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Nota di contenuto	Preparative Enantioselective Chromatography; Contents; Contributors; Preface; 1. Chiral chromatography in support of pharmaceutical process research; 1.1 Introduction; 1.2 A brief introduction to chirality; 1.3 Why chirality is important; 1.4 Accessing enantiopurity: a brief overview of approaches; 1.4.1 Enantiopure starting materials: the chiral pool; 1.4.2 Removable enantioenriched auxiliaries; 1.4.3 Enantioselective catalysis; 1.4.4 Resolution technologies: introduction; 1.4.5 Chromatographic productivity is the key metric for preparative chromatography 1.4.6 Stationary phases for preparative chiral chromatography1.4.7 Advantages of preparative chiral chromatography over other approaches for accessing enantiopure materials; 1.4.8 Simulated moving bed enantioseparation; 1.5 Green enantioseparation; 1.6 What is the appropriate role of preparative chromatography in organic synthesis?; 1.7 Fording the river at the easiest point: some observations on the appropriate placement of a chromatographic resolution within a chiral synthesis; 1.8 Origins of preparative chiral chromatography

1.9 Practical tips for preparative chromatographic enantioseparation1. 10 Conclusion; 2. Introduction to preparative chromatography; 2.1 Introduction; 2.2 Adsorption isotherms; 2.2.1 The simple case - the Langmuir isotherm; 2.2.2 Other isotherms; 2.2.3 Competitive isotherms; 2.3 Kinetics; 2.4 Metrics for preparative operations; 2.4.1 Throughput; 2.4.2 Production rate; 2.4.3 Productivity; 2.4.4 Specific productivity; 2.4.5 Cost; 2.5 The influence of chromatographic parameters on preparative chromatography; 2.5.1 Effect of particle size on preparative performance; 2.5.2 Effects of pressure
2.5.3 Effects of column efficiency2.5.4 Effect of column length; 2.5.5 The effects of selectivity; 2.6 Economics of preparative separations; 2.6.1 Point of insertion of the chromatographic resolution in the synthetic route; 3 Chiral stationary phases for preparative enantioselective chromatography; 3.1 Summary; 3.2 Introduction; 3.3 Historical development of CSPs for preparative chromatography; 3.4 Preparative CSPs; 3.4.1 Classification of CSPs; 3.4.2 Polymeric phases; 3.4.3 Brush-type CSPs; 3.4.4 Chiral phases for ligand-exchange chromatography; 3.4.5 Imprinted phases
3.5 Chemical and physical properties of CSPs3.5.1 Loading capacity; 3.5.2 Chemical and physical stability; 3.5.3 Solubility of the chiral solute; 3.6 New and future developments in the field of preparative CSPs; 3.6.1 CSPs with improved loading capacity; 3.6.2 CSPs with improved selectivity; 3.6.3 Immobilised polysaccharide-based CSPs; 3.7 Conclusion; 4 Method development for preparative enantioselective chromatography; 4.1 Introduction; 4.2 Chiral stationary phases for enantioselective chromatography; 4.3 Screening and optimisation strategy for preparative chiral chromatography
4.3.1 Choice of the stationary phase

Sommario/riassunto

The development of chiral liquid chromatography, facilitating the straightforward separation of enantiomers, was a significant advance in chromatography, leading to widespread application in analytical chemistry. Application in preparative chromatography has been less rapid, but with the development of single enantiomer pharmaceuticals its use is increasingly common in chemical synthesis at laboratory, pilot plant and even full production scale. Brings non-experts up to speed quickly and comprehensively, facilitating the rapid development of effective separations of enantiomeri