

Book reviews

which are written by the editor, but the other two very large chapters contain contributions by a considerable number of different authors.

The first section is titled *Reviews of Recent Literature*. This contains short reports on a large number of characterization techniques under fifteen specific headings such as chemical methods, infra-red and Raman spectroscopy, microscopy, chromatography, X-ray methods etc. The material is of necessity presented in condensed form as the work in 518 separate references is discussed.

The second section, *Advances in Analysis and Characterization Methods*, has twelve sub-sections by different authors. These are too numerous to cite in this review, but contributions on electrochemical methods in polymer analysis, Raman spectroscopic investigations of drug-membrane interactions, acoustic emission of polymers, thermogravimetry, high resolution pyrolysis-gas chromatography, size-exclusion chromatography and new developments in the characterization of polymers by trans-

mission electron microscopy were particularly well presented. This massive section, as big as many books, contained 606 references.

The third, also large, section (306 references) called *Approaches to Problem Solving* is sub-divided into seven subsections covering topics which range from the general – analysis of polymers by Fourier-transform infra-red spectroscopy, infra-red spectra examination of volatile effluents from the thermal treatment of polymers, the determination of long-chain branching of polymers by multi-technique procedures and the identification of textile fibres – to the very specific – characterization of the structure and synthetic reactions of polyamido-amine ‘starburst’ polymers, the characterization of tapes with adhesive backings in the forensic science laboratory and the determination of microstructure by ^{19}F n.m.r. spectroscopy.

The final two sections on new instruments and new books, respectively, are short by comparison with the previous two sections. The first of these

sections, on new instruments, is divided into a general subsection and subsections on element and functional group determinations, spectroscopy, X-ray methods, microscopy, chromatography, thermal methods and physical methods. Recent developments of instruments are listed giving very brief outlines of their specifications and the addresses of the manufacturers. Unfortunately, however, it contains no critical assessment of any of the instruments mentioned. The section on new books is very short listing only title, author and publisher.

The reviewer is likely to be one of the few people to read this book from cover to cover, but as it is a very comprehensive work it is certain to contain sections of interest to many who are involved in the characterization and in the analysis of polymers. Although of a generally good standard, it is not totally uniform in this respect.

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Erratum

‘Influence of side groups on thermotropic behaviour of polyorganophosphazenes’

M. Kojima and J. H. Magill

Polymer 1989, **30**, 579–584

In ‘Results and Discussion’ the second sentence should read ‘For instance, the thermotropic behaviour has been investigated for PBPP^{4,9,15}.’

References 20–22 are as follows.

- 20 Masuko, T., Hoshi, M., Kitami, J. and Yonetake, K. *J. Mater. Sci. Lett.* 1988, **7**, 1241
- 21 Bishop, S. M. and Hall, J. H. *Br. Polym. J.* 1974, **6**, 193
- 22 Beres, J. J., Schneider, N. S., Desper, C. R. and Singler, R. E. *Macromolecules* 1979, **12**, 566