

pected. With a flexible route to these new structural types available, we are examining the many possible and varied uses these molecules might exhibit.^{5,6} In a general sense, the iterative

(5) α -Linked polymeric pyrroles have useful semiconducting properties: Bryce, M. R. *Nature* **1988**, 335, 12. Cowan, D. O.; Wlygul, F. M. The Organic Solid State. *Chem. Eng. News* **1986**, 64, 28. Munn, R. W. Molecular Electronics. *Chem. Br.* **1984**, 518. Bryce, M. R. Organic Conductors. *Chem. Br.* **1988**, 781.

(6) For details of the single-crystal X-ray crystallographic structure determination of **10**, please write to Dr. J. C. Huffman, Molecular Structure Center, Indiana University, Bloomington, IN 47405. Request report no. 88158.

process depicted herein should enable an array of molecules with predictable secondary structure to become available.

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Supplementary Material Available: Spectral data for compounds **1–3**, **6**, **7**, **10**, **14**, **15**, and **17** (2 pages). Ordering information is given on any current masthead page.

Additions and Corrections

Carbonylation Chemistry of the Tantalum Silyl (η^5 -C₅Me₅)-Cl₃TaSiMe₃, Synthesis, Characterization, and Reaction Chemistry of (η^5 -C₅Me₅)Cl₃Ta(η^2 -COSiMe₃) and Derivatives [*J. Am. Chem. Soc.* **1989**, 111, 149–164]. JOHN ARNOLD, T. DON TILLEY,* ARNOLD L. RHEINGOLD,* STEVEN J. GEIB, and ATTA M. ARIF

The crystal structure of Cp*Cl₃Ta[η^2 -OC(PEt₃)SiMe₃] (**6**) was originally reported as a fully mirror-plane disordered structure in the orthorhombic space group *Pcam* (*R* = 6.77%). A reexamination of the structure reveals that the correct space group is *Pca*2₁ (*R* = 2.85%) and that an ordered and chemically more reasonable structure is obtained, although all significant features of the earlier report remain unchanged. A set of the redetermined data may be obtained from one of us (A.L.R.) or from the complete disclosure that has been submitted for publication (Rheingold, A. L. *Acta Crystallogr.*, Sect. C).

Book Reviews*

Flow Injection Atomic Spectroscopy. Practical Spectroscopy Series. Volume 7. Edited by José Luis Burguera (University of Los Andes, Venezuela). Marcel Dekker: New York and Basel, 1989. xii + 353 pp. \$125.00. ISBN 0-8247-8059-0.

More than 10 years has passed since the publication of the first papers on flow injection analysis (FIA), and the technique has now been clearly shown to have many widespread applications in analytical chemistry. One of these important applications, of course, is atomic spectroscopy, and therefore, this book comes along at a very appropriate time. This book provides a wealth of information for a basic understanding of the flow injection analysis-atomic spectroscopy (FIA-AS) technique. The book consists of a Foreword written by the originator of the FIA technique, Professor Jaromir Růžička, a Preface written by the Editor, eight chapters written by a variety of authors, and two very useful appendices. There is also an author and a subject index.

The first chapter, written by Kent K. Stewart, gives a general introduction to the technique and describes some basic components of FIA-AS systems. Various types of FIA-AS assay systems are described. In the second chapter, William E. van der Linden discusses some theoretical aspects of the technique, including some specific aspects related to the use of a flame atomic-absorption spectrophotometer as a detector. In Chapter 3, Jacobus F. van Staden describes basic components including sampling, pumping, manifold, and nebulizer-burner systems. Chapter 4, by Khaolun Fang, discusses various analytical methods and techniques, including hydride generation methods and cold vapor methods for mercury; and Chapter 5, by Miguel Valcárcel and Mercedes Gallego, describes separation techniques including continuous precipitation, liquid extraction and ion exchange. Chapter 6, by Elias A. G. Zagatto and co-workers, describes some selected applications of FIA-AS in agricultural and environmental analysis; and Chapter 7, by Roy A. Sherwood and Bernard F. Rocks, describes applications of the technique in clinical

chemistry. Some specialized applications involving graphite furnaces, chromatography, and inductively coupled plasma (ICP) atomic emission spectrometry are discussed. The final chapter, by Marcela Burguera, José Luis Burguera, and Gilbert E. Pacey, provides some useful information as to "current trends" in FIA-AS including instrumental developments such as speciation, conversion, automation, and miniaturized FIA systems. Some recent applications are also considered. There is also a somewhat subjective discussion of the present and the future of the technique. The book concludes with two useful appendices. Appendix A is a list of symbols, and Appendix B is an FIA-AS bibliography. Overall, this book is highly recommended.

Peter N. Keliher, Villanova University

Introduction to Microscale High-Performance Liquid Chromatography. Edited by Daido Ishii (Nagoya University). VCH: New York and Weinheim, 1988. xii + 208 pp. \$59.95. ISBN 0-89573-309-9.

This book consists of 7 chapters written by different contributors and 10 appendices which list the available packing materials for the preparation of packed and microcolumns. The editor, D. Ishii, is the co-author on four of the seven chapters. Chapter 1 gives a brief introduction on microcolumn HPLC (~5 pages), Chapter 2 describes the instrumental requirement in microcolumn HPLC (24 pages), Chapter 3 covers the characteristics of microcolumns (34 pages), Chapter 4 describes the use of different common LC detectors (UV, fluorescence, and electrochemical) in microcolumn HPLC experiment (23 pages), while chapter 5 (17 pages) covers the hyphenated systems (microcolumns with IR and MS detection). Chapter 6 is focused on the use of postcolumn derivatization in microcolumn HPLC mostly on the band broadening due to the use of different postcolumn reactors. Finally in Chapter 7 different applications of microcolumn HPLC is described rather extensively as compared to the first six chapters (52 pages).

All chapters are well written, and there seems to be no typographical errors.

*Unsigned book reviews are by the Book Review Editor.