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Autor: Bosset, J.O.

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Bücher – Livres

Techniques for Analyzing Food Aroma

Ray Marsili (ed.)

Marcel Dekker Inc., New York, Basel, Hong Kong 1997.
X, 383 pp, 16 x 23 cm, hardcover, \$ 150– (ISBN 0-8247-9788-4)

This book is the 79th volume of a series of monographs, textbooks, and reference books published on Food Science and Technology. It describes some important methods and recent developments used for the analysis of volatile and semivolatile flavors and off-flavors. This practical reference book is comprehensive but not exhaustive. Nonvolatile components responsible for taste, which are generally determined with high-performance chromatography, are not considered. In particular, it shows how to select the most adequate technique in function of the aim to be reached, the compounds to be identified, and the food-matrix properties.

The 11 chapters of this volume are written by a team of 18 well-known authors. They include dozens of practical examples of selected applications which highlight how real aroma problems could be solved using modern analytical instruments and olfactometry. They present several usual sample preparation techniques for isolating and concentrating food aroma compounds such as solvent extraction and distillation techniques, trapping techniques on adsorption cartridge, solid phase (micro)extraction, etc. prior to the gas chromatographic (GC) analysis. They indicate how the CG-column can be chosen and which types of injectors and detectors may be used (mainly GC/mass spectrometry) in order to maximize resolution, discrimination, identification, and sensitivity for detecting character impact flavor compounds. Several chapters critically review CharmAnalysis and aroma extraction dilution analysis (AEDA), two efficient techniques for interpreting GC-olfactometry results. The last chapter briefly describes the working principle of the so-called «electronic» or «artifical noses» which do not mimic human nose, but are sensor-based instruments. If qualitative analyses are well discussed and documented, quantitative determinations, e.g. with standard addition methods, or isotopic dilution analysis, which are generally more difficult to carry out, are totally ignored.

Compiling a lot of recent quotations of the literature, this book provides valuable information for food and flavor chemists and technologists. It will be therefore an indispensable reference book for people working or responsible for food taste, quality control, assurance engineers, sensory analysts as well as graduate-level students in all these disciplines.

J.O. Bosset