication details, including instructions for authors and subscription information:

<http://www.informaworld.com/smpp/title~content=t713926081>

A Review of: "A Manual of Fluorometric and Spectrophotometric Experiments by Allesia M. Gillespie, Jr. (Wayne County Community College), Gordon and Breach Science Publishers, New York, 1985. ix 151 pp. 25.00."

Jens Eriksen^a

^a Department of Organic Chemistry, University of Aarhus, Aarhus

To cite this Article Eriksen, Jens(1986) 'A Review of: "A Manual of Fluorometric and Spectrophotometric Experiments by Allesia M. Gillespie, Jr. (Wayne County Community College), Gordon and Breach Science Publishers, New York, 1985. ix 151 pp. 25.00."', *Journal of Sulfur Chemistry*, 4: 8, 361

To link to this Article: DOI: 10.1080/01961778608082484

URL: <http://dx.doi.org/10.1080/01961778608082484>

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 REVIEWS

A Manual of Fluorometric and Spectrophotometric Experiments by Allesia M. Gillespie, Jr. (Wayne County Community College), Gordon and Breach Science Publishers, New York, 1985. ix + 151 pp. \$25.00.

This book is intended as a laboratory manual in an elementary course in spectrofluorometry. Emphasis is on experimental aspects, whereas the theory of fluorescence must be found elsewhere. One may also think of the manual as a help to newcomers in the field wanting to learn the possibilities and avoid the pitfalls in fluorescence spectroscopy.

The manual is divided into 16 separate experiments grouped into five main sections. The first experiments describe how to obtain emission and excitation spectra at a very elementary level. Experiments in section 2 deal with determinations of fluorescence quantum yields, excited state lifetimes, rate constants, excited state acidity constants, and polarization effects. Other experiments involve the effects of pH and solvent and errors in fluorometry such as self quenching and inner filter effects. The last two sections contain experiments on selected molecules and assays are given for fluorometric and spectrophotometric determination of caffeine and aspirin in tablets.

Each experiment is subdivided into an introduction, an objective statement, a list of instrumentation, solvents and reagents needed, procedure, discussion of the results, and a set of questions relating to the experiments. One could have wished more detailed introduction and discussion sections. On the other hand it is not really necessary to be informed in each of the 16 experiments that the instruments must be turned on. Similarly, detailed procedures are given several times on how to obtain the slope of a straight line.

The manual gives references to original literature and contains an index. It is the only manual of its kind, and as such there is clearly a need for it. The present manual does, however, have severe drawbacks. There are no experiments on more modern techniques and excimers, exciplexes and electron-transfer fluorescence quenching are not dealt with, although excimers are briefly mentioned as a possible error! All references are at least 10 years old. The manual contains numerous typographical errors and “l”, “l” and “I” have been used almost at random in the nomenclature. In fact, the author seems to introduce his own nomenclature of organic compounds. Other errors are perhaps more troublesome such as “triplet states have one unpaired electron” (p. 37). In determination of excited state lifetimes the well-known quencher 1,4-diazabicyclo[2.2.2]octane is used. This compound is given a wrong name, an impossible and ridiculous structure (p. 39) and a wrong molecular weight introducing a 23% error in the obtained lifetimes if the given procedure is followed. Such errors are inexcusable.

Jens Eriksen
Department of Organic Chemistry
University of Aarhus
DK-8000 Aarhus C