

## SUBJECT INDEX

- Acarviosin: synthesis and inhibitory activity of nine analogues, chemical modification of the sugar part of methyl, 377
- 2-Acetamido-2-deoxy- $\beta$ -D-glucopyranosyl unit, *O*- $\alpha$ -L-fucopyranosyl-(1 $\rightarrow$ 3)-, synthesis of nitrophenyl oligosaccharides containing, 243
- 3-Acetamido-3-deoxy-5-thio-D-xylose and 4-acetamido-4-deoxy-5-thio-L-lyxose, synthesis and conformations, 339
- N*-Acetylactosamine-type, poly-, octasaccharide, use in study of antigenic determinant of, 289
- Acrylamide copolymer with  $\alpha$ -Kdo-(1 $\rightarrow$ 6)- $\beta$ -D-GlcPNAc 4-phosphate allyl glycoside, synthesis of, 37
- 1-*O*-Acyl-D-gluco- and -D-galacto-pyranoses, synthesis exploiting the Mitsunobu reaction of, 191
- 2-*C*-Allyl-2-deoxy-D-arabinono- and -D-ribo-*n*-1,4-lactones, synthesis of, 145
- 2-Allyloxycarbonylamino-1,6-anhydro-2-deoxy- $\beta$ -D-glucopyranose, synthesis of derivatives of, 81
- Aminodeoxypentoses having sulphur in the ring, synthesis of two, 339
- 1,6-Anhydro-2-deoxy- $\beta$ -D-glucopyranose, 2-allyloxycarbonylamino-, synthesis of derivatives of, 81
- Antigens of blood group P<sup>k</sup> and P<sub>1</sub>, biosynthesis of, 277
- D-Arabinono-1,4-lactone, 2-*C*-allyl-2-deoxy-, synthesis of, 145
- Aryl D-gluco- and D-galacto-pyranosides, synthesis exploiting the Mitsunobu reaction of, 191
- Asparagine-linked oligosaccharides, conformationally restricted models for (1 $\rightarrow$ 6)-branch of, 1
- Aspergillus niger*, effect of 6<sup>2</sup>-thiopranose on the glucoamylases of, 299
- Bases, oxidation and elimination reactions of phenylhydrazones in, 451
- Bicyclo[3.2.1]-octane and -octene systems, 2-oxa-4-aza-, synthesis of, 21
- Blood group-i antigenic determinant, size of, 289
- Blood group P<sup>k</sup> and P<sub>1</sub> antigens, biosynthesis of, 277
- (1 $\rightarrow$ 6)-Branch of asparagine-linked oligosaccharides, conformationally restricted models for, 1
- 1,4-Butane-1,4-diol, crystal structure of the hexahydrated inclusion complex with cyclomaltoheptaose ( $\beta$ -cyclodextrin), 321
- Carbamates of *myo*-inositol, synthesis of some, 371
- O*-Carboxymethyl derivatives of D-glucose, <sup>1</sup>H-n.m.r. spectroscopy of, 433
- Chemical modification of the sugar part of methyl acarviosin: synthesis and inhibitory activity of nine analogues, 377
- Conformation of (1 $\rightarrow$ 4)- $\beta$ -D-mannan from optical rotation, solution, 333
- Conformationally restricted models for the (1 $\rightarrow$ 6)-branch of asparagine-linked oligosaccharides, analysis of, 1
- Convergent synthesis of higher-order oligosaccharides corresponding to the cell-wall polysaccharide of the  $\beta$ -hemolytic *Streptococci* Group A. A branched hexasaccharide haptan, 399
- Cryptococcus albidus*, yeast, D-xylan-degrading enzymes in, 47
- Crystal structure of the complex cyclomaltoheptaose ( $\beta$ -cyclodextrin)-1,4-butanediol-6.25-H<sub>2</sub>O, 321
- Cyclomaltoheptaose ( $\beta$ -cyclodextrin)-1,4-butanediol-6.25H<sub>2</sub>O complex, crystal structure of the, 321
- Cyclomalto-hexa- and -hepta-ose, (6-deoxy)-, hexakis- and heptakis-, preparation of, 307
- Daunomycinone, 7-*O*-[*O*-(2,6-dideoxy-2-iodo- $\alpha$ -L-manno-hexopyranosyl-(1 $\rightarrow$ 4))-2,3,6-trideoxy-3-trifluoroacetamido- $\alpha$ -L-arabino-hexopyranosyl]-, synthesis of, 171
- Deaminotunicamine, tri-*O*-isopropylidene-, synthesis of, 205
- De-*N*-acetyl-GM<sub>3</sub> and analogs, total synthesis, 347
- 7-(3-Deoxy-3-fluoro- $\beta$ -D-glycero-hex-2-enopyranosyl-4-ulose)thiophylline, synthesis and biological activity of, 95
- trans*-3-Dibenzamidocyclopenten-1-oxide, synthesis of 2-oxa-4-azabicyclo[3.2.1]-octane and -octene systems from, 21
- Di-*O*-*myo*-inositol, 2,5- and 1D-2,6-, preparation and phosphorylation of, 65
- Disaccharides, 3-amino-polydeoxy-, synthesis of, 171
- Disaccharides, iodo-, synthesis of, 171
- Driving the pyranoid ring conformation in molecular mechanics calculations, 439

- Extraction of xyloglucan from the primary cell walls of suspension-cultured rose cells, factors that affect the, 423
- Fluoroketonucleoside, synthesis and biological activity of, 95
- (1→3)- $\alpha$ -L-Fucosyltransferase in human tissues, specificity patterns of, 265
- O*- $\alpha$ -L-Fucopyranosyl-(1→3)-2-acetamido-2-deoxy- $\beta$ -D-glucopyranosyl unit, synthesis of nitrophenyl oligosaccharides containing, 243
- 4-*O*- $\beta$ -D-Galactopyranosyl-D-xylose, synthesis and use as substrate for lactase, 129
- Ganglioside de-*N*-acetyl-GM<sub>3</sub> and analogs, total synthesis, 347
- $\beta$ -D-GlcpNAc 4-phosphate,  $\alpha$ - and  $\beta$ -Kdo-(1→6)-, allyl glycoside, synthesis of, 37
- D-Glucals, 1-tributylstannyl-, synthesis of *C*-glucopyranosyl compounds from, 103
- Glucosylases from *Aspergillus niger*, effect of 6'-thiopyranose on, 299
- $\beta$ -D-Glucopyranose, 2-allyloxycarbonylamino-1,6-anhydro-2-deoxy-, synthesis of derivatives of, 81
- $\alpha$ -D-Glucopyranosyl groups, (1→4)- and (1→6)-linked in polymers as acceptors in the glycogen synthase reaction, 255
- $\beta$ -D-Glucopyranosyl unit, 2-acetamido-2-deoxy-, *O*- $\alpha$ -L-fucopyranosyl-(1→3)-, synthesis of nitrophenyl oligosaccharides containing, 243
- D-Glucose, <sup>1</sup>H-n.m.r. spectroscopy of *O*-carboxymethyl derivatives of, 433
- $\beta$ -D-Glucosides, synthesis of  $\beta$ -D-mannosides from, 217
- Glycogen synthase reaction, (1→4)- and (1→6)-linked  $\alpha$ -D-glucopyranosyl groups in polymers as acceptors in, 255
- Glycoproteins, synthesis of octasaccharide fragment of high-mannose-type glycans of, 157
- GM<sub>3</sub>, de-*N*-acetyl-, and analogs, total synthesis, 347
- Heparin effects of alkali and acid on, 29
- Heptakis(6-deoxy)cyclomaltoheptaose, preparation of, 307
- Heptose region of *Salmonella* Ra core structure, synthesis of trisaccharide corresponding to, 121
- Hexakis(6-deoxy)cyclomaltohexaose, preparation of, 307
- Hexasaccharide hapten, convergent synthesis of higher-order oligosaccharides corresponding to the cell-wall polysaccharide of the  $\beta$ -hemolytic *Streptococci* Group A. A branched, 399
- 4-*O*-( $\beta$ -xylo-Hexopyranosyl-3-ulose)-D-glucopyranose ("3-ketolactose"), structure by <sup>1</sup>H- and <sup>13</sup>C-n.m.r. spectroscopy, 445
- Human embryonic development and adult tissues, expression of (1→3)- $\alpha$ -L-fucosyltransferase in, 265
- myo*-Inositol, 2,5- and 1D-2,6-di-*O*-benzyl-, synthesis and phosphorylation of, 65
- myo*-Inositol, synthesis of some carbamates of, 371
- $\alpha$ - and  $\beta$ -Kdo-(1→6)- $\beta$ -D-GlcpNAc 4-phosphate, allyl glycoside, synthesis of, 37
- "3-Ketolactose" [4-*O*-( $\beta$ -D-xylo-hexopyranosyl-3-ulose)-D-glucopyranose], structure by <sup>1</sup>H- and <sup>13</sup>C-n.m.r. spectroscopy, 445
- Lactase, intestinal, use of 4-*O*- $\beta$ -D-galactopyranosyl-D-xylose for the evaluation of, 129
- Lipopolysaccharide of *Yersinia kristensenii* strain 490 (*O*:12,25), structure of the repeating unit of the *O*-specific polysaccharide of the, 415
- Mannan from optical rotation, solution conformation of (1→4)- $\beta$ -D-, 333
- D-Mannose, high-type glycans, synthesis of octasaccharide fragment of, 157
- $\beta$ -D-Mannosides, synthesis from  $\beta$ -D-glucosides of, 217
- Microsomes of human kidney, biosynthesis of the blood group P<sup>k</sup> and P<sub>1</sub> antigens by, 277
- Mitsunobu reaction, synthesis of aryl D-glucopyranosides and 1-*O*-acyl-D-glucopyranoses by, 191
- Molecular mechanics calculations, driving the pyranoid ring conformation in, 439
- $\alpha$ -Ncup5Ac-(2→3)-D-Galp-(1→3)-D-GlcpNAc, use of porcine liver (2→3)- $\alpha$ -sialyltransferase in the large-scale synthesis of, 137
- N.m.r. spectroscopy of *O*-carboxymethyl derivatives of D-glucose, <sup>1</sup>H-, 433
- N.m.r. spectroscopy, structure of "3-ketolactose"[4-*O*-( $\beta$ -D-xylo-hexopyranosyl-3-ulose)-D-glucopyranose] by <sup>1</sup>H and <sup>13</sup>C-, 445
- Octasaccharide of high-mannose glycans, synthesis of, 157
- Oligosaccharides corresponding to the cell-wall polysaccharide of the  $\beta$ -hemolytic *Streptococci* Group A. A branched hexasaccharide hapten, convergent synthesis of higher-order, 399
- Oligosaccharides, synthetic, use in defining (1→3)- $\alpha$ -L-fucosyltransferase activity of, 265
- 2-Oxa-4-azabicyclo[3.2.1]-octane and -octene systems, synthesis of, 21
- Oxidation and elimination reactions of phenylhydrazone in bases, 451

- Palladium-catalyzed coupling reaction of 1-tributylstannyl-D-glucals, synthesis of C-glycopyranosyl, 103
- D-*allo*-Pentofuranose, 5-C-(6-deoxy-1,2:3,4-di-O-isopropylidene- $\alpha$ -D-galactopyranos-6-yl)-2,3-O-isopropylidene-, synthesis of, 205
- Phenylhydrazones in bases, oxidation and elimination reactions of, 451
- Phosphorylation of 2,5- and 1D-2,6-di-O-benzyl-*myo*-inositol, 65
- Poly-N-acetylglucosamine-type octasaccharide, use in study of antigenic determinant of, 289
- Polymers containing (1 $\rightarrow$ 4)- and (1 $\rightarrow$ 6)-linked  $\alpha$ -D-glucopyranosyl groups as acceptors in the glycogen synthase reaction, 255
- Polysaccharide from *Pseudomonas solanacearum* ICMP 4157, O-specific, structure of, 315
- Polysaccharide from *Yersinia kristensenii* strain 490 (O:12,25), structure of the repeating unit of the O-specific, 415
- Pseudomonas solanacearum* ICMP 4157, structure of O-specific polysaccharide from, 315
- Pyranoid ring conformation in molecular mechanics calculations, driving the, 439
- D-Ribono-1,4-lactone, 2-C-allyl-2-deoxy-, synthesis of, 145
- Rose cells, factors that affect the extraction of xyloglucan from the primary cell walls of suspension-cultured, 423
- Salmonella* Ra core structure, synthesis of trisaccharide corresponding to the heptose region of, 121
- (2 $\rightarrow$ 3)- $\alpha$ -Sialyltransferase from porcine liver, use in large-scale synthesis of, 137
- SN2 intramolecular reaction at C-2, synthesis of  $\beta$ -D-mannosides from  $\beta$ -D-glucosides by, 217
- O-Specific polysaccharide from *Pseudomonas solanacearum* ICMP 4157, structure of, 315
- Solution conformation of (1 $\rightarrow$ 4)- $\beta$ -D-mannan from optical rotation, 333
- 2-Sulfamino- $\alpha$ -D-glucopyranoside, methyl, 2-deoxy-, 3-sulfate, synthesis of and action of alkali and acid on, 29
- Synthesis and inhibitory activity of nine analogues, chemical modification of the sugar part of methyl acarviosin-, 377
- Synthesis of some carbamates of *myo*-inositol, 371
- Theophylline, 7-(3-deoxy-3-fluoro- $\beta$ -D-glycero-hex-2-enopyranosyl-4-ulose)-, synthesis and biological activity of, 95
- 6<sup>2</sup>-Thiopanose, synthesis and effect on glucoamylases from *Aspergillus niger* of, 299
- 5-Thiopentoses, synthesis and conformations of two acetamidodeoxy-, and some derivatives thereof, 339
- Thioxylobiose, synthesis of positional isomers of, 47
- 1-Tributylstannyl-D-glucals, synthesis of C-glycopyranosyl compounds from, 103
- Trisaccharide corresponding to the heptose region of *Salmonella* Ra core structure, synthesis of, 121
- Tumor-associated carbohydrate antigen CA, epitope, use of porcine liver (2 $\rightarrow$ 3)-sialyltransferase in the synthesis of, 137
- Tunicamine, deaminotri-O-isopropylidene-, synthesis of, 205
- D-Xylan-degrading enzymes, inducing ability of positional isomers of thioxylobiose for, 47
- Xylobiose, thio-, synthesis of positional isomers of, 47
- Xyloglucan from the primary cell walls of suspension-cultured rose cells, factors that affect the extraction of, 423
- D-Xylose, 4-O- $\beta$ -D-galactopyranosyl-, synthesis and use as substrate for lactase, 129
- Yersinia kristensenii* strain 490 (O:12,25), structure of the repeating unit of the O-specific polysaccharide of the lipopolysaccharide, 415