

My major criticism remains that this book does not completely cover the recent state-of-art in oligosaccharide syntheses. As mentioned by the Editor, this is mainly due to the fact that the organizing committee could not invite all the chemists active in the preparation and use of synthetic oligosaccharides. However, this new volume will be of interest for carbohydrate chemists since the topics covered, if not exhaustive, represent the major facets of carbohydrate chemistry.

In conclusion, this timely book is a worthwhile acquisition for anyone, experts and novices alike, interested by oligosaccharide synthesis.

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Flavor Science: Sensible Principles and Techniques, Edited by Terry E. Acree and Roy Teranishi, ACS Professional Reference Book, American Chemical Society, Washington, DC, 1993, pp 351 + xvi, \$79.95 or £64.00.

The editors, both world renowned for their research, have recruited 14 authors, including five non-US ones, to contribute 10 chapters: bioassays for flavor (T.E. Acree, 20 pp, 40 refs.), common chemical sense in food flavor (H.T. Lawless and C.B. Lee, 45 pp, 200 refs.), sweet and bitter tastes (A. van der Heijden, 49 pp, 140 refs.), sweetness antagonists (M.G. Lindley, 17 pp, 40 refs.), sample preparation (R. Teranishi and S. Kint, 31 pp, 72 refs.), instrumental analysis in the flavor industry (C.J. Mussinan, 56 pp, 73 refs.), biotechnology: challenge for the flavor industry (P. Winterhalter and P. Schreier, 34 pp, 240 refs.), quantitative and sensory aspects of flavor of tomato and other vegetables and fruits (R.G. Buttery, 28 pp, 50 refs.), hydrolytic flavor release in fruit and wines through hydrolysis of nonvolatile precursors (P.J. Williams, 22 pp, 101 refs.), and key flavors from heat reactions of food ingredients (R. Scarpellino and R.J. Soukup, 28 pp, 46 refs.). There is a subject index (15 pp).

As stated in the preface, our lack of knowledge concerning the mechanisms by which we perceive tastes and odours contrasts vividly with our understanding of the processes by which we perceive sights and sounds. We can record store, retrieve, amplify, transmit, duplicate, and describe objectively the sights we see and the sounds we hear. Incredibly, none of these operations can be duplicated for a single taste or single odour. As also stated, the book represents the state-of-the-art discussions presented by speakers at a workshop. Its purpose is to present some answers to the question, "What are the chemicals responsible for flavour?", and the tools currently used to answer it. On the other hand, answers to the question, "How do flavor chemicals work?", are deliberately not sought. Thus, the volume is not really a reference book, since it does not attempt to be comprehensive or exhaustive and presents few detailed tables of data. Nevertheless, all the chapters are of interest and between them they cover a very wide area, ranging

from sensory assessment to instrumental assessment, the interrelations between the two, their quantitative application to tomato flavor in particular, the potential contribution of biotechnology to the area, and glycosidic flavor precursors. The Maillard reaction, of special concern to carbohydrate chemists, is also considered, but only relatively briefly. Fortunately, a volume covering many aspects of it has just appeared [1]. A book dealing much more comprehensively with volatile components of individual foodstuffs is also available [2].

Overall, the book is well produced, being almost free of typographical errors, but there is some smudging and some diagrams lack crispness. It is strongly recommended for those with at least some experience in the flavor area and for those with a particular interest in the subject of selected chapters.

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References

- [1] T.P. Labuza, G.A. Reineccius, V.M. Monnier, J. O'Brien, and J.W. Baynes (Eds.), *Maillard Reactions in Chemistry, Food, and Health*, The Royal Society of Chemistry, London, 1994.
- [2] H. Maarse (Ed.), *Volatile Compounds in Foods and Beverages*, Dekker, New York, 1991.