

Contents of Volume 331

iii Graphical Abstracts

Full Papers

Bing Li, Biao Yu, Yongzheng Hui (Shanghai, People's Republic of China), Ming Li, Xiuwen Han (Dalian, People's Republic of China), Kwok-Pui Fung (Hong Kong, People's Republic of China)

- 1 An improved synthesis of the saponin, polyphyllin D

Li Kunlan, Xia Lixin, Li Jun, Pang Jun, Cao Guoying, Xi Zuwei (Dalian, People's Republic of China)

- 9 Salt-assisted acid hydrolysis of starch to D-glucose under microwave irradiation

Soo-Bok Lee, Kwan-Hwa Park, John F. Robyt (Ames, IA, USA)

- 13 Inhibition of β -glycosidases by acarbose analogues containing cellobiose and lactose structures

Kathryn J. Steadman, David J. Fuller, Ralph L. Obendorf (Ithaca, NY, USA)

- 19 Purification and molecular structure of two digalactosyl D-*chiro*-inositols and two trigalactosyl D-*chiro*-inositols from buckwheat seeds

José M. Estevez, Marina Cíancía, Alberto S. Cerezo (Buenos Aires, Argentina)

- 27 DL-Galactan hybrids and agarans from gametophytes of the red seaweed, *Gymnogongrus torulosus*

Hanno Baumann, Volker Faust (Aachen, Germany)

- 43 Concepts for improved regioselective placement of *O*-sulfo, *N*-sulfo, *N*-acetyl, and *N*-carboxymethyl groups in chitosan derivatives

Byung Yun Yang, John Brand, Rex Montgomery (Iowa City, IA, USA)

- 59 Pyruvated galactose and oligosaccharides from *Erwinia chrysanthemi* Ech6 extracellular polysaccharide

Dafang Zhong, Duanyun Si (Shenyang, People's Republic of China), Wenyi He (Beijing, People's Republic of China), Limei Zhao (Shenyang, People's Republic of China), Qinmin Xu (Shijiazhuang, People's Republic of China)

- 69 Structural revision of isovalertatins M03, M13, and M23 isolated from the culture of *Streptomyces luteogriseus*

Notes

Natsu Nishimura, Ai Kato, Isamu Maeba (Nagoya, Japan)

- 77 Synthesis of pyrrolo[2,1-*f*][1,2,4]triazine *C*-nucleosides. Isosteres of sangivamycin, tubercidin, and toyocamycin

Yoshio Saito, Agnès Nyilas, Luigi A. Agrofoglio (Orléans, France)

- 83 Synthesis of isotopically labeled D-[1'-¹³C]ribonucleoside phosphoramidites

Jörgen Ohlsson, Göran Magnusson (Lund, Sweden)

- 91 A short and practical route to 3-*O*-benzoyl azidosphingosine

Xuemei Peng, Gengyuan Tian (Shanghai, People's Republic of China)

- 95 Structural characterization of the glycan part of glycoconjugate LbGp2 from *Lycium barbarum* L.

Svein H. Knutsen, Marit Sletmoen, Trond Kristensen (Ås, Norway), Tristan Barbeyron, Bernard Kloareg, Philippe Potin (Roscoff, France)

- 101 A rapid method for the separation and analysis of carrageenan oligosaccharides released by *iota*- and *kappa*-carrageenase

iii Graphical Abstracts

Full Papers

Dominique Lafont, Barbara Gross, Rene Kleinegesse, Fabienne Dumoulin, Paul Boullanger (Villeurbanne, France)

- 107 Syntheses of neoglycolipids with hexitol spacers between the saccharidic and the lipidic parts

- Makoto Hashimoto** (Bath, UK), **Yasumaru Hatanaka** (Toyama, Japan), **Jing Yang, Jaswant Dhesi, Geoffrey D. Holman** (Bath, UK) 119 Synthesis of biotinylated bis(D-glucose) derivatives for glucose transporter photoaffinity labelling
- Mohamed R.E. Aly, El-Sayed I. Ibrahim, El Sayed H. El Ashry, Richard R. Schmidt** (Konstanz, Germany) 129 Synthesis of chitotetraose and chitohexaose based on dimethylmaleoyl protection
- Lucie Hušáková** (Prague, Czech Republic), **Sergio Riva, Monica Casali, Silvia Nicotra** (Milan, Italy), **Marek Kuzma, Zdenka Huňková, Vladimír Křen** (Prague, Czech Republic) 143 Enzymatic glycosylation using 6-O-acylated sugar donors and acceptors: β -N-acetylhexosaminidase-catalysed synthesis of 6-O,N,N'-triacetylchitobiose and 6'-O,N,N'-triacetylchitobiose
- John Thompson, Stanley A. Robrish** (Bethesda MD, USA), **Andreas Pikis** (Bethesda MD, Washington DC, USA), **Andreas Brust, Frieder W. Lichtenthaler** (Darmstadt, Germany) 149 Phosphorylation and metabolism of sucrose and its five linkage-isomeric α -D-glucosyl-D-fructoses by *Klebsiella pneumoniae*
- Frank Schmid** (Bendigo, Australia), **Bruce A. Stone** (Bundoora, Australia), **Barbara M. McDougall** (Bendigo, Australia), **Antony Bacic** (Melbourne, Australia), **Kirstee L. Martin** (Bendigo, Australia), **Robert T.C. Brownlee** (Bundoora, Australia), **Eugene Chai** (Melbourne, Australia), **Robert J. Seviour** (Bendigo, Australia) 163 Structure of epiglucan, a highly side-chain/branched (1 $\rightarrow$ 3;1 $\rightarrow$ 6)- β -glucan from the micro fungus *Epicoccum nigrum* Ehrenb. ex Schlecht
- Elisabeth J. Faber, Mischa J. van den Haak, Johannis P. Kamerling, Johannes F.G. Vliegthart** (Utrecht, The Netherlands) 173 Structure of the exopolysaccharide produced by *Streptococcus thermophilus* S3
- Elisabeth J. Faber, Johannis P. Kamerling, Johannes F.G. Vliegthart** (Utrecht, The Netherlands) 183 Structure of the extracellular polysaccharide produced by *Lactobacillus delbrueckii* subsp. *bulgaricus* 291
- Andrei V. Perepelov** (Moscow, Russia), **Dorota Babicka** (Łódź, Poland), **Sof'ya N. Senchenkova, Alexander S. Shashkov** (Moscow, Russia), **Hermann Moll** (Borstel, Germany), **Antoni Rozalski** (Łódź, Poland), **Ulrich Zähringer** (Borstel, Germany), **Yuriy A. Knirel** (Moscow, Russia) 195 Structure of the O-specific polysaccharide of *Proteus vulgaris* O4 containing a new component of bacterial polysaccharides, 4,6-dideoxy-4-{N-[(R)-3-hydroxybutyryl]-L-alanyl}amino-D-glucose
- Christian Mähner, Manfred Dieter Lechner, Eckhard Nordmeier** (Osnabrück, Germany) 203 Synthesis and characterisation of dextran and pullulan sulphate
- Notes**
- Carmela Borriello, Augusto De Renzi, Maria Fusto, Antonio Molinaro, Francesco Ruffo** (Naples, Italy) 209 Transition metals and carbohydrates: the methyl-4,6-O-benzylidene-2,3-dideoxy- α -D-mannopyranoside skeleton as building block for new chiral nitrogen chelates
- Filip V. Toukach, Nikolay P. Arbatsky, Alexander S. Shashkov, Yuriy A. Knirel** (Moscow, Russia), **Krystyna Zych, Zygmunt Sidorczyk** (Łódź, Poland) 213 Structure of the O-specific polysaccharide of *Proteus mirabilis* O16 containing ethanolamine phosphate and ribitol phosphate
- Sof'ya N. Senchenkova** (Huddinge, Sweden; Moscow, Russia), **George V. Zatonsky** (Moscow, Russia), **Sean O. Hynes** (Galway, Ireland), **Göran Widmalm** (Stockholm, Sweden), **Leif P. Andersen** (Copenhagen, Denmark), **Yuriy A. Knirel** (Huddinge, Sweden; Moscow, Russia), **Per-Erik Jansson** (Huddinge, Sweden), **Anthony P. Moran** (Galway, Ireland) 219 Structure of a D-glycero-D-manno-heptan from the lipopolysaccharide of *Helicobacter pylori*
- D.H. Huang, J.M. Risley** (Charlotte NC, USA) 225 Corrigendum
- Bruce Coxon** (Gaithersburg, MD, USA) 227 Erratum
- iii Graphical Abstracts
- Rapid Communications**
- Hong-Min Liu, Wen Xu, Zhen-Zhong Liu** (Zhengzhou, People's Republic of China) 229 A new synthetic method for preparing indole derivatives from 2-keto glycosides

- Yury E. Tsvetkov (Moscow, Russian Federation; Borstel, Germany), Alexander S. Shashkov (Moscow, Russian Federation), Yuriy A. Knirel (Moscow, Russian Federation; Borstel, Germany), Ulrich Zähringer (Borstel, Germany) 233 Synthesis and identification in bacterial lipopolysaccharides of 5,7-diacetamido-3,5,7,9-tetradecoxy-D-glycero-D-galacto- and -D-glycero-D-talo-non-2-ulosonic acids

Full Papers

- Sigthór Pétursson (Akureyri, Iceland) 239 New evidence for the mechanism of the tin(II) chloride catalyzed reactions of vicinal diols with diazodiphenylmethane in 1,2-dimethoxyethane
- Louis J. Liotta, Rita D. Capotosto, Rachel A. Garbitt, Brian M. Horan, Pamela J. Kelly, Andrew P. Koleris, Lisa M. Brouillette, Amy M. Kuhn, Sonia Targontsidis (Easton, MA, USA) 247 Synthesis of methyl α -D-glucopyranosyl-(1 $\rightarrow$ 4)- α -D-galactopyranoside and methyl α -D-xylo-hex-4-ulopyranosyl-(1 $\rightarrow$ 4)- α -D-galactopyranoside
- Teddy Ercegovic, Ulf J. Nilsson, Göran Magnusson (Lund, Sweden) 255 A study of the donor properties of sialyl phosphites having an auxiliary 3-(S)-phenylseleno group
- Sandra Diltz, Samuel G. Zeller (San Diego, CA, USA) 265 Location of O-acetyl groups in S-657 using the reductive-cleavage method
- Fred van de Velde, Heleen A. Peppelman (Wageningen, Zeist, The Netherlands), Harry S. Rollema (Ede, The Netherlands), R. Hans Tromp (Wageningen, Ede, The Netherlands) 271 On the structure of κ /I-hybrid carrageenans
- Sofia Gulin, Anders Kussak, Per-Erik Jansson (Huddinge, Sweden), Göran Widmalm (Stockholm, Sweden) 285 Structural studies of S-7, another exocellular polysaccharide containing 2-deoxy-arabino-hexuronic acid
- Roswitha Schröder (Auckland, New Zealand), Pierre Nicolas, Sébastien J.F. Vincent, Monica Fischer, Sylviane Reymond, Robert J. Redgwell (Lausanne, Switzerland) 291 Purification and characterisation of a galactoglucomannan from kiwifruit (*Actinidia deliciosa*)
- Oliver Gronwald, Kazuo Sakurai, Roman Luboradzki, Taro Kimura, Seiji Shinkai (Fukuoka, Japan) 307 Further evidence for the gelation ability–structure correlation in sugar-based gelators
- Charles R. Ojala, Joanne M. Ostman (Bloomington, MN, USA), William H. Ojala, Summer E. Hanson (St. Paul, MN, USA) 319 Molecular and crystal structures of N-arylglycopyranosylamines formed by reaction between sulfanilamide and D-ribose, D-arabinose and D-mannose

Notes

- Serge David (Orsay, France) 327 The anomalous reactivity of the bis(dibutylstannylene) acetal of pentaerythritol: a case of triple activation
- Joanna Kübler-Kiełb (Wrocław, Poland), George V. Zatonsky (Moscow, Russian Federation), Ewa Katzenellenbogen (Wrocław, Poland), Nina A. Kocharova (Moscow, Russian Federation), Bernadeta Szostko, Andrzej Gamian (Wrocław, Poland), Aleksander S. Shashkov, Yuriy A. Knirel (Moscow, Russian Federation) 331 Structure of the O-specific polysaccharide isolated from the lipopolysaccharide of *Citrobacter gillenii* serotype O12a,12b strain PCM 1544
- Andrew N. Round, Neil M. Rigby, Alistair J. MacDougall, Steven G. Ring, Victor J. Morris (Norwich, UK) 337 Investigating the nature of branching in pectin by atomic force microscopy and carbohydrate analysis
- Eugenia Skorupowa, Maria Kurszewska, Antoni Konitz, Wiesław Wojnowski, Andrzej Wiśniewski (Gdańsk, Poland) 343 Preparation, single-crystal X-ray diffraction and high-resolution NMR spectroscopic analyses of N-(2,3,4,6-tetra-O-acetyl- β -D-glucopyranosyl)trimethylammonium bromide

iii Graphical Abstracts

Perspective

- Edward J. Hehre (Bronx, NY, USA) 347 Glycosyl transfer: a history of the concept's development and view of its major contributions to biochemistry

Full Papers

- Shang-Cheng Hung, Shankar R. Thopate, Ramachandra Puranik (Taipei, Taiwan, ROC)** 369 Synthesis of 6-deoxy-L-idose and L-acovenose from 1,2:5,6-di-*O*-isopropylidene- α -D-glucofuranose
- Christine H. Jaworek, Sarah Iacobucci, Pericles Calias, Marc d'Alarcao (Medford, MA, USA)** 375 Synthesis of inositol glycan cyclic phosphates
- Heide Kogelberg, Wengang Chai, Ten Feizi, Alexander M. Lawson (Middlesex, UK)** 393 NMR studies of mannitol-terminating oligosaccharides derived by reductive alkaline hydrolysis from brain glycoproteins
- Martha A. Argüello Morales, Magali Remaud-Simeon, René-Marc Willemot (Toulouse, France), Michel R. Vignon (Grenoble, France), Pierre Monsan (Toulouse, France)** 403 Novel oligosaccharides synthesized from sucrose donor and cellobiose acceptor by alternansucrase
- Valerie M. Marshall, Helen Dunn, Mark Elvin, Neil McLay, Yucheng Gu, Andrew P. Laws (Huddersfield, UK)** 413 Structural characterisation of the exopolysaccharide produced by *Streptococcus thermophilus* EU20
- Toshihiro Ishiguro, Takako Fuse, Masahide Oka, Takashi Kurasawa, Masanari Nakamichi, Yoshihiro Yasumura, Masahiko Tsuda, Takamasa Yamaguchi, Ikuo Nogami (Osaka, Japan)** 423 Synthesis of branched cyclomaltooligosaccharide carboxylic acids (cyclodextrin carboxylic acids) by microbial oxidation
- Linsen Heng, Jun Ning, Fanzuo Kong (Beijing, People's Republic of China)** 431 Facile synthesis of a comb-like mannohexaose: a trimer of the disaccharide repeating unit of the cell-wall mannans of *Aphanoascus mephitatus* and related species
- Notes**
- Jerry J. Kaylor, John M. Risley (Charlotte, NC, USA)** 439 Synthesis of *N*⁴-(2-acetamido-2-deoxy- β -D-glucopyranosyl)-L-asparagine analogues. *n*-Butyramide, 3-chloropropionamide, 3-aminopropionamide, and isovaleramide analogues
- Ahmed I. Khodair (Kafr El-Sheikh, Egypt)** 445 Glycosylation of 2-thiohydantoin derivatives. Synthesis of some novel S-alkylated and S-glucosylated hydantoins
- Yasuhiro Kajihara, Toshimi Kamitani, Tohru Sakakibara (Yokohama, Japan)** 455 A new fluorescent assay for sialyltransferase
- Bruce Coxon (Bethesda MD, Gaithersburg MD, USA), Robert C. Reynolds (Gaithersburg MD, USA)** 461 Boat conformations: Synthesis, NMR spectroscopy, and molecular dynamics of methyl 4,6-*O*-benzylidene-3-deoxy-3-phthalimido- α -D-altropyranoside derivatives
- 469 Author Index of Volume 331
- 471 Subject Index of Volume 331
- 479 Contents of Volume 331