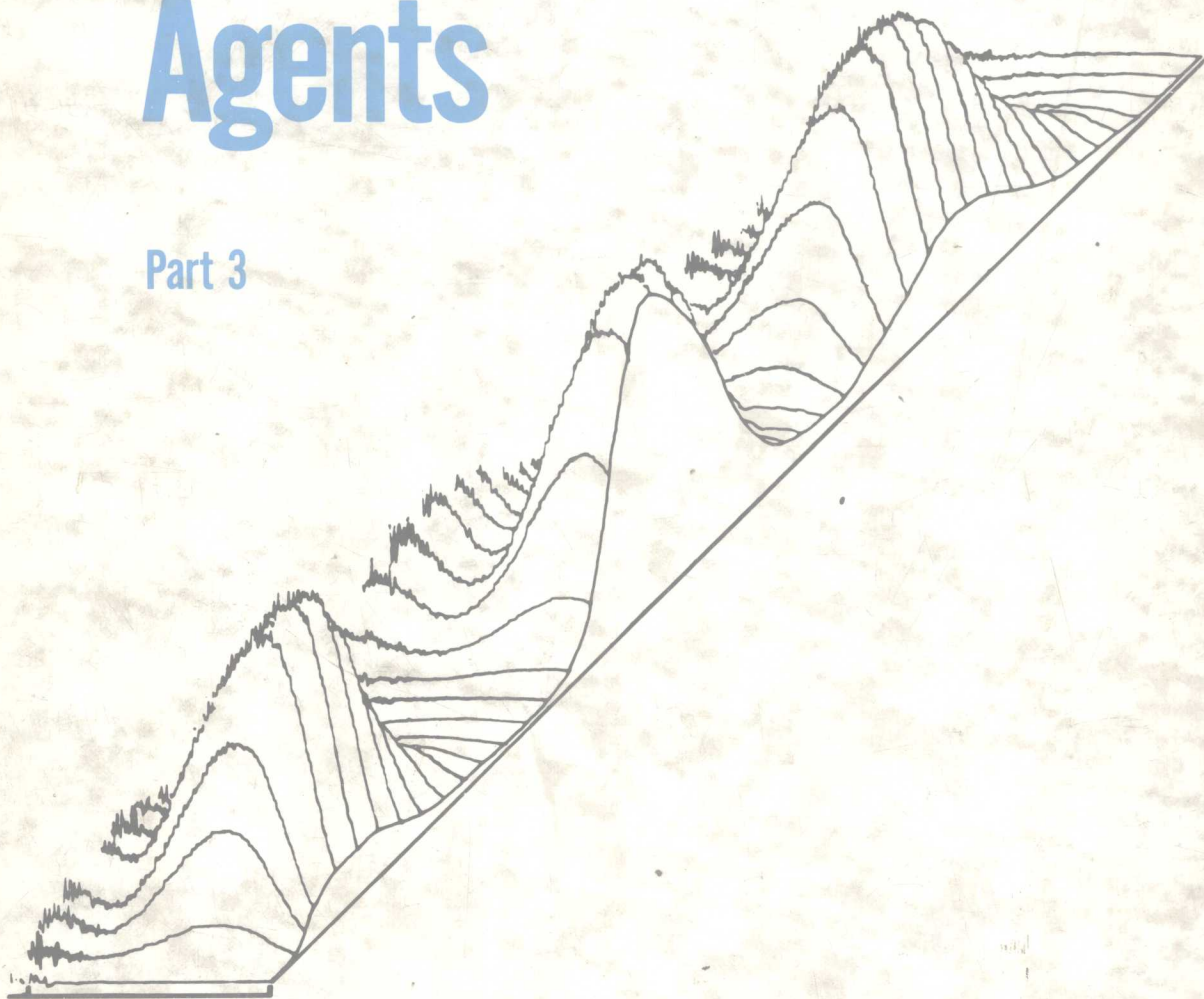


GLC and HPLC Determination of Therapeutic Agents

Part 3



edited by Kiyoshi Tsuji

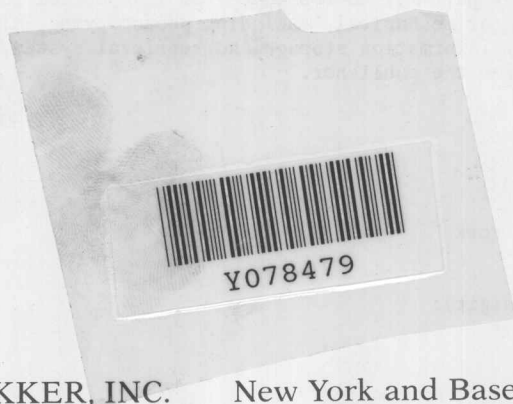
GLC and HPLC Determination of Therapeutic Agents (in three parts)

Part 3

Edited by

Kiyoshi Tsuji

*Control Analytical Research
and Development
The Upjohn Company
Kalamazoo, Michigan*



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FOREWORD

Within the recent past, an impressive array of new and powerful methods has been introduced to aid scientists in providing an improved definition of materials, processes, and products.

The applicability of chromatographic techniques, most particularly gas chromatography and high performance liquid chromatography, has made a dramatic impact on the analysis of organic compounds in general, and therapeutic agents in particular.

The rapid rise in the application of gas and high performance liquid chromatography is almost unrivaled in modern instrumental analytical methodology. Certainly their increased growth in utility parallels that of the then unprecedented growth in technological advances following the introduction of spectroscopy several decades ago.

While the application of GLC and HPLC has been described in an impressive array of original scientific publications, textbooks, and monographs, no single current summary exists as to their usefulness in defining therapeutic agents analytically. The need for such a compendium is obvious in view of the truly remarkable analytical progress made with these techniques.

The present work successfully fills this gap and provides the first critical, well-documented survey on gas and high performance liquid chromatographic methods applied to therapeutic agents. This text will be very valuable to medical and pharmaceutical researchers.

It is, indeed, fortunate that the generous cooperation of such an extensive group of eminent scientists could be secured to write the individual chapters. Each author is noted for his insight into and contributions to the ever-expanding utility of gas and liquid chromatographic methods.

This book, then, contains detailed methodology and provides, as well, a timely, critical review of the literature in an important area. This comprehensive work

truly meets the primary test of an analytical text: that of providing assay methods of high reliability and dependability with defined accuracy and precision.

A. J. Taraszka, Ph.D.
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PREFACE

*In nature's infinite book of secrecy,
A little I can read.*

William Shakespeare

Modern HPLC is now highly refined and, along with GLC, these two chromatographic techniques have emerged as the most widely used methods of drug analysis. Chromatographic analysis is important in the determination of the potency of drug formulations as well as in the successful completion of research-oriented projects. Many research scientists, though not primarily analytical chemists, employ HPLC and GLC in a variety of research endeavors.

With the rapid proliferation of publications in HPLC and GLC of therapeutic agents, the need for a compendium solely related to drugs is recognized.

The purpose of this book is two-fold: to serve as a reference guide and as a handbook for successful chromatographic analysis of drugs. This is accomplished by providing an up-to-date literature survey on the GLC and HPLC analysis of therapeutic agents, plus a detailed, step-by-step description of the procedure of choice from each author's first-hand experience. Where both GLC and HPLC methods are available, and equally desirable, both methods have been described in detail. Sample preparation, such as derivatization, extraction, and separation of drugs from clinical specimens or drug formulations, has also been described in detail. A summary table has been provided at the end of each chapter, where applicable, with full details on derivatization reagents, reaction and chromatographic conditions, column, and references.

Chapter authors are gratefully acknowledged for their contributions, advice, understanding, and patience, without which this book could not have materialized. We also wish to thank the many people who graciously contributed information and time, and The Upjohn Company for assistance and support in the preparation of this book.

Kiyoshi Tsuji

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