

## Subject index

- Acetal derivatives of D-glucitol, some 3,5-, 249
- Active site of *E. coli*  $\beta$ -D-galactosidase, investigation by photoaffinity labelling, 227
- Adsorption of pancreatic  $\alpha$ -amylase onto starch crystallites, mechanism of the, 367
- Agglutinin, studies of the molecular recognition of synthetic methyl  $\beta$ -lactoside analogues by *Ricinus communis*, 207
- Aldos-2-ulase dehydratase from *Polyporus obtusus*, purification, characterization, and use in the synthesis of the antibiotic cortalcerone, 59
- $\alpha$ -amylase, mechanism of the adsorption onto starch crystallites of pancreatic, 367
- 5-Amino-1,4-anhydro-5,6-dideoxy-L-galactitol, synthesis of, 183
- 3-Amino-3-deoxy-D-alluronate, synthesis of methyl, 341
- 2-Amino-1,2-dideoxy-D-galactitol, synthesis of, 183
- Aminoguanidine, the reaction of some dicarbonyl sugars with, 125
- Anomeric dihalides reaction, 117
- O-Antigen, polysaccharide of *Salmonella rio-grande* O: 40 (Group R) related to blood group A activity, structure of, 143
- Apple-fruit xyloglucans, a comparative study of enzyme digests of whole cell walls and of alkali-extracted xyloglucans, 303
- L-Ascorbic acid, chemical reactions induced by ultrasound and  $\gamma$ -rays in aqueous solutions of, 291
- L-Ascorbic acid 2-glucoside, crystal structure and physicochemical properties, 197
- Aspergillus oryzae*  $\beta$ -D-galactosidase, formation of oligosaccharides from lactitol by the action of, 151
- Avobioside phenyl  $\beta$ -, avoparcin disaccharide component, L-ristosamine glycal, avoparcins  $\alpha$  and  $\beta$  and helvecardins antibiotics, 107
- 2,4-O-Benzylidenhexitol unsaturated derivatives, rearrangement into C-glycosylbenzene derivatives, 17
- Blocking group, stable but removable by ozonolysis: O-(3-butenyl), 375
- O-(3-Butenyl), a stable blocking group removable by ozonolysis, 375
- Conformational analysis of levanbiose by molecular mechanics, 1
- Conformationally restricted derivatives of muramic acid based on oxazolidines from sugars, 235
- Cortalcerone (an antiobiotic), synthesis from D-glucose using pyranose 2-oxidase and a novel fungal enzyme, aldose-2-ulose dehydratase, 59
- Crystal and molecular structure of ethyl 6,7,8-tri-O-acetyl-5,9-anhydro-2,3,4-trideoxy-2-diphenylmethylenamino-4-nitro-D-threo-D-alto-nononate, 321
- Crystal structure of lactitol (4-O- $\beta$ -D-galactopyranosyl-D-glucitol trihydrate, 189
- $\alpha$ -Cyclodextrin, binding constants for complexes with L-phenylalanine and related substrates, 161
- 6-Deoxy-L-arabino-hexulose (L-rhamnulose) 1-phosphate, facile synthesis via regioselective phosphorylation of the unprotected sugar, 177
- Deoxy-4'-fluorokanamycins A and B, synthesis of 4', 89
- Dicarbonyl sugars, the reaction of some with aminoguanidine, 125
- Enzyme digests of apple-fruit cell walls and of alkali-extracted xyloglucans, a comparative study of, 303
- Ethyl 6,7,8-tri-O-acetyl-5,9-anhydro-2,3,4-trideoxy-2-diphenylmethylen-amino-4-nitro-D-threo-D-alto-nononate, crystal and molecular structure of, 321

## Free radical addition of alkenes, 117

L-Galactitol hydrochloride, 5-amino-1,4-anhydro-5,6,-dideoxy-, synthesis of, 183

D-Galactitol hydrochloride, 2-amino-1,2-dideoxy-, synthesis of, 183

4-*O*- $\beta$ -D-Galactopyranosyl-D-glucitol (lactitol) trihydrate, crystal structure, 189

$\beta$ -D-Galactosidase from *Aspergillus oryzae*, formation of oligosaccharides from lactitol by action of, 151

$\beta$ -D-Galactosidase from *E. coli*, investigation of the active site by photoaffinity labelling, 227

Gentiobiosylenamines, synthesis by use of glucosylenamines as glycosyl acceptors, 47

D-Glucitol, some 3,5-acetal derivatives of, 249

D-Glucopyranose, synthesis and characterisation of 2-*O*-(6-*O*-L-glycero- $\alpha$ , $\beta$ -D-manno-heptopyranosyl- $\alpha$ -D-glucopyranosyl)- $\alpha$ , $\beta$ -, 33

Glucosylenamines as glycosyl acceptors: synthesis of gentiobiosylenamines, 47

Glycoconjugates and synthetic oligosaccharides, immunochemical characterization of polyclonal and monoclonal *Streptococcus* group A antibodies by chemically defined, 131

Glycosyl acceptors, synthesis of gentiobiosylenamines by use of glucosylenamines as, 47

C-Glycosylbenzene derivatives, rearrangement of unsaturated 2,4,-*O*-benzylidenehexitol derivatives into, 17

C-Glycosyl compounds, 117

Glycosylation by a modified thiocyanate method, stereospecific 1,2-*cis*-, C1

Glycosylation with pent-4-enyl and thioethyl glycosides, steric effect of a bulky 6-substituent in the I<sup>+</sup>-promoted, 349

2-*O*-(6-*O*-L-glycero- $\alpha$ , $\beta$ -D-manno-Heptopyranosyl- $\alpha$ -D-glucopyranosyl)- $\alpha$ , $\beta$ -D-glucopyranose, synthesis and characterisation of, 33

Immunochemical characterization of polyclonal and monoclonal *Streptococcus* group A antibodies by chemically defined glycoconjugates and synthetic oligosaccharides, 131

Kanamycin B and its analogs. Study on structure-toxicity relationships, synthesis of 5-deoxy-5-fluoro and 5-deoxy-5,5-difluoro derivatives of, 273

Kanamycins A and B, synthesis of 4'-deoxy-4'-, 89

Lactitol, formation of oligosaccharides by *Aspergillus oryzae*  $\beta$ -galactosidase action on, 151

Lactitol (4-*O*- $\beta$ -D-galactopyranosyl-D-glucitol) trihydrate, crystal structure, 189

Levanbiose, conformational analysis of, by molecular mechanics, 1

Malto-oligosaccharides (dp 2–5), studies of the interaction of the maltose-binding protein of *E. coli* with 4,6-*O*-ethylidene-, 77

Maltose-binding protein of *E. coli*, studies of the interaction with 4,6-*O*-ethylidenemalto-oligosaccharides (dp 2–5) and its regioselective labelling with 3-azibutyl 1-thio- $\alpha$ -(6-<sup>3</sup>H) maltoside, 77

Methyl 3-amino-3-deoxy-D-alluronate, synthesis of, 341

Methyl  $\beta$ -lactoside analogues, studies of the molecular recognition by *Ricinus communis* agglutinin of synthetic, 207

Molecular mechanics, conformational analysis of levanbiose by, 1

Molecular recognition of synthetic methyl  $\beta$ -lactoside analogues by *Ricinus communis* agglutinin, studies of the, 207

Muramic acid, examples of conformationally restricted derivatives based on oxazolidines from sugars, 235

Nononate, crystal and molecular structure of ethyl 6,7,8-tri-*O*-acetyl-5,9-anhydro-2,3,4-trideoxy-2-diphenylmethylenecamino-4-nitro-D-threo-D-altro-, 321

Oxazolidines from sugars, examples of conformationally restricted derivatives of muramic acid, 235

Pent-4-enyl and thioethyl glycosides, steric effect of a bulky 6-substituent in the I<sup>+</sup>-promoted glycosylation with, 349

L-Phenylalanine and related substrates, binding constants for complexes with  $\alpha$ -cyclodextrin, 161

Photoaffinity labelling, investigation of the active site of *E. coli*  $\beta$ -D-galactosidase by, 227

Polysaccharide-*O*-antigen of *Salmonella rio-grande* O:40 (Group R) related to blood group A activity, structure of, 143

Polysaccharides of *Streptococcus pneumoniae* types 19F and 19A, conformational analysis of the trisaccharide components of the repeating units of the capsular, 327

Pyranose 2-oxidase from *Polyporus obtusus*, purification and use in the synthesis of the antibiotic cortalcerone, 59

$\gamma$ -Rays and ultrasound, chemical reactions in aqueous solutions of L-ascorbic acid induced by, 291

- Rearrangement of unsaturated 2,4-*O*-benzylidenehexitol derivatives into *C*-glycosylbenzene derivatives, 17
- Redox glycosidation: the use of Nozaki–Takai methylenation in a highly stereoselective synthesis of sucrose, 259
- Regioselective labelling of the maltose-binding protein of *E. coli* with 3-azibutyl 1-thio- $\alpha$ -(6-<sup>3</sup>H) maltoside, 77
- L-Rhamnulose 1-phosphate, facile synthesis via regioselective phosphorylation of the unprotected sugar, 177
- $\beta$ -D-Ribofuranosyl acetates and trimethylsilyl azide, an improved preparation of 2,3,5-tri-*O*-acyl- $\beta$ -D-ribofuranosyl azides by the Lewis acid-catalysed reaction of, 359
- Starch crystallites, mechanism of the adsorption of pancreatic alpha-amylase onto, 367
- Stereospecific 1,2-*cis*-glycosylation by a modified thiocyanate method, C1
- Steric effect of a bulky 6-substituent in the I<sup>+</sup>-promoted glycosylation with pent-4-enyl and thioethyl glycosides, 349
- Streptococcus* group A antibodies by chemically defined glycoconjugates and synthetic oligosaccharides, immunochemical characterization of polyclonal and monoclonal, 131
- Streptococcus pneumoniae* types 19F and 19A, conformational analysis of the trisaccharide components of the repeating units of the capsular polysaccharides of, 327
- Structure–toxicity relationships, synthesis of 5-deoxy-5-fluoro and 5-deoxy-5,5-difluoro derivatives of kanamycin B and its analogs. Study on, 273
- Sucrose, redox glycosidation: the use of Nozaki–Takai methylenation in a highly stereoselective synthesis of, 259
- Sugars, dicarbonyl, the reaction of some with aminoguanidine, 125
- 1-Sulfenates, synthesis of 1-thioglycosides from 169
- Synthesis and characterisation of 2-*O*-(6-*O*-L-glycero- $\alpha$ , $\beta$ -D-manno-heptopyranosyl- $\alpha$ -D-glucopyranosyl)- $\alpha$ , $\beta$ -D-glucopyranose, 33
- Synthesis and properties of 1,1,3,3,-tetramethyl-2-(2,3,4,6-tetra-*O*-acetyl- $\alpha$ -D-glucopyranosyl)-uronium triflate, 353
- Synthesis of 5-deoxy-5-fluoro and 5-deoxy-5,5-difluoro derivatives of kanamycin B and its analogs. Study on structure–toxicity relationships, 273
- Synthesis of 4'-deoxy-4'-fluorokanamycins A and B, 89
- Synthesis of methyl 3-amino-3-deoxy-D-aluronate, 341
- Synthesis of 1-thioglycosides from 1-sulfenates, 169
- Synthesis of sucrose, redox glycosidation: the use of Nozaki–Takai methylenation in a highly stereoselective, 259
- 1,1,3,3-Tetramethyl-2-(2,3,4,6-tetra-*O*-acetyl- $\alpha$ -D-glucopyranosyl)uronium triflate, synthesis and properties of, 353
- Thiocyanate method, stereospecific 1,2-*cis*-glycosylation by a modified, C1
- 1-Thioglycosides from 1-sulfenates, synthesis of, 169
- 2,3,5-Tri-*O*-acyl- $\beta$ -D-ribofuranosyl azides, an improved preparation by the Lewis acid-catalysed reaction of  $\beta$ -D-ribofuranosyl acetates and trimethylsilyl azide, 359
- Trimethylsilyl triflate catalysis, an example of the concomitant formation of the  $\alpha$  anomer during the preparation of 2,3,5-tri-*O*-benzoyl- $\beta$ -D-ribofuranosyl azide by, 359
- Trisaccharide components of the repeating units of the capsular polysaccharides of *Streptococcus pneumoniae* types 19F and 19A, conformational analysis of the, 327
- Ultrasound and  $\gamma$ -rays, chemical reactions in aqueous solutions of L-ascorbic acid induced by, 291
- Uronium triflate, synthesis and properties of 1,1,3,3,-tetramethyl-2-(2,3,4,6,-tetra-*O*-acetyl- $\alpha$ -D-glucopyranosyl)-, 353
- Xyloglucans, a comparative study of enzyme digests of apple-fruit cell walls and of alkali-extracted, 303