The action of various reagents on pectins is also of concern to the author (Chapter 5; 14 pages, 2 Tables, 7 Figures, and 25 references); for example, interaction with metallic cations, and the effect of mineral acids and alkali. The chapter also describes methods for the isolation of pectins from plants.

In conclusion, in Chapter 6 (1 page), the author advocates the usefulness of i.r. spectroscopy in determination of the structure of polysaccharides; he considers that it can differentiate between secondary and tertiary pectin structures, depending on whether their carboxyl groups are present as methyl esters, or are free, or combined with metal ions. The book ends with a Table of Contents, but Subject and Author Indexes are not provided. In general, the monograph is scientifically sound, and is written by a specialist who is actively involved in the field, as evidenced by 25 references to his own work.

This monograph may now be supplemented by i.r. spectra of disaccharides in the region 1000–40 cm^{-1} [V. M. Tul'chinsky, S. E. Zurabyan, K. A. Asankozhoev, G. A. Kogan, and A. Ya. Khorlin, *Carbohydr. Res.*, 51 (1976) 1–8] and cello-oligosaccharides and cellulose over a wide range of temperature [H. Hatakeyama, C. Nagasaki, and T. Yurugi, *ibid.*, 48 (1976) 149–158]. The author has promised to include new information in a supplementary edition.

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Radiation Biology and Chemistry: Research Developments, Studies in Physical and Theoretical Chemistry: Volume 6, edited by HAYDN E. EDWARDS, SUPPIAH NAVARATNAM, BARRY J. PARSONS, AND GLYN O. PHILLIPS, Elsevier Scientific Publishing Company, Amsterdam, Oxford, and New York, 1979, xiv + 505 pages + Author and Subject Indexes, List of Participants, Dfl. 160.00, U.S. $78.00.

This book provides a record of the Proceedings of the Association for Radiation Research Winter Meeting, January 3–5, 1979, held at Cartrefle College of The North East Wales Institute of Higher Education, Clwyd, Wales, United Kingdom. The meeting was dedicated to honor Alma Howard and Michael Ebert, a husband and wife team, long associated with the Paterson Laboratories of the Christie Hospital and Holt Radium Institute, who are retiring from full-time research.

The Weiss Medal was awarded to John P. Keene for achievements in pulse radiolysis. Keene is also associated with the Paterson Laboratories. His medalist lecture was "Fast Reaction Techniques".

The forty-six papers survey research developments during the 1960s and 1970s in radiation chemistry and biology, with special emphasis given to the interfaces between the disciplines of chemistry, biochemistry, and biology. Pulse radiolysis was

used in almost half of the investigations described, with eleven papers from, or in collaboration with, scientists at the Paterson Laboratories. A number of papers deal with the processes that are induced by ionizing radiations at cellular and molecular levels. The oxygen effect, radioresistance, and radiosensitizing drugs (in radiation therapy that is used to control proliferating tumors) are discussed. Investigations of biochemical interactions, including radiation effects on cells, bacteria, enzymes, proteins, amino acids, peptides, drugs, and carbohydrates, are also reported. Research investigations over the past fifty years on carcinogenesis from bone-seeking radionuclides are highlighted. Tasks of the tissue bank in clinical transplantations are also outlined.

The clarity of presentation in terms of typescript and layout are of a uniformly high standard. The Subject and Author Indexes are fairly comprehensive.

For those concerned with radiation therapy and radiation sterilization of medical products, the results that are surveyed of fundamental research, primarily emanating from the Paterson Laboratories and other research centers in Europe, should be useful.

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