

BOOK REVIEW

HPLC IN THE PHARMACEUTICAL INDUSTRY

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High Performance Liquid Chromatography (HPLC) is in widespread use for the analysis of numerous classes of organic compounds. The technology can also be applied on a preparative scale for achieving the highest levels of purity for compounds, and especially where small chemical weights of compounds are involved. An example is in the purification of high specific activity radiochemicals. The book addresses mainly the issues associated only with the analysis of products by HPLC although much of the information can be informative for those more especially interested in using HPLC on a preparative scale.

The text is divided into 4 Parts with a total of 18 experts contributing to the 11 Chapters. Part 1 deals with the basic techniques in pharmaceutical analysis consisting of 3 Chapters. Theory and applications of high speed HPLC using short columns (Chapter 1), small diameter columns (microbore HPLC) (Chapter 2) and column switching techniques (Chapter 3), provide an adequate basic introduction to the art. Part 2 consists of 4 Chapters on specialized detection techniques which includes liquid chromatography/electrochemistry (LCEC) (Chapter 4), radiochemical quantitation of isotopically labelled drugs and metabolites (Chapter 5), computer diode array detection (Chapter 6) and the combination of HPLC with Fourier transform infrared spectroscopy for identification of eluates (Chapter 7). Part 3 relating to the automation of HPLC in pharmaceutical analysis consists of two Chapters. Dissolution testing of solid dosage forms is discussed in Chapter 8 and Chapter 9 considers the application of robotic automation of HPLC laboratories. The HPLC of peptides, proteins and enantiomeric drugs is reviewed in the three Chapters of the final Part 4. Because each enantiomer of a drug can exhibit quite different biological activity, the separation and analysis of pure enantiomers is now of increasing importance. Chapter 10 on the resolution of enantiomers of pharmaceutical interest has a number of useful tables including one listing commercially available chiral stationary phases. The final Chapter 11 discusses the HPLC of proteins and peptides of particular interest as potential pharmaceuticals including Factor VIII, erythropoietin (EPO), interleukins and other genetically engineered peptides. There are 684 references and a short but adequate subject Index.

The text is recommended as a reference for those involved in the analysis of organic compounds as a lead to HPLC methodology. However, it should be remembered that improvements to basic HPLC methods are continually evolving and other sources of information need to be accessed to be sure of the latest developments, for example from HPLC instrument manufacturers.

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