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BOOK REVIEW

OPTIMIZATION OF CHROMATOGRAPHIC SELECTIVITY
BY DR. PETER J. SCHOENMAKER
ELSEVIER SCIENCE PUBLISHING COMPANY,
AMSTERDAM, THE NETHERLANDS
\$93.50

Dr. Schoenmaker is a bright and accomplished chromatographer who understands the theoretical as well as the application of chromatography to the separation problems. In the preface of his book he correctly states that "method development in chromatography today requires skills, knowledge and, above all, experience. Therefore, it is a particularly difficult field to enter for newcomers." In his book he tried to help the newcomer understand the process of method development and the experienced chromatographer to apply different chromatographic techniques.

The book is a critical assessment, according to the author, of procedures for method development and selectivity optimization. It is well written, easy to follow, free of errors, and deals with selectivity for GC, SFC and HPLC is divided into seven chapters. The first chapter is an introduction which is devoid of the history of chromatography and is very light on theory. As stated by the author the fundamentals are not covered in this book. The second chapter deals with the selection of methods such as classification of chromatographic techniques and characterization and classification of methods. The use of expert systems is discussed in half a page which is inadequate for such a topic. However, the scheme on page 22 for the selection of chromatographic techniques is an interesting and a helpful one.

Parameters affecting selectivity in GC, HPLC, separation of ions in LC, and SFC are discussed in chapter 3, which is well balanced between theory and practice. Parameters affecting resolution and selectivity are presented and discussed. Chapters 4 and 5 deal with optimization criteria and procedures, and comprise approximately half the book. In it the author presents a balanced approach to what affects and how selectivity is optimized.

Chapter 6 deals with programmed analysis including temperature programming in GC (sequential and interpretive methods) and gradient elution in LC. Optimization of programmed solvent LC is also discussed in this chapter and includes simplex optimization, systematic optimization of program parameters and interpretive methods of selectivity optimization. Chapter 7 deals with system optimization including efficiency, sensitivity and instrument optimization.

In this book Dr. Schoenmaker exhibited his knowledge of the subject and his fairness in discussing the work of others. The list of references related to the topics discussed are as complete as possible. The book is recommended as a reference to the novice as well as the established chromatographer.

Haleem J. Issaq