

Carbohydrate Research 308 (1998) III-VIII

Subject index

β -D-C-Glucopyranosyl phloroacetophenone

Conversion of β -D-C-glucopyranosyl phloroacetophenone to a spiroketal compound 213

β-D-Glucopyranosyl-(1→4)-[α-D-galactopyranosyl-(1→6)]-D-glucopyranose Acceptor specificity of cellobiose phosphorylase from *Cellvibrio gilvus*: synthesis of three branched trisaccharides 423

β-D-Glucofuranosidurono-6,3-lactone

X-ray diffraction and high resolution NMR spectroscopy analysis of methyl β -D-glucofuranosidurono-6,3-lactone 431

β -D-Glucopyranosyl-(1 \rightarrow 4)-D-glucuronamide

Acceptor specificity of cellobiose phosphorylase from Cellvibrio gilvus: synthesis of three branched trisaccharides 423

β-D-Glucopyranosyl-(1→4)-[α-D-glucopyranosyl-(1→6)]-D-glucopyranose Acceptor specificity of cellobiose phosphorylase from *Cellvibrio gilvus*: synthesis of three branched trisaccharides 423

β-D-Glucopyranosyl-(1→4)-[β-D-glucopyranosyl-(1→6)]-D-glucopyranose Acceptor specificity of cellobiose phosphorylase from *Cellvibrio gilvus*: synthesis of three branched trisaccharides 423

β-Glucosidase

Characterization of the subsite structure of the β -glucosidase from Aspergillus niger, an aspect of the mechanism of carbohydrate recognition 201

β -Glucosides

Characterization of the subsite structure of the β -glucosidase from Aspergillus niger, an aspect of the mechanism of carbohydrate recognition 201

β -Xylanase

Structure of neutral branched xylooligosaccharides produced by xylanase from *in situ* reduced hardwood xylan 117

Acidic treatment

Conversion of β -D-C-glucopyranosyl phloroacetophenone to a spiroketal compound 213

Adenine

Synthesis of 4,6-diamino-5-(polyhydroxyalkylamido)pyrimidines: conformation of the sugar chain 85

Agai

Agars from nine species of red seaweed in the genus Curdiea (Gracilariaceae, Rhodophyta) 107

Aggregation

Laser light-scattering studies of pachyman 339

Alginate lyase

An enzymatic method for preparation of homopolymannuronate blocks and strictly alternating sequences of mannuronic and guluronic units 417

Alkylating agents

Alkylating agents from sugars. Cyclophosphamides derived from 2-amino-2-deoxy-p-allose 57

AlxM_I

Catalytic properties and specificity of a recombinant, overexpressed D-mannuronate lyase 409

Aminomethyl nucleosides

Synthesis and in vitro antitumor activity of some amino-deoxy 7-hexofuranosylpyrrolo[2,3-d]pyrimidines 319

Amylose model

A convenient large-scale synthesis of methyl α -maltoside: a simple model for amylose 345

Annealing

Acid hydrolysis of native and annealed wheat, potato and pea starches—DSC melting features and chain length distributions of lintnerised starches 359

Annelid

Structural analysis of leech galactocerebrosides using 1D and 2D NMR spectroscopy, gas chromatography-mass spectrometry, and FAB mass spectrometry 47

Antitumor activity

Synthesis and in vitro antitumor activity of some amino-deoxy 7-hexofuranosylpyrrolo[2,3-d]pyrimidines 319

Arabinai

Generation of a monoclonal antibody specific to $(1 \rightarrow 5)$ - α -L-arabinan 149

Aspergillus niger

Characterization of the subsite structure of the β -glucosidase from *Aspergillus niger*, an aspect of the mechanism of carbohydrate recognition 201

Autocatalytic

Autocatalytic oxidations of primary hydroxyl groups of cellulose in phosphoric acid with halogen oxides 311

¹¹B NMR

Thermodynamics of borate ester formation by three readily grafted carbohydrates 173

Bacterial alginate

An enzymatic method for preparation of homopolymannuronate blocks and strictly alternating sequences of mannuronic and guluronic units 417

Bacterial alginate lyase

Catalytic properties and specificity of a recombinant, overexpressed D-mannuronate lyase 409

Barbier reaction

Stereospecific synthesis of α -C-glycosyl derivatives (" α -C-glycosides") of N-acetylneuraminic acid by samarium-mediated reductive desulfonylation of a glycosyl phenylsulfone 161

Barley β -D-glucan

Adhesion of β -D-glucans to cellulose 389

Binding

Synthetic C-oligosaccharides mimic their natural, analogous immunodeterminants in binding to three monoclonal immunoglobulins 191

Block synthesis

(4,6-dideoxy-4-formamido-3-C-methyl-2-O-methyl- α -L-mannopyranosyl)-(1 \rightarrow 3)-(2-O-methyl- α -L-fuco-pyranosyl)-(1 \rightarrow 3)-(α -L-rhamnopyranosyl)-(1 \rightarrow 2)-6-deoxy- α -L-talopyranoside: a spacer-armed pentasaccharide glycopeptidolipid antigen of Mycobacterium avium serovar 14 247

Borate esters

Thermodynamics of borate ester formation by three readily grafted carbohydrates 173

Bound water

Quantitative determination of bound water in wheat starch by time domain NMR spectroscopy 29

Branched-chain sugar

Synthesis of p-trifluoroacetamidophenyl

(4,6-dideoxy-4-formamido-3-C-methyl-2-O-methyl- α -L-mannopyranosyl)-(1 \rightarrow 3)-(2-O-methyl- α -D-rhamnopyranosyl)-(1 \rightarrow 3)-(2-O-methyl- α -L-fucopyranosyl)-(1 \rightarrow 3)-(α -L-rhamnopyranosyl)-(1 \rightarrow 2)-6-deoxy- α -L-talopyranoside: a spacer-armed pentasaccharide glycopeptidolipid antigen of $Mycobacterium\ avium\ serovar\ 14\ 247$

Branched-chain sugars

A preparation of protected 2-deoxy-2-hydroxymethyl-n-mannose and -n-glucose derivatives not involving organometallic reagents 93

C-Glycosides

An economic synthesis of 1,2,3,4-tetra-*O*-acetyl-5-thio-D-xylopyranose and its transformation into 4-substituted-phenyl 1,5-dithio-D-xylopyranosides possessing antithrombotic activity 297

C-glycosides

Stereospecific synthesis of α -C-glycosyl derivatives (" α -C-glycosides") of N-acetylneuraminic acid by samarium-mediated reductive desulfonylation of a glycosyl phenylsulfone 161

C-glycosyl compounds

Stereospecific synthesis of α -C-glycosyl derivatives (" α -C-glycosides") of N-acetylneuraminic acid by samarium-mediated reductive desulfonylation of a glycosyl phenylsulfone 161

13C NMR

X-ray diffraction and high resolution NMR spectroscopy analysis of methyl β -D-glucofuranosidurono-6,3-lactone 431

C-Nucleoside

Synthesis of 4,6-diamino-5-(polyhydroxyalkylamido)pyrimidines: conformation of the sugar chain 85

C-oligosaccharides

Synthetic C-oligosaccharides mimic their natural, analogous immunodeterminants in binding to three monoclonal immunoglobulins 191

Callipeltose

Synthesis of methyl α -L-callipeltoside 223

Capillary electrophoresis

Capillary electrophoresis studies of pectins 1

Carbohydrate ethers

Regio- and stereoselective introduction of ether-linked carboxylic side chains into carbohydrates by conjugate addition reactions 77

Carbohydrates

Efficient synthesis of differently protected methyl (ethyl 1-thio- β -D-glucopyranosid)uronates and their evaluation as glucuronic acid donors and acceptors 287

Carbon-13 labeling

Measurement of interglycosidic $^3J_{\rm CH}$ coupling constants of selectively $^{13}{\rm C}$ labeled oligosaccharides by 2D *J*-resolved $^1{\rm H}$ NMR spectroscopy 229

Carbon-13-proton coupling constants

Measurement of intergly cosidic $^3J_{\rm CH}$ coupling constants of selectively $^{13}{\rm C}$ labeled oligosaccharides by 2D J-resolved $^1{\rm H}$ NMR spectroscopy 229

Cellobiose phosphorylase Acceptor specificity of cellobiose phosphorylase from *Cellvibrio gilvus*: synthesis of three branched trisaccharides 423

Cellulose

Autocatalytic oxidations of primary hydroxyl groups of cellulose in phosphoric acid with halogen oxides 311

Cellulose-adhesive polysaccharides

Adhesion of β -D-glucans to cellulose 389

Cellvibrio gilvus

Acceptor specificity of cellobiose phosphorylase from *Cellvibrio gilvus*: synthesis of three branched trisaccharides 423

Chain length distribution

Acid hydrolysis of native and annealed wheat, potato and pea starches—DSC melting features and chain length distributions of lintnerised starches 359

Chelate polymer

Thermodynamics of borate ester formation by three readily grafted carbohydrates 173

Chitosan

Adhesion of β -D-glucans to cellulose 389

cis-1,2-O-stannylene acetals

Glycosylation via locked anomeric configuration: stereospecific synthesis of oligosaccharides containing the β -D-mannopyranosyl and β -L-rhamnopyranosyl linkage 63

Configuration

X-ray single crystal structure analyses of 5-deoxy-5-C-(alkyl-phosphinyl)-glucopyranose 153

Conformation

Synthesis of 4,6-diamino-5-(polyhydroxyalkylamido)pyrimidines: conformation of the sugar chain 85

Conformation

X-ray single crystal structure analyses of 5-deoxy-5-C-(alkylphosphinyl)-glucopyranose 153

Conformational analysis

Conformational differences between Fuc($\alpha 1$ –3)GlcNAc and its thioglycoside analogue 19

Conjugate addition

Regio- and stereoselective introduction of ether-linked carboxylic side chains into carbohydrates by conjugate addition reactions 77

Crystallinity

Gelatinisation of starch: a combined SAXS/WAXS/DSC and SANS study 133

Curdiea

Agars from nine species of red seaweed in the genus *Curdiea* (Gracilariaceae, Rhodophyta) 107

Cyclitols

Racemic 2,4-di-*O*-benzoyl-*myo*-inositol 1,3,5-orthoformate: a versatile intermediate for the preparation of *myo*-inositol phosphates 165

Cyclodextrin polymers

Solid state NMR spectroscopy study of molecular motion in cyclomaltoheptaose (β -cyclodextrin) crosslinked with epichlorohydrin 37

Cyclomaltoheptaose (β-cyclodextrin)

Solid state NMR spectroscopy study of molecular motion in cyclomaltoheptaose (β -cyclodextrin) crosslinked with epichlorohydrin 37

Cyclomaltoheptaose (β -cyclodextrin)

Trimethyl
silylation of cyclodextrins with N-(trimethylsilyl)
acetamide in N,N-dimethylformamide 275

Cyclomaltohexaose (α-cyclodextrin)

Trimethyl
silylation of cyclodextrins with N-(trimethylsilyl)
acetamide in N,N-dimethylformamide 275

Cyclophosphamides from sugars

Alkylating agents from sugars. Cyclophosphamides derived from 2-amino-2-deoxy-p-allose 57

D-Idosan

A convenient synthesis of D-idose 169

D-Idose

A convenient synthesis of p-idose 169

1,6-Anhydro-β-D-idopyranose

A convenient synthesis of D-idose 169

DE distribution

Capillary electrophoresis studies of pectins 1

Debenzylation with and without reduction of the 2',3' double bond

Synthesis of 4-(4,6-di-*O*-benzyl-2,3-dideoxy-β-D-*erythro*-hex-2-enopyranosyl)pyrazoles from 3,4,6-tri-*O*-acetyl-D-glucal 181

Degree of esterification

Capillary electrophoresis studies of pectins 1

Deoxysugar phosphates

Inframolecular acid-base properties of *myo*-inositol 1,2,6-trisphosphate analogues: influence of the hydroxyl groups, phosphate configuration and intracyclic atom substitution 9

Desulfation

Novel regio- and stereoselective O-6-desulfation of the glucosamine moiety of heparin with *N*-methylpyrrolidinone–water or *N*,*N*-dimethylformamide–water mixtures 381

Diastereoselective synthesis

The stereoselective synthesis of novel 4-octulose derivatives 217

Differential scanning calorimetry

Acid hydrolysis of native and annealed wheat, potato and pea starches—DSC melting features and chain length distributions of lintnerised starches 359

Dimeric structures

Dimeric structures of 1,5-anhydro-D-fructose 195

Disaccharides

Synthesis of some galactofuranosyl disaccharides using a galactofuranosyl trichloroacetimidate as donor 207

Divalent cations

FT-IR study of pectate and pectinate gels formed by divalent cations 123

DQF-COSY, HMQC, FABMS

Structural analysis of leech galactocerebrosides using 1D and 2D NMR spectroscopy, gas chromatography-mass spectrometry, and FAB mass spectrometry 47

Electrostatic effects

Thermodynamics of borate ester formation by three readily grafted carbohydrates 173

Endopolygalacturonase

Scarcity or complete lack of single rhamnose residues interspersed within the homogalacturonan regions of citrus pectin 373

Epichlorohydrin

Solid state NMR spectroscopy study of molecular motion in cyclomaltoheptaose (β -cyclodextrin) crosslinked with epichlorohydrin 37

Fractionation

Laser light-scattering studies of pachyman 339

FT-IR

FT-IR study of pectate and pectinate gels formed by divalent cations 123 Fungi

Chemical structure of two phytotoxic exopolysaccharides produced by *Phomopsis foeniculi* 349

Galactan

Chemical structure of two phytotoxic exopolysaccharides produced by Phomopsis foeniculi 349

Galactocerebroside

Structural analysis of leech galactocerebrosides using 1D and 2D NMR spectroscopy, gas chromatography-mass spectrometry, and FAB mass spectrometry 47

Galactofuranosyl trichloroacetimidate

Synthesis of some galactofuranosyl disaccharides using a galactofuranosyl trichloroacetimidate as donor 207

Gel properties

Agars from nine species of red seaweed in the genus Curdiea (Gracilariaceae, Rhodophyta) 107

Gelatinisation

Gelatinisation of starch: a combined SAXS/WAXS/DSC and SANS study 133

Glycocalyx

Synthesis of the spacer-containing β -D-GalpNAc- $(1\rightarrow 4)$ - β -D-GlcpNAc- $(1\rightarrow 3)$ - α -D-Galp moiety, representing the non-fucosylated backbone trisaccharide of the glycocalyx glycan of the parasite *Schistosoma mansoni* 329

Glycosidation

Synthesis of some galactofuranosyl disaccharides using a galactofuranosyl trichloroacetimidate as donor 207

Glycosidation reactions

An economic synthesis of 1,2,3,4-tetra-*O*-acetyl-5-thio-D-xylopyranose and its transformation into 4-substituted-phenyl 1,5-dithio-D-xylopyranosides possessing antithrombotic activity 297

Glycosphingolipids

Structural analysis of leech galactocerebrosides using 1D and 2D NMR spectroscopy, gas chromatography-mass spectrometry, and FAB mass spectrometry 47

Glycosylation

Efficient synthesis of differently protected methyl (ethyl 1-thio-β-D-glucopyranosid)uronates and their evaluation as glucuronic acid donors and acceptors 287

Growth ring

Gelatinisation of starch: a combined SAXS/WAXS/DSC and SANS study 133

¹H and ¹³C NMR spectroscopy

(4-O-Methyl- α -D-glucurono)-D-xylan from $Rudbeckia\ fulgida,$ var. sullivantii (Boynton et Beadle) 99

¹H NMR

X-ray diffraction and high resolution NMR spectroscopy analysis of methyl β-D-glucofuranosidurono-6,3-lactone 431

Halate

Autocatalytic oxidations of primary hydroxyl groups of cellulose in phosphoric acid with halogen oxides 311

Hemicellulose

 β -D-glucan from sorghum (Sorghum bicolor) 239

Heparin

Novel regio- and stereoselective O-6-desulfation of the glucosamine moiety of heparin with *N*-methylpyrrolidinone–water or *N*,*N*-dimethylformamide–water mixtures 381

Homogalacturonan

Scarcity or complete lack of single rhamnose residues interspersed within the homogalacturonan regions of citrus pectin 373

Hydration

Inframolecular acid-base properties of *myo*-inositol 1,2,6-trisphosphate analogues: influence of the hydroxyl groups, phosphate configuration and intracyclic atom substitution 9

Hydrazines

Synthesis of 4-(4,6-di-*O*-benzyl-2,3-dideoxy-β-D-*erythro*-hex-2-enopyranosyl)pyrazoles from 3,4,6-tri-*O*-acetyl-D-glucal 181

Hydrogen bonding

Inframolecular acid-base properties of *myo*-inositol 1,2,6-trisphosphate analogues: influence of the hydroxyl groups, phosphate configuration and intracyclic atom substitution 9

Hydroxy carboxylates

Regio- and stereoselective introduction of ether-linked carboxylic side chains into carbohydrates by conjugate addition reactions 77

Inframolecular

Inframolecular acid-base properties of *myo*-inositol 1,2,6-trisphosphate analogues: influence of the hydroxyl groups, phosphate configuration and intracyclic atom substitution 9

Inosito

Racemic 2,4-di-*O*-benzoyl-*myo*-inositol 1,3,5-orthoformate: a versatile intermediate for the preparation of *myo*-inositol phosphates 165

Inositol phosphates

Inframolecular acid-base properties of *myo*-inositol 1,2,6-trisphosphate analogues: influence of the hydroxyl groups, phosphate configuration and intracyclic atom substitution 9

Intramolecular borate diesters

Thermodynamics of borate ester formation by three readily grafted carbohydrates 173

Intramolecular orthoesterification

A novel synthetic method for α-D-galactofuranose 1,2,5-orthopivalate 439

Junction zones

FT-IR study of pectate and pectinate gels formed by divalent cations 123

Leech

Structural analysis of leech galactocerebrosides using 1D and 2D NMR spectroscopy, gas chromatography-mass spectrometry, and FAB mass spectrometry 47

Lewis antigens

Conformational differences between Fuc($\alpha 1$ –3)GlcNAc and its thioglycoside analogue 19

Lewis X

Synthesis of a neoglycoprotein containing the Lewis X analogous trisaccharide β-D-GalpNAc-(1→4)[α-L-Fucp-(1→3)]-β-D-GlcpNAc 259

Light scattering

Laser light-scattering studies of pachyman 339

Lintnerisation

Acid hydrolysis of native and annealed wheat, potato and pea starches—DSC melting features and chain length distributions of lintnerised starches 359

Locust bean gum

Adhesion of β -D-glucans to cellulose 389

Mannan

Chemical structure of two phytotoxic exopolysaccharides produced by *Phomopsis foeniculi* 349

Mannuronate lyase

Catalytic properties and specificity of a recombinant, overexpressed D-mannuronate lyase 409

Mannuronate lyase

An enzymatic method for preparation of homopolymannuronate blocks and strictly alternating sequences of mannuronic and guluronic units 417 Methyl

X-ray diffraction and high resolution NMR spectroscopy analysis of methyl β -D-glucofuranosidurono-6,3-lactone 431

Methyl α -L-callipeltoside

Synthesis of methyl α -L-callipeltoside 223

Methyl α-maltoside

A convenient large-scale synthesis of methyl α -maltoside: a simple model for amylose 345

Methylation

Agars from nine species of red seaweed in the genus *Curdiea* (Gracilariaceae, Rhodophyta) 107

Microconstants

Inframolecular acid–base properties of *myo*-inositol 1,2,6-trisphosphate analogues: influence of the hydroxyl groups, phosphate configuration and intracyclic atom substitution 9

Mixed linkage β-D-glucan

β-D-glucan from sorghum (Sorghum bicolor) 239

Molecular mechanics calculations

Conformational differences between $Fuc(\alpha 1-3)GleNAc$ and its thio-glycoside analogue 19

Monoclonal antibody

Generation of a monoclonal antibody specific to $(1 \rightarrow 5)$ - α -L-arabinan 149 Monoclonal immunoglobulins

Synthetic C-oligosaccharides mimic their natural, analogous immunodeterminants in binding to three monoclonal immunoglobulins 191

Mycobacteria

Chemical and spectroscopic characterisation of the phosphatidylinositol manno-oligosaccharides from *Mycobacterium bovis* AN5 and WAg201 and *Mycobacterium smegmatis* mc² 155 397

N-Acetyl-D-galactosamine

Synthesis of a neoglycoprotein containing the Lewis X analogous trisaccharide β-D-GalpNAc-(1→4)-[α-L-Fucp-(1→3)]-β-D-GlcpNAc 259

Nef reaction

A convenient synthesis of p-idose 169

Neu5Ac

Stereospecific synthesis of α -C-glycosyl derivatives (" α -C-glycosides") of N-acetylneuraminic acid by samarium-mediated reductive desulfonylation of a glycosyl phenylsulfone 161

Neutron scattering

Gelatinisation of starch: a combined SAXS/WAXS/DSC and SANS study 133

NMR

Quantitative determination of bound water in wheat starch by time domain NMR spectroscopy 29

NMR

X-ray single crystal structure analyses of 5-deoxy-5-C-(alkyl-phosphinyl)-glucopyranose 153

NMR spectroscopy

Chemical and spectroscopic characterisation of the phosphatidylinositol manno-oligosaccharides from $Mycobacterium\ bovis\ AN5$ and WAg201 and $Mycobacterium\ smegmatis\ mc^2\ 155\ 397$

NMR titrations

Inframolecular acid-base properties of *myo*-inositol 1,2,6-trisphosphate analogues: influence of the hydroxyl groups, phosphate configuration and intracyclic atom substitution 9

NOE spectroscopy

Conformational differences between Fuc($\alpha 1$ –3)GlcNAc and its thioglycoside analogue 19

NOESY spectroscopy

Dimeric structures of 1,5-anhydro-D-fructose 195

O-6-Desulfation

Novel regio- and stereoselective O-6-desulfation of the glucosamine moiety of heparin with *N*-methylpyrrolidinone–water or *N*,*N*-dimethylformamide–water mixtures 381

Oligosaccharide synthesis

(4,6-dideoxy-4-formamido-3-C-methyl-2-O-methyl- α -L-mannopyranosyl)-(1 \rightarrow 3)-(2-O-methyl- α -D-rhamnopyranosyl)-(1 \rightarrow 3)-(2-O-methyl- α -L-fucopyranosyl)-(1 \rightarrow 3)-(α -L-rhamnopyranosyl)-(1 \rightarrow 2)-6-deoxy- α -L-talopyranoside: a spacer-armed pentasaccharide glycopeptidolipid antigen of $Mycobacterium\ avium\ serovar\ 14\ 247$

Oligosaccharide synthesis

Glycosylation via locked anomeric configuration: stereospecific synthesis of oligosaccharides containing the β -D-mannopyranosyl and β -L-rhamnopyranosyl linkage 63

Oligosaccharide synthesis

Synthesis of a neoglycoprotein containing the Lewis X analogous trisaccharide $\beta\text{-d-Gal}_pNAc\text{-}(1\rightarrow 4)\text{-}[\alpha\text{-L-Fuc}_p\text{-}(1\rightarrow 3)]\text{-}\beta\text{-d-Glc}_pNAc 259}$

Oligosaccharide synthesis

Synthesis of the spacer-containing β -D-GalpNAc- $(1\rightarrow 4)$ - β -D-GlcpNAc- $(1\rightarrow 3)$ - α -D-Galp moiety, representing the non-fucosylated backbone trisaccharide of the glycocalyx glycan of the parasite *Schistosoma mansoni* 329

Oligosaccharides

Measurement of interglycosidic $^3J_{\rm CH}$ coupling constants of selectively $^{13}{\rm C}$ labeled oligosaccharides by 2D J-resolved $^1{\rm H}$ NMR spectroscopy 229 Open-chain sugar derivatives

Synthesis of 4,6-diamino-5-(polyhydroxyalkylamido)pyrimidines: conformation of the sugar chain 85

Oral antithrombotic activity

An economic synthesis of 1,2,3,4-tetra-*O*-acetyl-5-thio-D-xylopyranose and its transformation into 4-substituted-phenyl 1,5-dithio-D-xylopyranosides possessing antithrombotic activity 297

Osmanthuside B6

Synthesis of a phenylpropanoid glycoside, Osmanthuside B6 281

Pachyman

Laser light-scattering studies of pachyman 339

Pectate gels

FT-IR study of pectate and pectinate gels formed by divalent cations 123

Capillary electrophoresis studies of pectins 1

Pectin

Generation of a monoclonal antibody specific to $(1 \rightarrow 5)$ - α -L-arabinan 149

Pectin

Scarcity or complete lack of single rhamnose residues interspersed within the homogalacturonan regions of citrus pectin 373

Pentasaccharide

Measurement of intergly cosidic $^3J_{\rm CH}$ coupling constants of selectively $^{13}{\rm C}$ labeled oligosaccharides by 2D *J*-resolved $^1{\rm H}$ NMR spectroscopy 229

Phenylpropanoid glycosides

Synthesis of a phenylpropanoid glycoside, Osmanthuside B6 281

Phenylsulfone

Stereospecific synthesis of α -C-glycosyl derivatives (" α -C-glycosides") of N-acetylneuraminic acid by samarium-mediated reductive desulfonylation of a glycosyl phenylsulfone 161

Phomopsis foeniculi

Chemical structure of two phytotoxic exopolysaccharides produced by Phomopsis foeniculi 349

Phospha sugar

X-ray single crystal structure analyses of 5-deoxy-5-C-(alkylphosphinyl)-glucopyranose 153

Phosphatidylinositol

Racemic 2,4-di-O-benzoyl-myo-inositol 1,3,5-orthoformate: a versatile intermediate for the preparation of myo-inositol phosphates 165

Phosphatidylinositol manno-oligosaccharide

Chemical and spectroscopic characterisation of the phosphatidylinositol manno-oligosaccharides from Mycobacterium bovis AN5 and WAg201 and $Mycobacterium\ smegmatis\ mc^2\ 155\ 397$

Phytotoxicity

Chemical structure of two phytotoxic exopolysaccharides produced by Phomopsis foeniculi 349

Poly-M-and poly-MG blocks

An enzymatic method for preparation of homopolymannuronate blocks and strictly alternating sequences of mannuronic and guluronic units 417

Polysaccharide Laser light-scattering studies of pachyman 339

Primary alcohol

Autocatalytic oxidations of primary hydroxyl groups of cellulose in phosphoric acid with halogen oxides 311

Protonation

Inframolecular acid-base properties of myo-inositol 1,2,6-trisphosphate analogues: influence of the hydroxyl groups, phosphate configuration and intracyclic atom substitution 9

Pseudomonas aeruginosa

An enzymatic method for preparation of homopolymannuronate blocks and strictly alternating sequences of mannuronic and guluronic units 417

Synthesis of 4,6-diamino-5-(polyhydroxyalkylamido)pyrimidines: conformation of the sugar chain 85

Pyrrolo[2,3-d]pyrimidines

Synthesis and in vitro antitumor activity of some amino-deoxy 7-hexofuranosylpyrrolo[2,3-d]pyrimidines 319

Rhamnose

Scarcity or complete lack of single rhamnose residues interspersed within the homogalacturonan regions of citrus pectin 373

(4-O-Methyl-α-D-glucurono)-D-xylan from Rudbeckia fulgida, var. sullivantii (Boynton et Beadle) 99

Samarium diiodide

A preparation of protected 2-deoxy-2-hydroxymethyl-D-mannose and -D-glucose derivatives not involving organometallic reagents 93

Samarium diiodide

Stereospecific synthesis of α -C-glycosyl derivatives (" α -C-glycosides") of N-acetylneuraminic acid by samarium-mediated reductive desulfonylation of a glycosyl phenylsulfone 161

Schistosoma mansoni

Synthesis of the spacer-containing β -D-GalpNAc-(1 \rightarrow 4)- β -D-GlcpNAc- $(1\rightarrow 3)$ - α -D-Galp moiety, representing the non-fucosylated backbone trisaccharide of the glycocalyx glycan of the parasite Schistosoma mansoni 329

Schizophyllan

Adhesion of β -D-glucans to cellulose 389

Selective oxidation

Autocatalytic oxidations of primary hydroxyl groups of cellulose in phosphoric acid with halogen oxides 311

Selenium dioxide

One-pot synthesis from 1,4-cyclohexadiene of (\pm) -1,4/2,5-cyclohexanetetrol, a naturally occurring cyclitol derivative 435

Shigella dysenteriae type 1

Measurement of interglycosidic ³J_{CH} coupling constants of selectively ¹³C labeled oligosaccharides by 2D J-resolved ¹H NMR spectroscopy 229 Signal transduction

Racemic 2,4-di-O-benzoyl-myo-inositol 1,3,5-orthoformate: a versatile intermediate for the preparation of myo-inositol phosphates 165

Solid state NMR spectroscopy

Solid state NMR spectroscopy study of molecular motion in cyclomaltoheptaose (β-cyclodextrin) crosslinked with epichlorohydrin 37

Structural characteristics of a mixed linkage β -D-glucan from sorghum (Sorghum bicolor) 239

Spacer, p-trifluoroacetamidophenyl

 $(4,6-dideoxy-4-formamido-3-C-methyl-2-O-methyl-\alpha-L-mannopyranosyl)$ $(1\rightarrow 3)$ -(2-O-methyl- α -D-rhamnopyranosyl)- $(1\rightarrow 3)$ -(2-O-methyl- α -L-fucopyranosyl)- $(1\rightarrow 3)$ - $(\alpha$ -L-rhamnopyranosyl)- $(1\rightarrow 2)$ -6-deoxy- α -L-talopyranoside: a spacer-armed pentasaccharide glycopeptidolipid antigen of Mycobacterium avium serovar 14 247

Sphingosine

Structural analysis of leech galactocerebrosides using 1D and 2D NMR spectroscopy, gas chromatography-mass spectrometry, and FAB mass spectrometry 47

A preparation of protected 2-deoxy-2-hydroxymethyl-D-mannose and -D-glucose derivatives not involving organometallic reagents 93

Starch

Acid hydrolysis of native and annealed wheat, potato and pea starches-DSC melting features and chain length distributions of lintnerised starches 359

Starch

Gelatinisation of starch: a combined SAXS/WAXS/DSC and SANS study 133

Steady-state kinetics

Characterization of the subsite structure of the β -glucosidase from Aspergillus niger, an aspect of the mechanism of carbohydrate recognition 201

Stereoselective synthesis

A convenient large-scale synthesis of methyl α -maltoside: a simple model for amylose 345

Stereospecific β -D-mannosylation

Glycosylation via locked anomeric configuration: stereospecific synthesis of oligosaccharides containing the β -D-mannopyranosyl and β-L-rhamnopyranosyl linkage 63

Stereospecific β -L-rhamnosylation

Glycosylation via locked anomeric configuration: stereospecific synthesis of oligosaccharides containing the β -D-mannopyranosyl and β -L-rhamnopyranosyl linkage 63

Stereospecific glycosylation

Glycosylation via locked anomeric configuration: stereospecific synthesis of oligosaccharides containing the β -D-mannopyranosyl and β-L-rhamnopyranosyl linkage 63

Structural studies

 β -D-glucan from sorghum (Sorghum bicolor) 239

Structure

Chemical and spectroscopic characterisation of the phosphatidylinositol manno-oligosaccharides from Mycobacterium bovis AN5 and WAg201 and Mycobacterium smegmatis mc2 155 397

Structure determination

(4-O-Methyl-α-D-glucurono)-D-xylan from Rudbeckia fulgida, var. sullivantii (Boynton et Beadle) 99

Characterization of the subsite structure of the β -glucosidase from Aspergillus niger, an aspect of the mechanism of carbohydrate recognition 201

Substituent constant π

Characterization of the subsite structure of the β -glucosidase from Aspergillus niger, an aspect of the mechanism of carbohydrate recognition 201

Synthesis

Synthesis and in vitro antitumor activity of some amino-deoxy 7-hexo-furanosylpyrrolo[2,3-*d*]pyrimidines 319

Synthesis

Synthesis of a phenylpropanoid glycoside, osmanthuside B6 281

Tetrahydrospiro{benzofuran-2(3*H*),2'-[2*H*]pyran}

Conversion of β -D-C-glucopyranosyl phloroacetophenone to a spiroketal compound 213

Tetrasaccharide

Measurement of interglycosidic $^3J_{\rm CH}$ coupling constants of selectively $^{13}{\rm C}$ labeled oligosaccharides by 2D *J*-resolved $^1{\rm H}$ NMR spectroscopy 229

Thermodynamics

Thermodynamics of borate ester formation by three readily grafted carbohydrates 173

Thiodisaccharides

Conformational differences between $Fuc(\alpha 1-3)GlcNAc$ and its thioglycoside analogue 19

Thioglycoside

Efficient synthesis of differently protected methyl (ethyl 1-thio- β -D-glucopyranosid)uronates and their evaluation as glucuronic acid donors and acceptors 287

Thioglycosides

An economic synthesis of 1,2,3,4-tetra-*O*-acetyl-5-thio-D-xylopyranose and its transformation into 4-substituted-phenyl 1,5-dithio-D-xylopyranosides possessing antithrombotic activity 297

TMSOTf

Synthesis of some galactofuranosyl disaccharides using a galactofuranosyl trichloroacetimidate as donor 207

Trimethylsilylation

Trimethyl
silylation of cyclodextrins with N-(trimethylsilyl)
acetamide in N,N-dimethylformamide 275

Trisaccharide

Measurement of interglycosidic ${}^3J_{\text{CH}}$ coupling constants of selectively ${}^{13}\text{C}$ labeled oligosaccharides by 2D *J*-resolved ${}^1\text{H}$ NMR spectroscopy 229

Uronic acid

Efficient synthesis of differently protected methyl (ethyl 1-thio-β-D-glucopyranosid)uronates and their evaluation as glucuronic acid donors and acceptors 287

Water

Solid state NMR spectroscopy study of molecular motion in cyclomaltoheptaose (β -cyclodextrin) crosslinked with epichlorohydrin 37

Wheat starch

Quantitative determination of bound water in wheat starch by time domain NMR spectroscopy 29

X-ray

X-ray single crystal structure analyses of 5-deoxy-5-C-(alkyl-phosphinyl)-glucopyranose 153

X-ray diffraction

X-ray diffraction and high resolution NMR spectroscopy analysis of methyl β -D-glucofuranosidurono-6,3-lactone 431

X-Ray scattering

Gelatinisation of starch: a combined SAXS/WAXS/DSC and SANS study 133

Xyloglucan

Adhesion of β -D-glucans to cellulose 389

Xylooligosaccharide

Structure of neutral branched xylooligosaccharides produced by xylanase from *in situ* reduced hardwood xylan 117

1-Deoxy-1-nitro-D-iditol

A convenient synthesis of D-idose 169

(\pm) -1.4/2.5-Cyclohexanetetrol

One-pot synthesis from 1,4-cyclohexadiene of (\pm) -1,4/2,5-cyclohexanetetrol, a naturally occurring cyclitol derivative 435

(1→5)-β-D-Galactofuranan

A novel synthetic method for α -D-galactofuranose 1,2,5-orthopivalate 439

1,2-O-Isopropylidene-α-D-xylofuranose cyclic sulfite and sulfate derivatives An economic synthesis of 1,2,3,4-tetra-O-acetyl-5-thio-D-xylopyranose and its transformation into 4-substituted-phenyl 1,5-dithio-D-xylopyranosides possessing antithrombotic activity 297

1,4-Cyclohexadiene

One-pot synthesis from 1,4-cyclohexadiene of (\pm) -1,4/2,5-cyclohexanetetrol, a naturally occurring cyclitol derivative 435

1,5-Anhydro-D-fructose

Dimeric structures of 1,5-anhydro-D-fructose 195

1,5-Anhydro-D-tagatose

Dimeric structures of 1,5-anhydro-D-fructose 195

2-amino-2-deoxy-D-allose derivatives

Alkylating agents from sugars. Cyclophosphamides derived from 2-amino-2-deoxy-p-allose 57

2D J-resolved NMR spectroscopy

Measurement of interglycosidic $^3J_{\rm CH}$ coupling constants of selectively $^{13}{\rm C}$ labeled oligosaccharides by 2D *J*-resolved $^1{\rm H}$ NMR spectroscopy 229

2D NMR spectroscopy

Structural analysis of leech galactocerebrosides using 1D and 2D NMR spectroscopy, gas chromatography-mass spectrometry, and FAB mass spectrometry 47

3'-Branched-3'-deoxy nucleosides

Synthesis and in vitro antitumor activity of some amino-deoxy 7-hexo-furanosylpyrrolo[2,3-d]pyrimidines 319

3,4,6-Tri-O-acetyl-D-glucal

Synthesis of 4-(4,6-di-O-benzyl-2,3-dideoxy- β -D-erythro-hex-2-enopyranosyl)pyrazoles from 3,4,6-tri-O-acetyl-D-glucal 181

3,6-Di-O-benzyl- α -D-galactofuranose 1,2,5-orthopivalate

A novel synthetic method for α -D-galactofuranose 1,2,5-orthopivalate 439

(4-*O*-Methyl-α-D-glucurono)-D-xylan

(4-O-Methyl- α -D-glucurono)-D-xylan from *Rudbeckia fulgida*, var. *sullivantii* (Boynton et Beadle) 99

$\hbox{$4$-$O$-Methylglucuron} oxylan$

Structure of neutral branched xylooligosaccharides produced by xylanase from *in situ* reduced hardwood xylan 117

4-Octulose derivatives

The stereoselective synthesis of novel 4-octulose derivatives 217

4-(4,6-Di-*O*-benzyl-2,3-dideoxy-*β*-D-*erythro*-hex-2-enopyranosyl)-3-methylpyrazoles

Synthesis of 4-(4,6-di-*O*-benzyl-2,3-dideoxy-*β*-D-*erythro*-hex-2-enopyranosyl)pyrazoles from 3,4,6-tri-*O*-acetyl-D-glucal 181

5-O-Chloroacetyl-2,3,6-tri-O-pivaloyl-D-galactofuranosyl chloride

A novel synthetic method for α -D-galactofuranose 1,2,5-orthopivalate 439