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Nota di contenuto	Template Synthesis of Macrocyclic Compounds; Contents; 1 Template processes; 1.1 Introduction; 1.2 Fundamental terms and notions; 1.3 Mechanistic aspects of the template effect; 1.4 Generation of metal-free macrocycles; 1.5 Transmetallation; 1.6 Template particle types for obtaining different ligand products; 1.7 The place of metal template processes among other chemical reactions with participation of metal ions; 1.8 Classification of macrocyclic compounds; 1.9 References; 2 Template synthesis of polyazamacrocyclic compounds; 2.1 Cyclic hydrazines and hydrazones 2.2 Hexa- and pentaazamacrocyclic systems based on chalcogensemicarbazides 2.3 Nickel(II) octaazamacrocyclic complexes based on thiocarbohydrazide; 2.4 Hexaazacyclotetradecine compounds containing azo groups; 2.5 Saturated polyazamacrocyclic compounds; 2.6 Tetra- and hexaazamacrocyclic complexes derived from diamines and bifunctional carbonyl compounds; 2.7 Macrocyclic complexes with ligands based on 1,3-dicarbonyl compounds and 1,2- or 1,3-diamines; 2.8 Macrocyclic systems based on aromatic o-aminocarbonyl

compounds and their derivatives

2.9 The role of transition metal ions in the construction of model systems
2.9.1 Porphyrins and related compounds; 2.9.2 Corrins; 2.9.3 Phthalocyanines; 2.10 References; 3 Template synthesis of macrocyclic systems based on di- and polyamines, and polyfunctional dicarbonyl compounds; 3.1 Macrocycles based on 2,6-dicarbonylpyridines, 2,5-diformylpyrrole and the simplest diamines; 3.2 Macrocycles based on 2,6-dicarbonylpyridines and 1,n-diamines containing an additional supporting donor atom
3.3 Macrocycles based on 2,6-dicarbonylpyridines and diamines containing two additional supporting donor atoms
3.4 Macrocycles based on 2,6-dicarbonylpyridines and diamines containing three additional supporting donor atoms; 3.5 Macrocycles derived from 2,6-dicarbonylpyridines, 2,5-diformylpyrrole and 1,3-diaminopropan-2-ol; 3.6 Macrocycles derived from 2,5-diformylfuran, 2,5-diformylthiophene and 1,n-diamines; 3.7 References; 4 Template synthesis of three-dimensional macrocyclic systems; 4.1 Clathrochelates; 4.1.1 Clathrochelates based on 1,2- and 1,3-diaminoalkanes
4.1.2 Macrobicyclic tris(mono- and di-)oximates and other cage complexes
4.1.3 Siderophore models and cryptands; 4.2 Catenanes, rotaxanes and knots; 4.2.1 Introduction; 4.2.2 Threading: pseudorotaxanes; 4.2.3 Rotaxanes; 4.2.4 Catenanes; 4.2.5 Knots; 4.3 References; 5 Phosphorus- and arsenic-containing macrocyclic compounds; 5.1 Phosphorus; 5.2 Arsenic; 5.3 References; 6 Crown ethers and related compounds; 6.1 Crown ethers; 6.2 Thiocrown ethers; 6.3 Heterocrown ethers; 6.4 References; 7 Covalent template synthesis; 7.1 Macrocyclic polylactones, polylactams and related compounds; 7.2 References
8 Polynucleating macrocyclic compounds

Sommario/riassunto

The synthesis of macrocycles is an art in itself. Template-controlled synthesis provides elegant access to fascinating macrocyclic structures. Polyazamacrocycles, crown ethers, cryptands, rotaxanes, knots -- the range of macrocyclic compounds is as broad as their potential application as molecular switches, in ion exchange, electron transfer or catalysis. This book provides authoritative information on all aspects of template-controlled macrocyclizations. It covers in depth the current state of research on template processes - novel synthetic techniques and mechanistic approaches. The c
