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Analogues; 2.3.5 Cyclodextrins Conjugated with Other Kinds of Hosts; 2.3.6 Cyclodextrin-Peptide Conjugates; 2.3.7 Cyclodextrin-Saccharide Conjugates; 2.3.8 Metallocavitands Using Modified Cyclodextrins; References; 3 Polymers Involving Cyclodextrin Moieties; 3.1 Supramolecular Polymers Formed by Cyclodextrin Derivatives; 3.1.1 Introduction; 3.1.2 Preparation of Mono-substituted Cyclodextrins; 3.1.3 Formation of Inclusion Complexes [30, 31]; 3.1.4 Polymer Formation by Intermolecular Interactions; 3.1.5 Supramolecular Dimers 3.1.6 Formation of Supramolecular Trimers3.1.7 Cyclic Daisy Chain [31, 42]; 3.1.8 Supramolecular Polymers [45]; 3.1.9 Poly[2]rotaxanes (Daisy Chain); 3.1.10 Helical Supramolecular Polymers [45, 46]; 3.1.11 Alternating -, -Cyclodextrin Supramolecular Polymers [47]; 3.1.12 Supramolecular [2]rotaxane Polymer [43]; 3.1.13 Conclusion; 3.2 Supramolecular Complexes of Polymers Bearing Cyclodextrin Moieties with Guest Molecules; References; 4 Cyclodextrin Catalysis; 4.1 Introduction; 4.2 Covalent Catalysis; 4.3 General Acid-Base Catalysis by OH Groups; 4.4 Noncovalent Catalysis
4.4.1 Regulation of the Mutual Conformation of Reactants4.4.2 Regulation of Photoreactions; 4.4.3 Use of the CyD Cavity as a Specific Reaction Field; 4.5 Catalysis by Chemically Modified CyD; 4.6 Phase-transfer Catalysis; 4.7 Conclusion; References; 5 Chromatographic Studies of Molecular and Chiral Recognition; 5.1 Introduction; 5.2 Determination of the Stoichiometry and Stability of the Complexes; 5.3 Thermodynamics; References; 6 The Application of Cyclodextrins for Enantioseparations; 6.1 Introduction; 6.2 Gas Chromatography
6.3 High-performance Liquid Chromatography and Related Techniques

Sommario/riassunto

Offering comprehensive and up-to-date know-how in one compact book, an experienced editor and top authors cover every aspect of these important molecules from molecular recognition to cyclodextrins as enzyme models.Chapters include reactivity and chemistry, chromatography, X-ray, NMR plus other physicochemical methods, as well as model calculations, rotaxane and catenane structures, and applications in the pharmaceutical industry. The book also discusses other applications such as in the cosmetics, toiletries, textile and wrapping industries, agrochemistry, electrochemical sensors, and dev