

1. Record Nr.	UNINA9910145681903321
Autore	Boons Geert-Jan
Titolo	Organic synthesis with carbohydrates [[electronic resource] /] / Geert-Jan Boons, Karl J. Hale
Pubbl/distr/stampa	Sheffield, England, : Sheffield Academic Press Malden, MA U.S.A., : Blackwell Science, 2000
ISBN	1-281-31026-3 9786611310264 0-470-76032-X 0-470-76005-2
Descrizione fisica	1 online resource (351 p.)
Collana	Postgraduate chemistry series
Altri autori (Persone)	HaleKarl
Disciplina	547.2 547/.780459
Soggetti	Carbohydrates - Synthesis Organic compounds - Synthesis
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Organic Synthesis with Carbohydrates; Contents; PART A: STRUCTURE AND SYNTHESIS OF SACCHARIDES AND GLYCOPROTEINS; 1 Mono- and oligosaccharides: structure, configuration and conformation; 1.1 Introduction; 1.2 Configuration of monosaccharides; 1.3 Conformational properties of monosaccharides; 1.3.1 Ring shapes of pyranoses and furanoses; 1.3.2 The anomeric effect; 1.3.3 The equilibrium composition of monosaccharides in solution; 1.4 Conformational properties of oligosaccharides; 1.5 Acid-catalysed glycoside bond formation and cleavage; References; 2 Protecting groups; 2.1 Introduction 2.2 Ether protecting groups 2.2.1 Benzyl ethers; 2.2.2 p-Methoxybenzyl ethers; 2.2.3 Allyl ethers; 2.2.4 Triphenylmethyl ethers; 2.2.5 Silyl ethers; 2.3 Acetal protecting groups; 2.3.1 Benzylidene acetals; 2.3.2 Isopropylidene acetals; 2.3.3 Dispirodiketal and cyclohexane- 1,2-diacetal groups; 2.4 Ester protecting groups; 2.5 Anomeric protecting groups; 2.6 Amino protecting groups; 2.6.1 Phthalimides; 2.6.2 Azides; References; 3 Functionalised saccharides; 3.1 General introduction; 3.2

Deoxyhalogeno sugars; 3.2.1 Introduction; 3.2.2 Direct halogenation of alcohols; 3.2.3 Displacement reactions
3.2.4 Miscellaneous methods
3.3 Unsaturated sugar derivatives; 3.3.1 Introduction; 3.3.2 Glycals; 3.3.3 Isolated double bonds; 3.3.4 6-Deoxy-hex-5-enopyranose derivatives; 3.4 Deoxy sugars; 3.4.1 Introduction; 3.4.2 Reduction of halides, sulfonates and epoxides; 3.4.3 Radical deoxygenation of thiocarbonyl derivatives; 3.5 Amino sugars; 3.5.1 Introduction; 3.5.2 The preparation of amino sugars by nucleophilic displacement; 3.5.3 Addition to glycals; 3.5.4 Reduction of oximes; 3.5.5 Intramolecular substitutions; 3.6 Epoxy sugars; 3.7 Sulfated saccharides; 3.7.1 Introduction
3.7.2 O and N sulfation
3.8 Phosphorylated saccharides; 3.8.1 Introduction; 3.8.2 Non-anomeric sugar phosphates; 3.8.3 Anomeric phosphates; References; 4 Oligosaccharide synthesis; 4.1 Introduction; 4.2 Chemical glycosidic bond synthesis; 4.2.1 Glycosyl halides; 4.2.2 Trichloroacetimidates; 4.2.3 Thioglycosides; 4.3 Stereoselective control in glycosidic bond synthesis; 4.3.1 Neighbouring-group-assisted procedures; 4.3.2 In situ anomerisation; 4.3.3 Glycosylation with inversion of configuration; 4.3.4 Solvent participation; 4.3.5 Intramolecular aglycon delivery
4.4 Preparation of 2-amino-2-deoxy-glycosides
4.5 Formation of glycosides of N-acetyl-neuraminic acid; 4.6 The introduction of 2-deoxy glycosidic linkages; 4.7 Convergent block synthesis of complex oligosaccharides; 4.8 Chemoselective glycosylations and one-pot multistep glycosylations; 4.9 Solid-phase oligosaccharide synthesis; 4.10 Enzymatic glycosylation strategies; 4.10.1 Glycosyl transferases; 4.10.2 Glycosyl hydrolases; References; 5 The chemistry of O- and N-linked glycopeptides; 5.1 Introduction; 5.2 Strategies for the chemical synthesis of glycopeptides
5.3 Protecting groups in glycopeptide synthesis

Sommario/riassunto

Carbohydrates offer a ready source of enantiomerically pure starting materials. They have been used for the imaginative synthesis of a wide range of compounds, and have been found to be effective chiral auxiliaries which enable the introduction of a range of functionalities in a highly enantioselective manner. In a subject dominated by volumes at research and professional level, this book provides a broad understanding of the use of carbohydrates in organic synthesis, at postgraduate student level. Emphasis is placed on retrosynthetic analysis, with discussion of why a particular synthe
