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## Book Review

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*Chromatographic studies of biogenesis of plant volatiles (Chromatographic Methods*, edited by W. Bertsch, W. G. Jennings and R. E. Kaiser), by P. Schreier, Hühlig, Heidelberg, Basel, New York, 1984, XIV + 171 pp., price SFr 62.60, ISBN 3-7785-0862-8.

Although the ambiguous title of this book (or booklet) may suggest that it is exclusively devoted to chromatographic procedures employed in biogenetic studies, most methods described are those commonly used in the analysis of naturally occurring volatiles like flavours and fragrances (should such investigations be considered as “biogenetic studies” *per se*?). The book comprises two general parts entitled “Techniques of Analysis” and “Biogenetic Pathways”, respectively, the first of which (1/3 of the book) is a concise survey of the procedures used for the isolation, separation, and identification of plant volatiles (more particularly of those related to foods). In spite of the little space employed (28 pp., plus 23 pp. of literature citations), the author has succeeded in giving a rather complete survey of the many isolation, chromatographic, and spectroscopic techniques involved in the analysis of such volatiles (hopefully, the 450 literature quotations provided in this part of the book should compensate for the brevity of the text!). The second general part (2/3 of the book) is entirely devoted to the main biogenetic pathways which take place in plant materials such as fruit and vegetables. Thus, the first section entitled “Formation of Natural and ‘Secondary’ Volatiles” provides a comprehensive description of the formation of aliphatic, aromatic, and terpene compounds through controlled or uncontrolled enzymatic processes. This is followed by a second, more specialized section dealing with “Post-processing Enzyme Reactions — Volatiles in Vegetables”, in which the enzymatic degradation of N,S-containing non-volatile precursors to volatile flavour compounds is more particularly outlined (*e.g.* the formation of polysulphides and isothiocyanates from cysteine sulphoxides and thioglucosinolates, respectively).

The book is very generously referenced in spite —or because— of its modest size (there are more than 1000 literature quotations up to 1984). Although the topics treated are presented in a highly condensed way, especially in the first part of the book, no obvious omissions can be noticed (however, a short mention of the non-enzymatic but very popular Maillard reaction would perhaps have been useful, as well as a word about the jasmonoids). Both writing style and printing quality are good, the formulae and figures are well set out, and there are also a table of contents and a convenient subject index. Unfortunately, a few scattered misprints occur in the text, while some formulae or chemical names are incorrect [*e.g.* on pp. 81 (glutaric acid), 100 (dimethyloctane), 123 (formulae VI and X; formula VIII is not that of a dehydrotheaspiron), 150 (*S*-(propenyl)-L-cysteine sulphoxides)].

To sum up, this well documented book offers the peculiar advantage of bringing together good accounts of both major facets of the chemistry of plant volatiles: the biogenesis and the analysis. Its reading may be highly recommended to all students or newcomers in the field, while the confirmed specialists could use it as a handy reminder of basic methodology and knowledge.

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