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books

Sailing under false colours

Analytical Chemistry Instrumentation, edited by W. R. Laing, Lewis Publishers, 1986, U.K. £ 45.95 (xi + 362 pages) ISBN 0-87371-053-3

Those who buy this book in order to inform themselves about the present state of instrumentation in analytical chemistry may be disappointed. Instead of a well-organized survey on this subject, the reader will find the Proceedings of the 28th Conference on Analytical Chemistry in Energy Technology, Knoxville, Tennessee, October 1–3, 1985.

Although the main theme of the Conference, according to the foreword, was specialty instrumentation with session topics on areas such as Fourier transform techniques, specialty mass spectrometry, on-line and automated instrumentation, special facilities and robotics, the book consists of a rather casual collection of short communications, most of them not exceeding 2000 words. In this respect, the title of the book is somewhat misleading.

The book is organized into nine chapters, comprising 48 contributions in total. Special chapters are devoted to mass spectrometry and Fourier spectroscopy. There is also a relatively strong emphasis on analytical subjects related to nuclear energy technology, as reflected by chapters on environmental radiochemistry, analytical chemistry of plutonium, nuclear analytical chemistry and nuclear fuel technology. Three chapters with a more general scope complete the book: analytical chemistry and the environment, automated instrumentation and chemometrics. These last three chapters contain information of more general interest to the analyst but, for instance, the essential information presented in the contributions in the chapter on chemometrics can be found elsewhere in a more comprehensive form.

The reviewer found it difficult to appreciate this book, especially as it seems as if no attempt was made to find speakers/authors to present a state-of-the-art introduction to the various fields. The book is well produced and the price is reasonable for its size (360 pages).

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Disparate reviews in a single volume

Topics in Current Chemistry, Vol. 134, Analytical Problems, edited by M. J. S. Dewar et al., Springer-Verlag, 1986, DM 124.00 (approx. $ 65) (vii + 162 pages) ISBN-3-540-16403-0

This slim volume contains three unrelated reviews. I found the chapter entitled 'Sampling and sample preparation of environmental material' to be of particular interest. Written by Richard G. Melcher, Thomas L. Peters, and Herbert W. Emmel of The Dow Chemical Company (Midland, MI, U.S.A.), it is a catalogue of procedures for collecting air, water, and soil samples and preparing them for analysis. There is something here for everyone involved in environmental analysis. For gases and vapors, a thorough treatment of whole-air sampling using bulbs, bags, and other containers is followed by a discussion of concentration techniques ranging from impingers and bubblers to solid sorbents. The relative merits of solvent desorption and thermal desorption from the latter are discussed. The use of filters, impingers, cyclones, elutriators, and impactors for sampling air particulates is briefly mentioned. Techniques described for the preparation of water samples include liquid–liquid extraction,