

Gas Chromatography
Mass Spectrometry
Applications in
Microbiology

Edited by

Göran Odham

Lennart Larsson

and

Per-Anders Mårdh

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PREFACE

During recent years there has been increasing interest in the value of a number of chemical and physical-chemical analytical methods for the detection and characterization of microorganisms. Furthermore, such methods are currently used in studies on microbial metabolic processes, on the role of microorganisms in the turnover of inorganic and organic compounds, and on the impact on environmental changes by microbial activity. Moreover, the introduction of some of these methods not only shortens the analytical time period compared to "traditional" techniques, but also improves the analytical quality.

Mass spectrometry (MS) combined with chromatographic inlet systems, particularly gas chromatography (GC), belongs to those methods which during recent years have established their value for the above-mentioned purposes.

The present volume starts with basic chapters on the principles for MS and common inlet systems, particularly GC. It discusses applications of these techniques to a number of microbiological disciplines, e.g., ecological and medical microbiology. Emphasis is laid on organic compound classes

of special relevance to microbiology, e.g., volatiles, lipids, amino acids, peptides and carbohydrates. Some compound classes of a more general biochemical rather than specific microbiological importance, e.g., steroids and nucleotides, are dealt with briefly.

The editors wish to thank all those who have contributed to this book. We hope it will stimulate further research in this futuristic field and will be of practical value.

Lund, Sweden

G. Odham
L. Larsson
P.-A. Mårdh

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PART I

INTRODUCTION TO GAS CHROMATOGRAPHY/ MASS SPECTROMETRY AND APPLICATIONS IN MICROBIOLOGY

