

# CARBOHYDRATE RESEARCH, VOL. 192 (1989)

## SUBJECT INDEX

- Aggregation of cyanine dyes, effect of cyclomalto-oligosaccharides on the lifetimes of the photoisomers and the states of, 197
- Alkylation of cyclomalto-oligosaccharides (cyclodextrins) with dialkyl sulfate-barium hydroxide, 167
- Amino acids, thermodynamics of the interaction of cyclomaltohexaose in water at 25° with, 331
- Aromatic carboxylic acids, complexation of, with heptakis(2,6-di-*O*-methyl)cyclomaltoheptaose in chloroform and water, 147
- Aromatic compounds, complexation of, with cyclomaltoheptaose-containing polymers, hydroxyethylcyclomaltoheptaose, and cyclomaltoheptaose, 283
- Binding of transition states by cyclomalto-oligosaccharides, 181
- Branched cyclomalto-oligosaccharides, production and some properties of, 223
- Branched thiocyclomalto-oligosaccharides: synthesis and properties of 6-*S*- $\alpha$ - and 6-*S*- $\beta$ -D-glucopyranosyl-6-thiocyclomaltoheptaose, 251
- Carboplatin and rhodium complexes, second-sphere co-ordination of, by cyclomalto-oligosaccharides, 259
- O*-Carboxymethyl-*O*-ethyl cyclomaltoheptaose as a delayed-release-type drug carrier: improvement of the oral bioavailability of diltiazem in the dog, 323
- Cesium-133 nuclear magnetic resonance study of cyclogentiotetraose peracetate-cesium picrate complexation in non-aqueous solvents, 343
- Citrobacter PCM* 187 Lipopolysaccharide, synthesis of a trisaccharide of the inner core region that contains L-glycero- $\alpha$ -D-mannoheptopyranosyl units, c1
- Comparative studies of the ability of cyclodextrins to form inclusion complexes with isomers of some hydrocarbons under g.l.c. conditions, 243
- Complex of the drug iloprost with cyclomaltoheptaose ( $\beta$ -cyclodextrin), crystal structure of the, 43
- Complex formation of cyclomalto-octaose with tetrabromophenolphthalein and some related compounds, 103
- Complexation in non-aqueous solvents, cesium-133 nuclear magnetic resonance study of cyclogentiotetraose peracetate-cesium picrate, 343
- Complexation of aromatic carboxylic acids with heptakis (2,6-di-*O*-methyl)cyclomaltoheptaose in chloroform and water, 147
- Complexation of aromatic compounds with, and their release from, cyclomaltoheptaose-containing polymers, hydroxyethylcyclomaltoheptaose, and cyclomaltoheptaose, 283
- Complexation of single- and double-chain surfactants by cyclomalto-oligosaccharides, 357
- Complexes of cyclomaltoheptaose with aromatic diazo compounds, formation and reactions of, 119
- Complexes with azo dyes, molecular dynamics of derivatives of cyclomalto-oligosaccharides and their, 61
- Crystal structure of (cyclomaltoheptaose)<sub>2</sub>-iloprost·20.5 H<sub>2</sub>O, 43
- Crystal structure of the inclusion complex of hexakis(2,6-di-*O*-methyl)cyclomaltohexaose with 3-iodopropionic acid, 33
- Cyanine dye-cyclomalto-oligosaccharide systems, enhanced dimerization of the dye and shortening of the lifetime of the photoisomer in, 197
- $\alpha$ -Cyclodextrin, host-guest complexation of 6-deoxy-6-(1-pyridinio) derivatives of, with inorganic anions in aqueous solution, 91
- Cyclodextrins, a century of (preface), x
- Cyclodextrins, comparative studies of the ability of isomers of some hydrocarbons to form inclusion complexes with, under g.l.c. conditions, 243
- Cyclodextrins (cyclomalto-oligosaccharides), regioselective cleavage of di- and poly-ribonucleotides induced by, 97
- Cyclodextrins, docking calculations on the complexing of ferrocenes with, using molecular mechanics, 17
- Cyclogentiotetraose peracetate-cesium picrate complexation in non-aqueous solvents, cesium-133 nuclear magnetic resonance study of, 343
- Cycloinulo-oligosaccharide from inulin by an extracellular enzyme of *Bacillus circulans* OKUMZ 31B, formation of a, 83

- Cyclomaltoheptaose, complexation of aromatic carboxylic acids with heptakis(2,6-di-*O*-methyl)-, in chloroform and water, 147
- Cyclomaltoheptaose-containing polymers, hydroxyethylcyclomaltoheptaose, and cyclomaltoheptaose, complexation of aromatic compounds with, and their release from, 283
- Cyclomaltoheptaose ( $\beta$ -cyclodextrin), formation and reactions of complexes of aromatic diazo compounds with, 119
- Cyclomaltoheptaose ( $\beta$ -cyclodextrin), 2-hydroxy-3-trimethylammoniopropyl derivatives of, as phase-transfer catalysts, 215
- Cyclomaltoheptaose ( $\beta$ -cyclodextrin), isolation and characterization of heptakis(2,6-di-*O*-methyl)-, and over-methylated homologues, 159
- Cyclomaltoheptaoses, determination of the patterns of substitution of hydroxyethyl- and hydroxypropyl-, 233
- (Cyclomaltoheptaose)<sub>2</sub> · iloprost · 20.5 H<sub>2</sub>O, crystal structure of, 43
- Cyclomaltoheptaose, synthesis of an active derivative of, for the hydrolysis of esters and the formation of amide bonds, 111
- Cyclomaltoheptaose, synthesis of octakis(6-*O*-*tert*-butyldimethylsilyl)cyclomalto-octaose and heptakis(6-*O*-*tert*-butyldimethylsilyl)-, 366
- Cyclomaltoheptaose, the effect on spironolactone of its inclusion in, 313
- Cyclomaltoheptaose, use of *O*-carboxymethyl-*O*-ethyl-, as a delayed-release-type drug carrier, 323
- Cyclomaltohexaose, a <sup>2</sup>H- and <sup>19</sup>F-n.m.r. study of the inclusion of the enantiomers of *N*-tri-fluoroacetyl-phenylalanine and -4-fluoro-phenylalanine by, 9
- Cyclomannohexaose (a *manno* isomer of cyclomaltohexaose), a highly stereoselective and practical synthesis of, 131
- Cyclomalto-hexaose and -heptaose, inclusion reactions of some phthalein and sulphophthalein compounds with, 291
- Cyclomalto-hexaose and -heptaose, n.m.r. and dielectric studies of molecular motion in solid *p*-nitrophenol inclusion compounds of, 69
- Cyclomaltohexaose ( $\alpha$ -cyclodextrin) as the mobile phase in liquid chromatography, optical resolution of ferrocene derivatives using aqueous, 1
- Cyclomaltohexaose, thermodynamics of the interaction in water at 25° of some amino acids with, 331
- Cyclomalto-octaose, complex formation of, with tetrabromophenolphthalein and some related compounds, 103
- Cyclomalto-octaose, exciton-coupling, intramolecular self-complexation, and host-guest complex formation of 6<sup>A</sup>,6<sup>X</sup>-bis(anthracene-9-carbonyl) derivatives of, 173
- Cyclomalto-oligosaccharides and their complexes with azo dyes, molecular dynamics of derivatives of, 61
- Cyclomalto-oligosaccharides as chiral stationary phases, enantioselective gas chromatography with modified, 51
- Cyclomalto-oligosaccharides (cyclodextrins), alkylation of, with dialkyl sulfate-barium hydroxide, 167
- Cyclomalto-oligosaccharides, complexation of single- and double-chain surfactants by, 357
- Cyclomalto-oligosaccharides, effect of, on the states of aggregation and the lifetimes of the photoisomers of cyanine dyes, 197
- Cyclomalto-oligosaccharides, production and some properties of branched, 223
- Cyclomalto-oligosaccharides, second-sphere coordination of carboplatin and rhodium complexes by, 259
- Cyclomalto-oligosaccharides, the binding of transition states by, 181
- Delayed-release-type drug carrier, use of *O*-carboxymethyl-*O*-ethylcyclomaltoheptaose as a, 323
- Determination of the patterns of substitution of hydroxyethyl- and hydroxypropyl-cyclomaltoheptaoses, 233
- Dialkyl sulfate-barium hydroxide, alkylation of cyclomalto-oligosaccharides (cyclodextrins) with, 167
- Di- and poly-ribonucleotides, regioselective cleavage of, induced by cyclodextrins, 97
- Diazo compounds, formation and reactions of complexes of cyclomaltoheptaose with aromatic, 119
- Enantioselective gas chromatography with modified cyclomalto-oligosaccharides as chiral stationary phases, 51
- Enantioselective reduction of ketones in inclusion complexes with cyclomaltoheptaose in the solid state: acceleration of the reaction by ultrasound, 363
- Exciton-coupling, intramolecular self-complexation, and host-guest complex formation of 6<sup>A</sup>6<sup>X</sup>-bis (anthracene-9-carbonyl) derivatives of cyclomalto-octaose, 173
- Exploration of cyclodextrin chemistry with molecular mechanics: docking calculations on the complexing of ferrocenes with cyclodextrins, 17

- Ferrocene derivatives, optical resolution of, using aqueous cyclomaltohexaose as the mobile phase in liquid chromatography, 1
- Ferrocenes, docking calculations on the complexing of cyclodextrins with, using molecular mechanics, 17
- Formation of a cycloinulo-oligosaccharide from inulin by an extracellular enzyme of *Bacillus circulans* OKUMZ 31B, 83
- Formation of pyrene: cyclomalto-oligosaccharide complexes in the presence of non-ionic surfactants, 305
- Gas chromatography with modified cyclomalto-oligosaccharides as chiral stationary phases, enantioselective, 51
- Heptakis(2,6-di-*O*-methyl)cyclomaltoheptaose and over-methylated homologues, isolation and characterization of, 159
- L-glycero- $\alpha$ -D-manno-Heptopyranosyl unit-containing trisaccharide of the inner core region of *Citrobacter PCM* 187 lipopolysaccharide, synthesis, c1
- Host-guest complex formation of 6<sup>A</sup>6<sup>X</sup>-bis(anthracene-9-carbonyl) derivatives of cyclomalto-octaose, exciton-coupling, intramolecular self-complexation and, 173
- Iost-guest complexation of 6-deoxy-6-(1-pyridinio) derivatives of  $\alpha$ -cyclodextrin (cyclomaltohexaose) with inorganic anions in aqueous solution, 91
- Hydrolysis of esters and the formation of amide bonds, synthesis of an active derivative of cyclomaltoheptaose for the, 111
- 2-Hydroxy-3-trimethylammoniopropyl derivatives of cyclomaltoheptaose as phase-transfer catalysts, 215
- Hydroxyethyl- and hydroxypropyl-cyclomaltoheptaoses, determination of the patterns of substitution of, 233
- Inclusion complex of hexakis(2,6-di-*O*-methyl)cyclomaltohexaose with 3-iodopropionic acid, crystal structure of the, 33
- Inclusion complexes with cyclomaltoheptaose in the solid state, acceleration by ultrasound of the enantioselective reduction of ketones in, 363
- Inclusion complexes with isomers of some hydrocarbons under g.l.c. conditions, comparative studies of the ability of cyclodextrins to form, 243
- Inclusion compounds in water: thermodynamics of the interaction of cyclomaltohexaose with amino acids at 25°, 331
- Inclusion of spironolactone in cyclomaltoheptaose: a guest molecule affected by the hospitality of the host, 313
- Inclusion of the enantiomers of *N*-tri-fluoroacetyl-4-fluorophenylalanine and *N*-tri-fluoroacetylphenylalanine by cyclomaltohexaose: a <sup>2</sup>H- and <sup>19</sup>F-n.m.r. study, 9
- Inclusion reactions of some phthalein and sulphophthalein compounds with cyclomaltohexaose and -heptaose, 291
- Interaction of nitroglycerin with 6-*O*- $\alpha$ -maltosyl-cyclomaltoheptaose, 351
- Inulin, formation of a cycloinulo-oligosaccharide from, by an extracellular enzyme of *Bacillus circulans* OKUMZ 31B, enzymic, 83
- 3-Iodopropionic acid, crystal structure of the inclusion complex of hexakis(2,6-di-*O*-methyl)cyclomaltohexaose with, 33
- Isolation and characterization of heptakis(2,6-di-*O*-methyl)cyclomaltoheptaose and over-methylated homologues, 159
- Maltosylcyclomaltoheptaose, interaction of nitroglycerin with 6-*O*- $\alpha$ -, 351
- Molecular dynamics of derivatives of cyclomalto-oligosaccharides and their complexes with azo dyes, 61
- Molecular motion in solid *p*-nitrophenol inclusion compounds of cyclomalto-hexaose and -heptaose; n.m.r. and dielectric studies, 69
- Nitroglycerin, interaction of 6-*O*- $\alpha$ -maltosyl-cyclomaltoheptaose with, 351
- p*-Nitrophenol inclusion compounds of cyclomalto-hexaose and -heptaose, n.m.r. and dielectric studies of molecular motion in solid, 69
- Optical resolution of ferrocene derivatives by liquid chromatography using aqueous cyclomaltohexaose as the mobile phase and polyamide as the stationary phase, 1
- Phase-transfercatalysts, 2-hydroxy-3-trimethylammoniopropyl derivatives of cyclomaltoheptaose as, 215
- Phthalein and sulphophthalein compounds, inclusion reactions of cyclomalto-hexaose and -heptaose with some, 291
- Porphyrin, direct synthesis of a sandwich-type molecule involving two molecules of cyclomaltoheptaose and, 347
- Production and some properties of branched cyclomalto-oligosaccharides, 223

- Pyrene: cyclomalto-oligosaccharide complexes in the presence of non-ionic surfactants, the formation of, 305
- 6-(1-Pyridinio) derivatives of  $\alpha$ -cyclodextrin, host-guest complexation of 6-deoxy-, with inorganic anions in aqueous solution, 91
- Regioselective cleavage of di- and poly-ribonucleotides induced by cyclodextrins, 97
- Sandwich-type molecule involving porphyrin and two molecules of cyclomaltoheptaose, direct synthesis of a, 347
- Second-sphere co-ordination of carboplatin and rhodium complexes by cyclomalto-oligosaccharides, 259
- Spirolactone, the effect of inclusion in cyclomaltoheptaose on, 313
- Stereoselective and practical synthesis of cyclomannohexaose (a *manno* isomer of cyclomaltohexaose), a highly, 131
- Surfactants, complexation by cyclomalto-oligosaccharides of single- and double-chain, 357
- Surfactants, the formation of pyrene: cyclomalto-oligosaccharide complexes in the presence of non-ionic, 305
- Synthesis and properties of 6-*S*- $\alpha$ - and 6-*S*- $\beta$ -D-glucopyranosyl-6-thiocyclomaltoheptaose, 251
- Synthesis of a sandwich-type molecule involving porphyrin and two molecules of cyclomaltoheptaose, direct, 347
- Synthesis of an active derivative of cyclomaltoheptaose for the hydrolysis of esters and the formation of amide bonds, 111
- Synthesis of cyclomannohexaose (a *manno* isomer of cyclomaltohexaose), a highly stereoselective and practical, 131
- Synthesis of heptakis(6-*O*-*tert*-butyldimethylsilyl)cyclomaltoheptaose and octakis(6-*O*-*tert*-butyldimethylsilyl)cyclomalto-octaose, 366
- Tetrabromophenolphthalein and some related compounds, complex formation of cyclomalto-octaose with, 103
- 6-Thiocyclomaltoheptaose, synthesis and properties of 6-*S*- $\alpha$ - and 6-*S*- $\beta$ -D-glucopyranosyl-, 251
- Transition states, the binding by cyclomalto-oligosaccharides of, 181
- N*-Trifluoroacetyl-4-fluorophenylalanine and -phenylalanine, a  $^2\text{H}$ - and  $^{19}\text{F}$ -n.m.r. study of the inclusion by cyclomaltohexaose of the enantiomers of, 9
- Trisaccharide of the inner core region of *Citrobacter PCM* 187 lipopolysaccharide that contains L-glyco- $\alpha$ -D-manno-heptopyranosyl units, synthesis, C1
- Ultrasound, acceleration of the enantioselective reduction of ketones in inclusion complexes with cyclomaltoheptaose in the solid state by, 363