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BOOK REVIEW

Essential Oils Analysis by Capillary Gas Chromatography and Carbon-13 NMR Spectroscopy. V. FORMÁČEK and K.-H. KUBECZKA. Wiley Heyden Ltd., John Wiley and Sons, Inc., 605 Third Avenue, New York, NY 10158. 1982. xiii+373 pp. 22 x 28.5 cm. $112.

Recent advances in capillary gas chromatographic techniques and in cmr spectroscopy have greatly assisted in the analysis of complex mixtures of volatile natural products and in structural assignment of new natural products. In this monograph, the authors, who are employed at Bruker Analytische Messtechnik and in the Department of Pharmaceutical Biology at the University of Würzburg, respectively, present extensive charts showing the capillary gas chromatograms and cmr spectra of a variety of essential oils and their constituents.

The first and major part of the book consists of the analysis of 35 different essential oils, from angelica seed oil to thyme oil. In the case of the more important oils, several different samples are analysed, so that analyses for 50 oils in all are presented. For each oil, a brief introductory section is followed by the capillary gas chromatogram of the oil, with the known components identified and quantitated. The oil's cmr spectrum is then given, and the more complex regions are presented in expanded form, with resonances due to the major components being identified. The second part of the book consists of unassigned cmr spectra of approximately 150 reference compounds, largely simple aliphatic compounds and mono- and sesquiterpenes. These spectra are presented in both graphical and tabular form, with the latter indicating intensities and multiplicities in addition to chemical shift values. The work concludes with appendices giving the cmr shifts of the reference compounds according to decreasing ppm values and a brief bibliography.

This book will find its major use in laboratories concerned with essential oils analysis, where it will doubtless become a necessary part of the analyst's personal library, but it will also find use in any laboratory concerned with natural products as a source of cmr reference spectra. As a bonus, the reference spectra include one of an unknown hydrocarbon $C_{15}H_{24}$ from anise seed oil, but regrettably no prizes are offered for the correct identification of the compound.

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BRIEF REPORTS

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