## SUBJECT INDEX

- N-Acetylglucosaminyltransferases I and II, use in the preparative synthesis of oligosaccharides, 145
- D-Allo-pyranosides and -furanosides, methyl 3amino-3-deoxy-, synthesis, 233
- 3-Amino-3-deoxy-α- and -β-D-allopyranosides and -allofuranosides, synthesis of the methyl, 233
- 2-Amino-2-deoxy-D-glucose, structure of the intermediate products of the reaction of aryl and acyl isothiocyanates and aryl isocyanates with, 125
- Analysis of sulphated galactans from red algae, chemical methods for the, 277
- Analysis, glycosyl-linkage, of complex carbohydrates, an improved method for the preparation of standards for, 311
- Anomerization, rates of, and tautomeric equilibria, Thorpe-Ingold effects on, for deoxygenated and alkylated furanoses, 21
- Antigenic polysaccharide of *Streptococcus rattus*, structure of, 247
- Arabino- and ribo-furanoses, convenient syntheses of 2,3,5-tri-*O*-benzyl *via* their allyl glycosides. 319
- Aryl and acyl isothiocyanates and aryl isocyanates, structure of the intermediate products of the reaction of 2-amino-2-deoxy-D-glucose with, 125
- Asparagus officinalis seeds, structural features of the cell-wall polysaccharides of, 263
- Azotobacter vinelandii strain 1484, structural studies of the extracellular polysaccharide elaborated by, 255
- Bergenin, X-ray analysis of the structure of, 71 Branched tri- and penta-saccharide haptens of Streptococci Group A and the preparation of synthetic antigens, synthesis and n.m.r. analysis of, 199
- Characterisation of the α,α-trehalose glycosidic linkage by infrared and Raman spectroscopy in the C-H stretching region, I
- Chemically-modified heparins, sulfation of, 299 Complex carbohydrates, an improved method for the preparation of standards for glycosyl-linkage analysis of, 311
- Crystal structure of stachyose hydrate, 89
- Cyclic carbanates, transformation of aldoses into glycosylamine 1,2-, by reaction with potassium cyanate, 155

- Cycloaddition of diazoalkanes to a D-manno sugar nitro-olefin, stereoselective synthesis of nitropyrazoline derivatives by 1,3-dipolar, 327
- Cycloaddition of diazoalkanes to  $\alpha.\beta$ -unsaturated derivatives of sugars, stereoselective synthesis of pyrazoline derivatives by 1,3-dipolar, 167
- Deacylation of sugars, use of partially purified esterases from rabbit serum for the regioselective, 191
- 3'-Deoxy-3'-fluorokanamycin A and 3',4'-dideoxy-3'-fluorokanamycin A, synthesis of, 221
- 3',4'-Dideoxy-3'-fluorokanamycin A, synthesis of 3'-deoxy-3'-fluorokanamycin A and, 221
- Esterases from rabbit serum, regioselective deacylations of sugars using partially purified, 191
- Exopolysaccharide of *Rhizobium melioti* that can function in alfalfa root nodule invasion, structural analysis of a second acidic, 339
- Furanoses, deoxygenated and alkylated, Thorpe-Ingold effects on tautomeric equilibria and rates of anomerization, 21
- Gelatinization using differential scanning calorimetry, X-ray, and birefringence measurements, a study of starch, 79
- β-D-Glucopyranose, 1,3,4,6-tetra-O-acetyl-2-azido-2-deoxy, and the corresponding α-glucosyl chloride, short synthesis from D-mannose, 333
- Glycosidic linkage in α,α-trehalose, characterisation by infrared and Raman spectroscopy in the C-H stretching region, 1
- Glycosylamine 1,2-(cyclic carbanates), transformation of aldoses into, by reaction with potassium cyanata, 155
- Heparins, sulfation of chemically-modified, 299 Hydrogen bonding in the crystal structure of stachyose tetrahydrate, 89
- Inosamines and -inosadiamines, O-methyl-, synthesis from L-quebrachitol, 105
- Methyl 3-amino-3-deoxy-α- and -β-D-allopyranosides and -allofuranosides, synthesis, 233
- O-Methyl-inosamines and -inosadiamines, synthesis from L-quebrachitol, 105
- 1-Methyl(or phenyl)-5-(penta-O-acetyl-D-galacto-pentitol-1-yl)pyrazoles, preparation by the reaction of a sugar nitroalkane with aldehyde methyl(or phenyl)hydrazones, 175

C8 SUBJECT INDEX

- Methyl β-xylobioside, nuclear Overhauser effects and the flexibility of, 13
- Nitroalkene, preparation of pyrazole *C*-nucleosides by the reaction of aldehyde methyl(or phenyl)hydrazones with a sugar, 175
- Nitropyrazoline derivatives, stereoselective synthesis by 1,3-dipolar cycloaddition of diazoalkanes to a *p-manno* sugar nitro-olefin, 327
- Nuclear Overhauser effects and the flexibility of saccharides; methyl  $\beta$ -xylobioside, 13
- Oligosaccharides, use of N-acetylglucosaminyltransferases I and II in the preparative synthesis of, 145
- Optical activity of carbohydrates, vibrational Raman, 39
- D-Penturonic acids: solution studies of stable-isotopically enriched compounds by <sup>1</sup>H- and <sup>13</sup>C-n.m.r. spectroscopy, 51
- Polysaccharide antigen of *Streptococcus rattus*, structure of, 247
- Polysaccharide elaborated by *Azotobacter vine-landii* strain 1484, structural studies of the extracellular, 255
- Polysaccharides of *Asparagus officinalis* seeds, structural features of the cell-wall, 263
- Polysaccharide of *Porphyridium sp.*, structure of some sulfated sugars isolated after acid hydrolysis of the extracellular, 349
- Purification of esterases from rabbit serum and their use in regioselective deacylations of sugars, partial, 191
- Pyrazole C-nucleotides, preparation by the reaction of a sugar nitroalkene with aidehyde methyl(or phenyl)hydrazones, 175
- Pyrazoline derivatives, stereoselective synthesis by 1,3-dipolar cycloaddition of diazoalkanes to αβ-unsaturated carbonyl derivatives of sugars, 167
- L-Quebrachitol, synthesis of *O*-methyl-inosamines and -inosadiamines from, 105
- Raman optical activity of carbohydrates, vibrational, 39
- Reaction of 2-amino-2-deoxy-D-glucose with aryl and acyl isothiocyanates, and aryl isocyanates: structure of the intermediate products, 125
- Red algae, chemical methods for the analysis of sulphated galactans from, 277
- Stable-isotopically enriched D-penturonic acids, solution studies by <sup>1</sup>H- and <sup>11</sup>C-n.m.r. spectroscopy, 51

Stachyose tetrahydrate, a 1:1 complex of two conformers hydrogen bonding in the crystal structure, 89

- Starch gelatinization using differential scanning calorimetry, X-ray, and birefringence measurements, a study of, 79
- Stereoselective synthesis of nitropyrazoline derivatives by 1,3-dipolar cycloaddition of diazoal-kanes to a p-manno sugar nitro-olefin, 327
- Stereoselective synthesis of pyrazoline derivatives by 1.3-dipolar cycloaddition of diazoalkanes to πβ-unsaturated carbonyl derivatives of sugars, 167
- Streptococci Group A and the preparation of synthetic antigens, synthesis and n.m.r. analysis of branched tri- and penta-saccharide haptens of, 199
- Streptococcus rattus, structure of polysaccharide antigen, 247
- Structural analysis of a second acidic exopolysaccharide of *Rhizohium melioti* that can function in affalfa root nodule invasion, 339
- Structural features of the cell-wall polysaccharides of *Asparagus officinalis* seeds, 263
- Structure of some sulfated sugars isolated after acid hydrolysis of the extracellular polysaccharide of *Porphyridium sp.*, a unicellular red alga, 349
- Structural studies of the extracellular polysaccharide elaborated by *Azotohacter vinelandii* strain 1484, 255
- Structure of bergenin, X-ray analysis of the, 71 Study of starch gelatinization using differential scanning calorimetry, X-ray, and birefringence measurements, 79
- Sugars isolated after acid hydrolysis of the extracellular polysaccharide of *Porphyridium sp.*, structure of some sulfated, 349
- 3-Sulfate analog of heparin, formation of, 299
- Sulphated galactans from red algae chemical methods for the analysis of, 277
- Syntheses of 2,3,5-tri-*O*-benzyl-arabino- and -ribo-furanoses *via* their allyl glycosides, convenient, 319
- Synthesis and n.m.r. analysis of branched tri- and penta-saccharide haptens of Streptococci Group A and the preparation of synthetic antigens, 199
- Synthesis of 3'-deoxy-3'-fluorokanamycin A and 3',4'-dideoxy-3'-fluorokanamycin A, 221
- Tautomeric equilibria and rates of anomerization, Thorpe Ingold effects on, for deoxygenated and alkylated furanoses, 21
- 1,3,4,6-Tetra-*O*-acetyl-2-azido-2-deoxy-β-p-glucopyranose and the corresponding α-glucosyl chloride, short synthesis from φ-mannose, 333

SUBJECT INDEX C9

- Thorpe-Ingold effects, on tautomeric equilibria and rates of anomerization for deoxygenated and alkylated furanoses, 21
- Transformation of aldoses into glycosylamine 1,2-(cyclic carbanates) by reaction with potassium cyanata, 155
- α,α-Trehalose glycosidic linkage, characterisation by infrared and Raman spectroscopy in the C-H stretching region, I
- Tri-O-benzyl-arabino- and -ribo-furanoses, convenient syntheses of 2,3,5-, *via* their allyl glycosides, 319
- Use of N-acetylglucosaminyltransferases I and II in the preparative synthesis of oligosaccharides, 145
- Vibrational Raman optical activity of carbohydrates, 39
- X-Ray analysis of the structure of bergenin, 71 Xylobioside, nuclear Overhauser effects and the flexibility of methyl  $\beta$ -, 13