



Carbohydrate Research 321 (1999) 269-272

Subject Index of Volume 321

2-Acetamido-2-deoxy-D-galacturonic acid

Structure of an acidic O-specific polysaccharide of *Pseudoalteromonas haloplanktis* type strain ATCC 14393 containing 2-acetamido-2-deoxy-D- and -L-galacturonic acids and 3-(*N*-acetyl-D-alanyl)amino-3,6-dideoxy-D-glucose 132

2-Acetamido-2-deoxy-L-galacturonic acid

Structure of an acidic O-specific polysaccharide of *Pseudoalteromonas haloplanktis* type strain ATCC 14393 containing 2-acetamido-2-deoxy-D- and -L-galacturonic acids and 3-(*N*-acetyl-D-alanyl)amino-3,6-dideoxy-D-glucose 132

Acidic polysaccharide

A new trisaccharide, α -D-glucopyranuronosyl- $(1 \rightarrow 3)$ - α -L-rhamnopyranosyl- $(1 \rightarrow 2)$ - α -L-rhamnopyranose from *Chlorella vulgaris* 128

Acidic trisaccharide

A new trisaccharide, alpha-D-glucopyranuronosyl- $(1\to 3)$ - α -L-rhamnopyranosyl- $(1\to 2)$ - α -L-rhamnopyranose from *Chlorella vulgaris* 128

Aggregation properties

Synthesis and molecular aggregation of new sugar bola-amphiphiles $15\,$

Aldol reaction

Aldol reactions on 1-deoxy-3,4:5,6-di-O-isopropylidene-L-fructose as a route to higher-carbon carbohydrates 197

The reaction of *O*-isopropylidene pentodialdo-1,4-furanoses with lithium diisopropylamide 105

Alkylsilylglycopyranosides

Synthese und Charakterisierung von langkettigen siliciumhaltigen Hydroxy- und Methoxyverbindungen und Glucopyranosiden 168 Allyltrimethylsilane

 $InCl_3\mbox{-induced}$ C-glycosylation of per-O-acetylglycals with allyltrimethylsilane 1

Amphiphilic saccharides

Synthese und Charakterisierung von langkettigen siliciumhaltigen Hydroxy- und Methoxyverbindungen und Glucopyranosiden 168

1,2-Anhydro sugar

Conversion of D-xylose to protected D-lyxose derivatives and to D-lyxose, via the corresponding 1,2-anhydride 110

Antibodies

Ganglioside expression in tissues of mice lacking the tumor necrosis factor receptor $1\ 75$

Anti-HIV activity

A new sulfated β -galactan from clams with anti-HIV activity 121 Arabinaric acid

The reaction of hyaluronic acid and its monomers, glucuronic acid and N-acetylglucosamine, with reactive oxygen species 228

Bola-amphiphile surfactants

Synthesis and molecular aggregation of new sugar bola-amphiphiles $15\,$

Borate esters

NMR spectroscopic analysis of the borate diol esters of methyl apiofuranosides 257

Boron

NMR spectroscopic analysis of the borate diol esters of methyl apiofuranosides 257

C-Glycosylation

 $InCl_3$ -induced C-glycosylation of per-O-acetylglycals with allyltrimethylsilane 1

Chitii

Chitosan processing: influence of process parameters during acidic and alkaline hydrolysis and effect of the processing sequence on the resultant chitosan's properties 235

Chitosa

Chitosan processing: influence of process parameters during acidic and alkaline hydrolysis and effect of the processing sequence on the resultant chitosan's properties 235

Chlorella vulgaris

A new trisaccharide, α -D-glucopyranuronosyl- $(1 \rightarrow 3)$ - α -L-rhamnopyranosyl- $(1 \rightarrow 2)$ - α -L-rhamnopyranose from *Chlorella vulgaris* 128

Clam polysaccharide

A new sulfated β -galactan from clams with anti-HIV activity 121

Cyclodextrin analogs

Conformations and lipophilicity profiles of some cyclic β -(1 \rightarrow 3)-and β -(1 \rightarrow 6)-linked oligogalactofuranosides 96

Cyclogalactofuranosides

Conformations and lipophilicity profiles of some cyclic β - $(1 \rightarrow 3)$ -and β - $(1 \rightarrow 6)$ -linked oligogalactofuranosides 96

6-Deoxyundecoses

The nitrile oxide-isoxazoline approach to 11-carbon monosaccharides. Conversion of 3-(tetritol-1-yl)-5-(tetrofuranos-4-yl)-2-isoxazolines into 6-deoxyundecoses 24

6-Deoxyundecos-7-uloses

The nitrile oxide—isoxazoline approach to 11-carbon monosaccharides. Conversion of 3-(tetritol-1-yl)-5-(tetrofuranos-4-yl)-2-isoxazolines into 6-deoxyundecoses 24

Depolymerization

Chitosan processing: influence of process parameters during acidic and alkaline hydrolysis and effect of the processing sequence on the resultant chitosan's properties 235

Dermatan sulfate

Human skin dermatan sulfate with sulfated and unsulfated non-reducing ends 261

α -D-Glucopyranuronosyl- $(1 \rightarrow 3)$ - α -L-rhamnopyranosyl-

$(1 \rightarrow 2)$ - α -L-rhamnopyranose

A new trisaccharide, α -D-glucopyranuronosyl- $(1 \rightarrow 3)$ - α -L-rhamnopyranosyl- $(1 \rightarrow 2)$ -alpha-L-rhamnopyranose from *Chlorella vulgaris* 128

2,4-Diacetamido-2,4,6-trideoxy-D-glucose

Structure of an acidic O-specific polysaccharide of *Pseudoalteromonas haloplanktis* type strain ATCC 14393 containing 2-acetamido-2-deoxy-D- and -L-galacturonic acids and 3-(*N*-acetyl-D-alanyl)amino-3,6-dideoxy-D-glucose 132

D-Lyxose

Conversion of D-xylose to protected D-lyxose derivatives and to D-lyxose, via the corresponding 1,2-anhydride 110

D-Lyxosides, protected

Conversion of D-xylose to protected D-lyxose derivatives and to D-lyxose, via the corresponding 1,2-anhydride 110

1-D-6-*O*-(2-Amino-2-deoxy-α-D-glucopyranosyl)-*myo*-inositol 1-(1,2-di-*O*-octyl-*sn*-glycerol 3-phosphate)

Synthesis of some second-generation substrate analogues of early intermediates in the biosynthetic pathway of glycosylphosphatidylinositol membrane anchors 42

1-D-6-O-(2-Amino-2-deoxy- α -D-glucopyranosyl)-2-O-octyl- and -2-O-hexadecyl-myo-inositol 1-(1,2-di-O-hexadecanoyl-sn-glycerol 3-phosphate)

Synthesis of some second-generation substrate analogues of early intermediates in the biosynthetic pathway of glycosylphosphatidylinositol membrane anchors 42

D-Xylofuranose, protected

Conversion of D-xylose to protected D-lyxose derivatives and to D-lyxose, via the corresponding 1,2-anhydride 110

2,5-Epoxyimidazo[1,5-a][1,3]diazocine

Novel reversed cyclonucleoside analogues with a D-ribofuranose glycone 190

5,8-Epoxy[1,2,3]triazolo-[1,5-*a*][1,3]diazocine

Novel reversed cyclonucleoside analogues with a D-ribofuranose glycone 190

Escherichia coli

The structure of the O-antigen of Escherichia coli O116:K $^+$:H10 246

Galactosylation

Synthesis of ethoxy-linked pseudo-disaccharides incorporating a crown ether macrocycle and lectin recognition 214

Gangliosides

Ganglioside expression in tissues of mice lacking the tumor necrosis factor receptor $1\ 75$

Gene knockout mice

Ganglioside expression in tissues of mice lacking the tumor necrosis factor receptor $1\ 75$

Glucaric acid

The reaction of hyaluronic acid and its monomers, glucuronic acid and N-acetylglucosamine, with reactive oxygen species 228

Glucoamylase

Synthesis and glycosidase inhibitory activity of 5-thioglucopyranosylamines. Molecular modeling of complexes with glucoamylase 143

Synthesis and glycosidase inhibitory activity of 5-thioglucopyranosylamines. Molecular modeling of complexes with glucoamylase 143

Glucuronorhamnan

A new trisaccharide, α -D-glucopyranuronosyl- $(1 \rightarrow 3)$ - α -L-rhamnopyranosyl- $(1 \rightarrow 2)$ - α -L-rhamnopyranose from *Chlorella vulgaris* 128

Glycal

 $InCl_3\mbox{-induced}$ C-glycosylation of per-O-acetylglycals with allyltrimethylsilane 1

Glycocluster

Studies on vaccines against cholera. Synthesis of neoglycoconjugates from the hexasaccharide determinant of *Vibrio cholerae* O:1, serotype Ogawa, by single-point attachment or by attachment of the hapten in the form of clusters 157

Glycoconjugate

Studies on vaccines against cholera. Synthesis of neoglycoconjugates from the hexasaccharide determinant of *Vibrio cholerae* O:1, serotype Ogawa, by single-point attachment or by attachment of the hapten in the form of clusters 157

Glycosaminoglycan

Human skin dermatan sulfate with sulfated and unsulfated non-reducing ends 261

Glycosidation reactions

Synthesis of 4-cyanophenyl and 4-nitrophenyl 1,5-dithio-D-ribopyranosides as well as their 2-deoxy and 2,3-dideoxy derivatives possessing antithrombotic activity 52

Glycosyl acceptors

Chemical synthesis of *N*-acetylglucosamine derivatives and their use as glycosyl acceptors by the *Mesorhizobium loti* chitin oligosaccharide synthase NodC 176

Glycosylphosphatidylinositol (GPI) membrane anchors

Synthesis of some second-generation substrate analogues of early intermediates in the biosynthetic pathway of glycosylphosphatidylinositol membrane anchors 42

Herbicidins

Aldol reactions on 1-deoxy-3,4:5,6-di-O-isopropylidene-L-fructose as a route to higher-carbon carbohydrates 197

Higher-carbon sugars

Aldol reactions on 1-deoxy-3,4:5,6-di-O-isopropylidene-L-fructose as a route to higher-carbon carbohydrates 197

Hyaluronic acid

The reaction of hyaluronic acid and its monomers, glucuronic acid and N-acetylglucosamine, with reactive oxygen species 228

InCl₃

 $InCl_3$ -induced C-glycosylation of per-O-acetylglycals with allyltrimethylsilane 1

Inhibition of GPI biosynthesis

Synthesis of some second-generation substrate analogues of early intermediates in the biosynthetic pathway of glycosylphosphatidylinositol membrane anchors 42

Inhibitors

Synthesis and glycosidase inhibitory activity of 5-thioglucopyranosylamines. Molecular modeling of complexes with glucoamylase 143 2-Isoxazolines (4,5-dihydroisoxazoles)

The nitrile oxide—isoxazoline approach to 11-carbon monosaccharides. Conversion of 3-(tetritol-1-yl)-5-(tetrofuranos-4-yl)-2-isoxazolines into 6-deoxyundecoses 24

Kluyveromyces bulgaricus

Synthesis of ethoxy-linked pseudo-disaccharides incorporating a crown ether macrocycle and lectin recognition 214

Lectin recognition

Synthesis of ethoxy-linked pseudo-disaccharides incorporating a crown ether macrocycle and lectin recognition 214

L-Glucose

Synthesis of L-glucose from D-gulonic γ-lactone 116

β-(1 \rightarrow 3)-Linked galactan sulfate

A new sulfated $\beta\text{-galactan}$ from clams with anti-HIV activity 121 Lipopolysaccharide

The structure of the O-antigen of *Escherichia coli* O116:K ⁺:H10 246 Lithium diisopropylamide (LDA)

The reaction of *O*-isopropylidene pentodialdo-1,4-furanoses with lithium diisopropylamide 105

Long-chain hydroxy-

Synthese und Charakterisierung von langkettigen siliciumhaltigen Hydroxy- und Methoxyverbindungen und Glucopyranosiden 168

meso-Tartaric acid

The reaction of hyaluronic acid and its monomers, glucuronic acid and N-acetylglucosamine, with reactive oxygen species 228

Methoxyalkylsilanes

Synthese und Charakterisierung von langkettigen siliciumhaltigen Hydroxy- und Methoxyverbindungen und Glucopyranosiden 168 Methyl apiofuranosides

NMR spectroscopic analysis of the borate diol esters of methyl apiofuranosides 257

Molecular mechanics

Solution conformation and dynamics of the trisaccharide fragments of the O-antigen of *Vibrio cholerae* O1, serotypes Inaba and Ogawa 88

Molecular modeling

Synthesis and glycosidase inhibitory activity of 5-thioglucopyranosylamines. Molecular modeling of complexes with glucoamylase 143 Molecular weight

Chitosan processing: influence of process parameters during acidic and alkaline hydrolysis and effect of the processing sequence on the resultant chitosan's properties 235

Monosaccharide

Synthesis of L-glucose from D-gulonic γ-lactone 116

MS

NMR spectroscopic analysis of the borate diol esters of methyl apiofuranosides 257

Mutarotation

Conversion of D-xylose to protected D-lyxose derivatives and to D-lyxose, via the corresponding 1,2-anhydride 110

3-(N-Acetyl-D-alanyl)amino-3,6-dideoxy-D-glucose

Structure of an acidic O-specific polysaccharide of *Pseudoalteromonas haloplanktis* type strain ATCC 14393 containing 2-acetamido-2-deoxy-D- and -L-galacturonic acids and 3-(*N*-acetyl-D-alanyl)amino-3,6-dideoxy-D-glucose 132

N-Acetylglucosamine

Chemical synthesis of *N*-acetylglucosamine derivatives and their use as glycosyl acceptors by the *Mesorhizobium loti* chitin oligosaccharide synthase NodC 176

N-Glycosyl carbamates

Synthesis and surface-active properties of glycosyl carbamates and thioureas 4

N-Glycosyl thiocarbamates

Synthesis and surface-active properties of glycosyl carbamates and thioureas 4

N-Glycosylthioureas

Synthesis and surface-active properties of glycosyl carbamates and thioureas 4

NMR

NMR spectroscopic analysis of the borate diol esters of methyl apiofuranosides 257

NMR spectroscopy

Solution conformation and dynamics of the trisaccharide fragments of the O-antigen of *Vibrio cholerae* O1, serotypes Inaba and Ogawa 88

The structure of the O-antigen of *Escherichia coli* O116:K ⁺:H10 246 Nodulation

Chemical synthesis of *N*-acetylglucosamine derivatives and their use as glycosyl acceptors by the *Mesorhizobium loti* chitin oligosaccharide synthase NodC 176

Non-reducing termini

Human skin dermatan sulfate with sulfated and unsulfated non-reducing ends 261

O116 antigen

The structure of the O-antigen of $\it Escherichia~coli~O116:K^+:H10~246$

O-Glycosyl carbamates

Synthesis and surface-active properties of glycosyl carbamates and thioureas 4

O-Isopropylidene-pentodialdo-1,4-furanoses

The reaction of *O*-isopropylidene pentodialdo-1,4-furanoses with lithium diisopropylamide 105

Oligogalactosides, cyclic

Conformations and lipophilicity profiles of some cyclic β - $(1 \rightarrow 3)$ -and β - $(1 \rightarrow 6)$ -linked oligogalactofuranosides 96

Oligosaccharide

Studies on vaccines against cholera. Synthesis of neoglycoconjugates from the hexasaccharide determinant of *Vibrio cholerae* O:1, serotype Ogawa, by single-point attachment or by attachment of the hapten in the form of clusters 157

Oligosaccharide synthesis

Regioselective syntheses of new tri- and tetrasaccharides from β -glucobioses by *Trichoderma viride* β -glucosidase and their structural analyses by NMR spectroscopy 67

Oral antithrombotic activity

Synthesis of 4-cyanophenyl and 4-nitrophenyl 1,5-dithio-D-ribopyranosides as well as their 2-deoxy and 2,3-dideoxy derivatives possessing antithrombotic activity 52

O-specific polysaccharide

Structure of an acidic O-specific polysaccharide of *Pseudoal-teromonas haloplanktis* type strain ATCC 14393 containing 2-acetamido-2-deoxy-D- and -L-galacturonic acids and 3-(*N*-acetyl-D-alanyl)amino-3,6-dideoxy-D-glucose 132

Ozonolysis

Synthesis of ethoxy-linked pseudo-disaccharides incorporating a crown ether macrocycle and lectin recognition 214

Polysaccharides

Chemical synthesis of *N*-acetylglucosamine derivatives and their use as glycosyl acceptors by the *Mesorhizobium loti* chitin oligosaccharide synthase NodC 176

Protein extraction

Synthesis and surface-active properties of glycosyl carbamates and thioureas 4

Pseudoalteromonas haloplanktis

Structure of an acidic O-specific polysaccharide of *Pseudoalteromonas haloplanktis* type strain ATCC 14393 containing 2-acetamido-2-deoxy-D- and -L-galacturonic acids and 3-(*N*-acetyl-D-alanyl)amino-3,6-dideoxy-D-glucose 132

Pseudo-disaccharides

Synthesis of ethoxy-linked pseudo-disaccharides incorporating a crown ether macrocycle and lectin recognition 214

Quail egg white

Human skin dermatan sulfate with sulfated and unsulfated non-reducing ends 261

Reactive oxygen species

The reaction of hyaluronic acid and its monomers, glucuronic acid and *N*-acetylglucosamine, with reactive oxygen species 228

Reversed cyclonucleoside

Novel reversed cyclonucleoside analogues with a D-ribofuranose glycone 190

Rhamnogalacturonan II

NMR spectroscopic analysis of the borate diol esters of methyl apiofuranosides 257

Serotypes

Solution conformation and dynamics of the trisaccharide fragments of the O-antigen of *Vibrio cholerae* O1, serotypes Inaba and Ogawa 88

Structure

The structure of the O-antigen of Escherichia coli O116:K $^+$:H10 246

Subcarrier

Studies on vaccines against cholera. Synthesis of neoglycoconjugates from the hexasaccharide determinant of *Vibrio cholerae* O:1, serotype Ogawa, by single-point attachment or by attachment of the hapten in the form of clusters 157

Sugar crown ethers

Synthesis of ethoxy-linked pseudo-disaccharides incorporating a crown ether macrocycle and lectin recognition 214

Sugar head group

Synthesis and molecular aggregation of new sugar bola-amphiphiles 15

Surfactants

Synthesis and surface-active properties of glycosyl carbamates and thioureas 4

Synthetic vaccine

Studies on vaccines against cholera. Synthesis of neoglycoconjugates from the hexasaccharide determinant of *Vibrio cholerae* O:1, serotype Ogawa, by single-point attachment or by attachment of the hapten in the form of clusters 157

Terminal sulfatases

Human skin dermatan sulfate with sulfated and unsulfated non-reducing ends 261

Thin-layer chromatography (TLC) immunostaining

Ganglioside expression in tissues of mice lacking the tumor necrosis factor receptor 1 75

5-Thio-D-glucopyranosylamines

Synthesis and glycosidase inhibitory activity of 5-thioglucopyranosylamines. Molecular modeling of complexes with glucoamylase 143

5-Thio-D-ribose, 5-thio-2-deoxy-D-*erythro*-pentose, and 5-thio-2,3-dideoxy-D-*glycero*-pentose derivatives

Synthesis of 4-cyanophenyl and 4-nitrophenyl 1,5-dithio-D-ribopyranosides as well as their 2-deoxy and 2,3-dideoxy derivatives possessing antithrombotic activity 52

Thioglycosides

Synthesis of 4-cyanophenyl and 4-nitrophenyl 1,5-dithio-D-ribopyranosides as well as their 2-deoxy and 2,3-dideoxy derivatives possessing antithrombotic activity 52

TNFRp55

Ganglioside expression in tissues of mice lacking the tumor necrosis factor receptor $1\ 75$

Transferred NOE NMR

Synthesis and glycosidase inhibitory activity of 5-thioglucopyranosylamines. Molecular modeling of complexes with glucoamylase 143

Transglycosylation reaction

Regioselective syntheses of new tri- and tetrasaccharides from β -glucobioses by *Trichoderma viride* β -glucosidase and their structural analyses by NMR spectroscopy 67

Trichloracetimidates

Synthesis of ethoxy-linked pseudo-disaccharides incorporating a crown ether macrocycle and lectin recognition 214

Trichoderma viride β-glucosidase

Regioselective syntheses of new tri- and tetrasaccharides from β -glucobioses by *Trichoderma viride* β -glucosidase and their structural analyses by NMR spectroscopy 67

Two-dimensional NMR spectroscopy

Regioselective syntheses of new tri- and tetrasaccharides from β -glucobioses by *Trichoderma viride* β -glucosidase and their structural analyses by NMR spectroscopy 67

Unnatural carbohydrate

Synthesis of L-glucose from D-gulonic γ-lactone 116

Vibrio cholera

Solution conformation and dynamics of the trisaccharide fragments of the O-antigen of *Vibrio cholerae* O1, serotypes Inaba and Ogawa 88