

BOOK REVIEW

Chromatography of Alkaloids. Part A: Thin-Layer Chromatography. A. BAERHEIM SVENDSEN and R. VERPOORTE. Elsevier Scientific Publishing Co., 52 Vanderbilt Avenue, New York, N.Y. 10017. 1983. xv+534 pp. 17×25 cm. \$104.25.

Alkaloids are one of the most important groups of secondary metabolites produced by living organisms with respect to frequency of occurrence, in numbers of representative compounds of known structure and as relates to potentially useful biologically active agents. This volume brings together, in an extremely useful way, all information required by the novice and the experienced alkaloid chemist, pertaining to thin-layer chromatographic techniques applicable to the detection and identification of known alkaloids. In each chapter, a number of useful, albeit not well documented, aids and precautions are stated that will prove useful even to the experienced alkaloid chemist.

The book is divided into two major sections. The first section contains four chapters dealing with the general aspects of alkaloid thinlayer chromatography (tlc). Chapter 1 addresses Adsorbents, Solvent Systems and TLC Techniques; Chapter 2, the Detection of Alkaloids in TLC; Chapter 3, TLC Separation and Identification of Alkaloids in General, and Chapter 4, Isolation of Alkaloids (relative to sample preparation for tlc). A second section comprises 17 chapters in which the various major groups of alkaloids are considered. For example, The Pyrrolidine, Pyrrolizidine, Pyridine, Piperidine, and Quinolizidine Alkaloids, The Tropane Alkaloids, The Quinoline Alkaloids, The Phenylethylamine and Isoquinoline Alkaloids, The Indole Alkaloids, The Steroidal Alkaloids, and Miscellaneous Alkaloids are each covered separately. Chapters are approximately subdivided along classical classification lines, i.e., The Indole Alkaloids are covered as Terpenoid Indole Alkaloids and Simple Indole Alkaloids, Ergot Alkaloids, and *Psilocybe* Alkaloids.

For each chemically related type of alkaloid, optimal solvent systems, methods of detection, adsorbents, sensitivity levels, color reactions, and tabulations of bR_f values are given for representative examples of the alkaloid types.

An Appendix presents formulae, methods of preparation, and methods of use for those spray reagents most useful for the detection of alkaloids.

Of interest to the toxicologist are frequent examples applicable to the tentative identification of so-called drugs-of-abuse, many of which are alkaloids, including synthetic nitrogenous bases and their metabolites.

This book is comprised mainly of clearly presented tables of data with a minimum of discussion. An enormous amount of time and effort has obviously been directed toward preparing a concise, accurate, and practical documentation of the "state of the art" in alkaloid tlc techniques. Both authors have extensive experience in the field of alkaloid chemistry and alkaloid chromatographic techniques, and it is refreshing to find a book put together in such an obviously thoughtful manner. The subject index is reasonably thorough and complete.

Undoubtedly, the cost of this book will restrict its purchase to those who are heavily involved in studying alkaloids or for reference use by libraries. This is unfortunate since it will be found equally valuable by the beginning graduate student as well as a day-to-day reference by the experienced alkaloid chemist. This reviewer recommends the book as almost indispensable to those involved in any type of alkaloid work, to those involved in the identification of drugs-of-abuse, to all libraries, and others interested in natural products chemistry who may be able to afford the price.

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