

Book Reviews

Chromatographic Chiral Separations. Edited by M. Zief and L. J. Crane, Chromatographic Science Series, Vol. 40, Marcel Dekker, New York, 1988, viii + 410 pp. ISBN 0 8247 7786 7. Price: US\$119.50.

Although it is over 120 years since Pasteur separated the enantiomers of sodium ammonium tartrate, the search for improved methods to resolve and purify optically active compounds still continues. The first reliable method for chromatographic separations was developed as a gas chromatography method about 20 years ago, but the current developments in high performance liquid chromatography has given birth to the development of chiral separations suitable for analytical and preparative scales. In turn this has brought about the study of the mechanisms involved and, as the significance of optical purity becomes more apparent, the realisation that the biological activity of a compound is frequently linked to its enantiometric purity. There are many examples in the pharmaceutical and agrochemical fields where one enantiomer is therapeutic whilst the other is inhibitory or toxic; perhaps the most famous example of this is thalidomide.

This volume brings together the wide variety of liquid chromatographic chiral separation techniques and, where possible, elucidates the separation mechanisms. Examples of each of the major types (based on separation mechanisms) of chiral stationary phase (CSP) are discussed, i.e. the attractive interaction complexes (attractive hydrogen bond interactions between solute and CSP), the inclusion complexes (attraction into chiral cavities of CSP), diastereometric metal complexes (solute/ligand complex interactions with chiral factor on a support) and protein complexes (combination of hydrophobic and polar

interactions between solute and protein bound to the support matrix). Copious examples of separation systems are described together with information on the production of the CSP. The inclusion of a 17-page index listing the commercially available supports, their applications towards compound types, the use of ion pair agents to enhance resolution and the specific preparation of tailor-made CSP, provides a wealth of information to make this volume a useful addition in the chromatographers library.

As a result of the wide range of chemical species involved in chiral supports, this volume will be of interest to the inorganic and organic chemists in addition to the analysts from chemistry, biochemistry, food, pharmaceutical, biotechnology, agricultural and environmental industries. The contributors and editors have combined to produce an excellent volume which should become a milestone in this particular aspect of the development of chromatography.

Charles A. White
John F. Kennedy

Technology In The 1990's: Utilization Of Lignocellulosic Wastes.

Edited by B. S. Hartley, P. M. A. Broda and D. J. Senior, The Royal Society of Chemistry, London, 1988, viii + 163 pp. ISBN 0 85403 313 0. Price: £32.50.

Lignocellulosic wastes is a collective term that embraces a very broad range of materials, in many countries. The effective utilization and disposal of lignocellulosic wastes is still a worldwide problem. Many agricultural residues have been used for different purposes, however, so far their wastes (lignocellulosic materials) which are valuable resources, have not been used sufficiently.

This volume examines how the lignocellulosic wastes of today can be tomorrows valuable resources, if much more scientific and technological effort and adequate investment is made now. It emerges strongly that biological, physical and chemical technologies must be combined to satisfactorily utilize the various materials available in different parts of the world.

The discussion on biological degradation of lignocellulosics, one of the most controversial areas in this field, emphasizes the genetic