

## Book Review

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## BOOK REVIEW

*High Performance Liquid Chromatography in Neuroscience Research*. R.B. Holman, A.J. Cross, and M.H. Joseph. John Wiley and Sons, Ltd., Baffins Lane, Chichester, UK. 1993. xvii + 369 pp. 16.5 × 24.5 cm. \$79.95. ISBN 0-471-93813-0.

*High Performance Liquid Chromatography in Neuroscience Research*, a volume of the IBRO Handbook Series "Methods in the Neurosciences," fills a gap in the literature by providing practical advice on the hplc methods available for use in neuroscience research.

Included in this book is information on the hplc methods currently being used and a discussion of the difficulties encountered as well as the limitations of many of the methods. The first two sections in chapter 1 are by different authors and cover the general background of hplc and methods development. These chapters are short and simplistic and it would have been preferable to combine these sections since there is overlap on some subjects (e.g., terminology and detectors) which are discussed very briefly in each section. A more comprehensive discussion by one author in one section would have been more valuable to the reader. In addition, it would have been more useful if the material had been more carefully researched and referenced. For example, in the equation on p. 5 of  $\kappa'$ , the term  $R_{\text{t}}$  is used for retention time. Since the term  $t_{\text{r}}$  is usually used for retention time and  $R_{\text{s}}$  for resolution, this terminology can be confusing and I wondered where this terminology came from. It would also have been helpful to the reader to have a discussion of the different modes of lc so that the conditions for a separation could be modified with a basic understanding of the mechanism. The material is not as current as it could have been, e.g., under detectors, laser induced fluorescence, and indirect detection, which have great potential for high sensitivity to neuroactive compounds, were not mentioned.

The other chapters are focused on methods for specific classes of compounds: amines and their metabolites, amino acids, proteins and peptides, and other small molecules such as nucleotides, nucleosides and their bases, inositol phosphates, and psychotropic and related drugs as well as trace amines and amine-related cofactors.

Because the sections were written by different authors and there were three editors, the book is uneven. It is not clear whether the sections are meant to be review articles of the hplc methods currently available, like the chapter on nucleotides, nucleosides and bases or a cumulative report of work in the authors' laboratory such as the section on the fluorescence hplc assay for specific neuro-excitatory amino acids. It would have been helpful if the book had a uniform goal, i.e., either to present review articles on the best current hplc methods for neurosciences research or only to describe the analyses used successfully by the authors. In some chapters the legends under the figures were inadequate to readily understand the figure. In addition, no references were given in many figures, such as the figures in sections 2.1, 3.1, 3.2, 3.3, 4.3, or 5.2. Does this mean that these figures had not been published previously and were part of the authors' research?

Despite its lack of organization and uniformity, this book may be helpful to some neuroscientists who need a specific method for a particular compound or group of compounds. However, with new developments in hplc instrumentation and methodology, the reader would be well-advised to start with the methods described and then to search the current literature to see if improved analyses either by hplc or by capillary electrophoresis are now available.

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