

BIBLIOGRAPHY ON CARBOHYDRATE POLYMERS

1 Books, Reviews and Symposia

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Fuwa H//Fukuyama Univ, Dept Food Sci & Technol, Higashi Mura cho, Fukuyama 72902, Japan
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Characteristics of starch and related oligosaccharides (Japanese, English Abstract)(Review)

2 Cellulose

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Akbarov KI//VI Lenin State Univ, Tashkent, Uzbekistan, USSR
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Alinec B//Pulp & Paper Res Inst Canada, 3420 Univ St, Montreal, Quebec, Canada H3A 2A7
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Alves SS, Figueiredo JL//Inst Nacl Invest Cientif, Fac Engr, Ctr Engr Quim, P-4099 Oporto, Portugal
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Comfort AR, Albert EC, Langer R**MIT,

As a service to subscribers, each issue of the Journal contains a bibliography of newly published material in the field of carbohydrate polymers. The bibliography is divided into ten sections: 1 Books, Reviews and Symposia; 2 Cellulose; 3 Cellulose-degrading Enzymes; 4 Cyclodextrins; 5 Lignin; 6 Polysaccharides - Named; 7 Polysaccharides - Other; 8 Lipopolysaccharides; 9 Starch; 10 Starch-degrading Enzymes. Within each section, articles are listed in alphabetical order with respect to the subject. When there are no publications to appear under one of these headings, that section will be omitted.

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Omorodion SNE, Hamielec AE//Univ Benin, Dept Chem Engn, Benin City, Nigeria

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Matsumoto A, Nakajima T*, Matsuda K//Tohoku Univ, Fac Agr, Dept Agr Chem, Aoba ku, Sendai, Miyagi 981, Japan

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Ockelford PA, Patterson J, Johns AS//Univ Auckland, Sch Med, Dept Immunobiol, Haematol Sect, Auckland, New Zealand

THROMB HAEMOST 1989, 62 (4) 1046

A double-blind randomized placebo controlled trial of thromboprophylaxis in major elective general surgery using once daily injections of a low molecular weight heparin fragment (Fragmin)

Pezzuoli G, Sernerri GGN, Settembrini P, Coggi G, Olivari N, Buzzetti G, Chierichetti S, Scotti A, Scatigna M, Carnovali M//Osped Policlin, Chirurg Clin 1, via Francesco Sforza 35, I-20122 Milan, Italy

INT SURG 1989, 74 (4) 205

Prophylaxis of fatal pulmonary embolism in general surgery using low-molecular weight heparin Cy 216 - A multicentre, double-blind, randomized, controlled, clinical trial versus placebo (STEP)

Ernst M//Univ Hohenheim, Inst Obst Gemuse & Weinbau 370, D-7000 Stuttgart 70, Fed Rep Ger

GARTENBAUWISSENSCHAFT 1989, 54 (6) 249

Inulin in vegetable plants of the Compositae family (German, English Abstract)

Fujita K, Hara K, Hashimoto H, Kitahata S//Osaka Municipal Tech Res Inst, 1-6-50 Morinomiya, Jyoto ku, Osaka 536, Japan

J JPN SOC FOOD SCI TECHNOL 1989, 36 (11) 910

Studies on production of xylosylfructoside by levansucrase (Japanese, English Abstract)

Al-Bassam R, Bonaly R//Genet Engr & Biotechnol Res Ctr, Sci Res Council, POB 2250, Baghdad, Iraq

MIRCEN J APPL MICROBIOL 1989, 5 (3) 363

Isolément et structure comparée d'un phosphopeptido-mannane superficiel de la paroi de *Saccharomyces cerevisiae* (souche sauvage et mutant)

Hounsell EF, Lawson AM, Stoll MS, Kane DP, Cashmore GC, Carruthers RA, Feeney J, Feizi T//MRC, Clin Res Ctr, Glycoconjugate Res Sect, Watford Rd, Harrow HA1 3UJ, Middlesex, England

EUR J BIOCHEM 1989, 186 (3) 597

Characterisation by mass spectrometry and 500-MHz proton nuclear magnetic resonance spectroscopy of penta- and hexasaccharide chains of human foetal gastrointestinal mucins (meconium glycoproteins)

Baracat MC, Valentim C, Muchovej JJ, Silva DO*//Univ Fed Vicos, Dept Biol Geral, BR-36570 Vicos, MG, Brazil

BIOTECHNOL LETT 1989, 11 (12) 899

Selection of pectinolytic fungi for degumming of natural fibers

Beveridge T, Timbers GE//Agr Canada, Res Stn, Summerland, BC, Canada V0H 1Z0

J TEXTURE STUD 1989, 20 (3) 317

Small amplitude oscillatory testing (SAOT). Application to pectin gelation

Dang H-M, Dang V-L//Acad Sci Hanoi, Inst Polymer Chem, Hanoi, Vietnam

POLYM BULL 1989, 22 (5-6) 599

Optimization of pectin extraction from dried peel of *Citrus grandis*

Maldonado MC, Callieri DAS//Univ Nacl Tucuman, Fac Bioq Qca & Farm, Catedra Microbiol Ind, Unt Casilla Correo 90, Suc 2, RA-4000 Tucuman, Argentina

MIRCEN J APPL MICROBIOL 1989, 5 (3) 327

Influence of environmental conditions on the production of pectinesterase and polygalacturonase by *Aspergillus niger*

Matthew JA, Howson SJ, Keenan MHJ, Belton PS//AFRC Inst Food Res, Norwich Lab, Colney Lane, Norwich NR4 7UA, England

CARBOHYD POLYM 1990, 12 (3) 295

Improvement of the gelation properties of sugar-beet pectin following treatment with an enzyme

preparation derived from *Aspergillus niger* - Comparison with a chemical modification

Ollivier B, Garcia J-L*//Univ Aix Marseille 1, Microbiol Lab, Orstom, 3 Pl Victorhugo, F-13331 Marseille 3, France

CURR MICROBIOL 1990, 20 (2) 77

Thermophilic methanogenesis from pectin by a mixed defined bacterial culture

Saastamoinen M, Plaami S, Kumpulainen J//Agr Res Ctr, Inst Plant Breeding, SF-31600 Jokioinen, Finland

J CEREAL SCI 1989, 10 (3) 199

Pentosan and beta-glucan content of Finnish winter rye varieties as compared with rye of six other countries

Huber DJ, Lee JH//Univ Florida, Inst Food & Agr Sci, Dept Vegetable Crops, Gainesville, FL 32611, USA

J EXP BOT 1989, 40 (221) 1331

Polygalacturonase activity in ripening tomato fruit determined using pericarp discs

Rushing JW, Huber DJ//Clemson Univ, Ctr Coastal Res & Educ, 2865 Savannah Highway, Charleston, SC 29414, USA

J AMER SOC HORT SCI 1990, 115 (1) 97

Mobility limitations of bound polygalacturonase in isolated cell wall from tomato pericarp tissue

Servili M, Montedoro GF, Begliomini AL, Petruccioli M, Federici F//Univ Perugia, Ist Ind Agrarie, via S Costanzo, I-06100 Perugia, Italy

IND ALIMENT 1989, 28 (276) 1075

Use of endopolygalacturonase produced by *Cryptococcus albidus* var. *albidus* for olive oil extraction (Italian, English Abstract)

Kosma P, Waldstätten P, Daoud L, Schulz G, Unger FM//Agr Univ Vienna, Inst Chem, A-1180 Vienna, Austria

CARBOHYD RES 1989, 194 (DEC) 145

Synthesis of poly(acrylamide) copolymers containing 3,5-dideoxy-D-arabino-2-octulopyranosylonic acid (5-deoxy-Kdo) residues

Ryoyama K, Hori I, Ryoyama C, Umei T//Kanazawa Univ, Canc Res Inst, Dept Exptl Therapeut, 13-1 Takara machi, Kanazawa, Ishikawa 920, Japan

INT J IMMUNOPHARMACOL 1990, 12 (1) 37

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OK-432 on development of immune responses against a superimposed antigen

Gonzales R, Johns MR, Greenfield PF, Pace GW//Univ Queensland, Dept Chem Engr, St Lucia, Qld 4067, Australia

PROCESS BIOCHEM 1989, 24 (6) 200

Xanthan gum precipitation using ethanol

Millane RP, Narasiah TV//Whistler Ctr Carbohydr Res, Smith Hall, Purdue Univ, W Lafayette, IN 47907, USA

CARBOHYD POLYM 1990, 12 (3) 315

X-ray fiber diffraction studies of a variant of xanthan gum in which the sidechain terminal mannose unit is absent

Peters H-U, Herbst H, Hesselink PGM, Lunsdorf H, Schumpe A, Decker W-D//Gessell Biotechnol Forsch GmbH, Dept Biochem Engr, Natl Res Ctr Biotechnol, D-3300 Braunschweig, Fed Rep Ger

BIOTECHNOL BIOENG 1989, 34 (11) 1393

The influence of agitation rate on xanthan production by *Xanthomonas campestris*

Santore MM, Prud'homme RK//Dept Chem Engr, Princeton Univ, Princeton, NJ 08544, USA

CARBOHYD POLYM 1990, 12 (3) 329

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Kelly CT, O'Mahony MR, Fogarty WM//Natl Univ Ireland, Univ Coll Dublin, Dept Ind Microbiol, Dublin 4, Ireland

BIOTECHNOL LETT 1989, 11 (12) 885

Extracellular xylanolytic enzymes of *Paecilomyces varioti*

7 Polysaccharides - Other

Nashed EM, Glaudemans CPJ*//NIDDK, Bethesda, Md 20892, USA

J ORG CHEM 1989, 54 (26) 6116

Coupling reactions of O-(trimethylsilyl) glycosides and 6-O-(tert-butylidiphenylsilyl)-protected galactosides in the presence of trimethylsilyl tri-*n*-butylate. A new method of forming beta-(1-6)-oligosaccharidic linkages

Thielecke K, Lieker H-P, Paskach T//Tech Univ Brunswick, Inst Landwirtschaft Technol & Zuckerind, D-3300 Braunschweig, Fed Rep Ger

ZUCKERINDUSTRIE 1989, 114 (2) 953

Analytical determination of technically produced oligosaccharides by high-performance ion chromatography

Abeygunawardana C, Bush CA*, Cisar JO//*IIT, Dept Chem, Chicago, IL 60616, USA

BIOCHEMISTRY-USA 1990, 29 (1) 234

Complete structure of the polysaccharide from *Streptococcus sanguis* J22

Appanna VD//Laurentian Univ, Dept Chem, Ramsey Lake Rd, Sudbury, Ontario, Canada P3E 2C6

ANTON LEEUWENHOEK J MICROBIOL 1989, 56 (4) 357

Galactosyl residue in exopolysaccharide from *Rhizobium meliloti* JJ-1 exposed to manganese is furanoid

Bhattacharyya AK, Chakravorty NC//Maharaja Bir Bikram Coll, Dept Chem, Agartala 799004, Tripura, India

INDIAN J CHEM SECT A 1990, 29 (1) 32

Metachromatic interactions of dimethyl-methylene blue with some polyanionic polysaccharides

Chan L, Just G//*McGill Univ, Dept Chem, Montreal, Quebec, Canada H3A 2K6

TETRAHEDRON 1990, 46 (1) 151

Syntheses of oligomers of the capsular polysaccharide of the *Haemophilus influenzae* type b bacteria

Danilov LL, Druzhinina TN, Kalinchuk NA, Maltsev SD, Shibaev VN//ND Zelinskii Organ Chem Inst, Leninsky Prospect 47, Moscow 117913, USSR

CHEM PHYS LIPIDS 1989, 51 (3-4) 191

Polyprenol phosphates: Synthesis and structure-activity relationship for a biosynthetic system of *Salmonella anatum* O-specific polysaccharide

Dixon B//Address not available

BIO-TECHNOLOGY 1989, 7 (12) 1222

Cancer research - Polysaccharides to inhibit tumor growth

Dobashi K, Nishino T, Fujihara M, Nagumo T//*Kitasato Univ, Sch Hyg Sci, Dept Biophys, 1-15-1 Kitasato, Sagami-hara, Kanagawa 228, Japan

CARBOHYD RES 1989, 194 (DEC) 315

Isolation and preliminary characterization of fucose-containing sulfated polysaccharides with blood-anticoagulant activity from the brown seaweed *Hizikia fusiforme*

Eifuku H, Yoshimitsu-Narita A, Sato S, Yakushiji T, Inoue M//*Kagoshima Univ, Sch Dent, Dept Prevent Dent, Kagoshima 890, Japan

CARBOHYD RES 1989, 194 (DEC) 247

Production and partial characterization of the extracellular polysaccharides from oral *Streptococcus salivarius*

Jwanny EW, Rashad MM, Moharib SA//Natl Res Ctr Biochem, Cairo, Egypt

J BASIC MICROBIOL 1989, 29 (9) 581

Microbial biomass protein and polysaccharide production from vegetable processing wastes

Kovensky J, Covian JA, Fernandez Cirelli AF//Dept Quim Organ, Fac Ciencias Exact & Natural, Univ Buenos Aires, Pabellon II, Ciudad Univ, 1428 Buenos Aires, Argentina

CARBOHYD POLYM 1990, 12 (3) 307

A suitable method for a rapid estimation of sulphated positions in polysaccharides of pharmaceutical interest

Siraj-ul-Islam S, Pal JN*, Rao CVN//*Indian Assoc Cultivat Sci, Dept Biol Chem, Calcutta 7000032, W Bengal, India

INDIAN J CHEM SECT B 1989, 28 (12) 999

Structural studies of polysaccharide isolated from *Shigella dysenteriae* type-6 bacteria, strain NCTC-100/54

Tandavanitj S, Ishida S, Okutani K//Kagawa Univ, Fac Agr, Miki, Kagawa 76170, Japan

NIPPON SUISAN GAKKAISHI 1989, 55 (11) 2015

Isolation and characterization of an extracellular mucopolysaccharide produced by a marine strain of *Pseudomonas*

8 Lipopolysaccharides

Gamian A, Romanowska E*, Opferkuch HJ, Hauck M, Dabrowski J//*Ludwik Hirsfeld Inst Immunol & Exptl Therapy, UL Czerska 12, PL-53114 Wroclaw, Poland

EUR J BIOCHEM 1989, 186 (3) 611

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logical and structural study using chemical methods, gas chromatography/mass spectrometry and NMR spectroscopy at 500 MHz

Stukalova NV, Aleksakhina NN, Basnakyan IA//II Mechnikov Vaccine & Serum Inst, Moscow, USSR

ZH MIKROB EPIDEM IMMUN SSSR 1989, (12) 81

Common and specific properties of *Neisseria meningitidis* lipopolysaccharides (LPS) in comparison with the LPS of other gram-negative bacteria (Russian, English Abstract)

9 Starch

Ring SH, Akingbala JO*, Rooney LW//Univ Ibadan, Dept Food Technol, Ibadan, Nigeria
STARCH 1989, 41 (12) 457

A study of factors affecting amylose content of *Sorghum* determined by an automated method

Strauss UP, Porcja RJ, Chen SY//Rutgers State Univ, Dept Chem, New Brunswick, NJ 08903, USA

MACROMOLECULES 1990, 23 (1) 172

Volume effects of amylose-water interactions

Serre L, Lauriere C//CNRS, Physiol Organes Vegetaux Lab, 4ter route Gardes, F-92190 Meudon, France

SCI ALIMENT 1989, 9 (4) 645

Limit dextrinase in cereal seeds

Ducey JP, Mozingo DW, Lamiell JM, Okerburg C, Gueller GE//Brooke Army Med Ctr, Dept Surg, Ft Sam Houston, Tx 78234, USA
J TRAUMA 1989, 29 (11) 1510

A comparison of the cerebral and cardiovascular effects of complete resuscitation with isotonic and hypertonic saline, hetastarch, and whole blood following hemorrhage

Makisalo HJ, Korsback CH, Soini HO, Heino A, Hockerstedt KAV//Univ Helsinki, Cent Hosp, Dept Surg, SF-00100 Helsinki, Finland
RES EXP MED 1989, 189 (6) 397

Correction of hemorrhagic shock-induced liver hypoxia with whole blood, Ringer's solution or with hetastarch

Schierbaum F, Reuther F, Braudo EE, Plashchina IG, Tolstoguzov VB//Ctrl Inst Nutr, Potsdam-Rehbrücke, Acad Sci GDR, Berlin, Ger Dem Rep

CARBOHYD POLYM 1990, 12 (3) 245

Thermodynamic parameters of the junction zones in thermoreversible maltodextrin gels

Adachi S, Watanabe T, Kohashi M//Univ Shizuoka, Sch Food & Nutr Sci, 395 Yada, Shizuoka 422, Japan

AGR BIOL CHEM TOKYO 1989, 53 (12) 3193

Effects of the divinylbenzene content and ionic form of cation-exchange resin on the chromatographic separation of maltooligosaccharides

Adachi S, Watanabe T, Kohashi M//Univ Shizuoka, Sch Food & Nutr Sci, 395 Yada, Shizuoka 422, Japan

AGR BIOL CHEM TOKYO 1989, 53 (12) 3203

Role of swelling pressure on the distribution coefficient of maltooligosaccharide in a cation-exchange resin

Richards L, Doelle HW//Univ Queensland, Mircen Biotechnol, Dept Microbiol, St Lucia, Qld 4067, Australia

MIRCEN J APPL MICROBIOL 1989, 5 (3) 307

Fermentation of potato mash, potato mash/maltin mixtures, maltin and wheat starch using *Zygomonas mobilis*

Abraham TE, Sreedharan VP, Ramakrishna SV//CSIR, Reg Res Lab, Fermentat Sect, Trivandrum 695019, India

STARCH 1989, 41 (12) 472

Development of an alternate route for the hydrolysis of cassava flour

Baczkowicz M, Tomasik P//Hugo Kollataj Acad Agr, Dept Chem & Phys, Muckiewiczza Ave 24-28, PL-30059 Krakow, Poland

STARCH 1989, 41 (12) 449

Solvent effect on starch matrix. Part I: Non-extrathermodynamic considerations

Castel D, Ricard A, Audebert R//Univ Paris 06, Ecole Super Phys & Chim Ind, Phys Chim Macromolec Lab, F-75231 Paris 05, France

J APPL POLYM SCI 1990, 39 (1) 11

Swelling of anionic and cationic starch-based superabsorbents in water and saline solution

Deffenbaugh LB, Walker CE//Univ Nebraska, Dept Food Sci & Technol, Lincoln, Ne 68583, USA

STARCH 1989, 41 (12) 461

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starch pasting properties. Part I: Effect of sugars

Dunkle RL, Shasha BS//USDA ARS, Grain Mkt Res Lab, Manhattan, Ks 66502, USA

ENVIRON ENTOMOL 1989, 18 (6) 1035

Response of starch-encapsulated *Bacillus thuringiensis* containing ultraviolet screens to sunlight

Garg SK, Doelle HW*//Univ Queensland, Mircen Biotechnol, Dept Microbiol, St Lucia, Qld 4067, Australia

MIRCEN J APPL MICROBIOL 1989, 5 (3) 297

Optimization of cassava starch conversion to glucose by *Rhizopus oligosporus*

German ML, Blyumenfeld AL, Titova EF, Belavtseva EM, Genin YV, Yurev VP, Tolstoguzov VB//Acad Sci USSR, Inst Organoelement Cpd, Moscow V-71, USSR

ZH FIZ KHIM SSSR 1989, 63 (11) 3051

Microheterogeneity of starch gels (Russian)

Inaba H, Hatanaka Y, Kageyama O, Matsumura Y, Mori T//Myojo Food Co Ltd, Cent Lab, 3-1-17 Sekimae, Musashino, Tokyo 180, Japan

J JPN SOC FOOD SCI TECHNOL 1989, 36 (11) 884

Effects of oil and protein on the degree of self-supporting (property) and texture of starch gels (Japanese, English Abstract)

Kennedy CL, Zanapolidou HR, Sagar S, Tristram-Nagle SA, Domach MM//Dupont Co, Exptl Stn, Wilmington, De 19898, USA

BIOTECHNOL PROGR 1989, 5 (4) 172

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Kuhn M, Elsner G, Graber S//Univ Hohenheim, Inst Lebensmitteltechnol 150, Fachgebiet Getreidetechnol, D-7000 Stuttgart 70, Fed Rep Ger

STARCH 1989, 41 (12) 467

Cooking extrusion of starch with hydrocolloids (German, English Abstract)

Kumar A//Devi Ahilya Vishwa Vidyalya, Dept Biochem, Khandwa Rd, Indore 452001, India

J SCI IND RES INDIA 1989, 48 (12) 568

Starch phosphorylase in plants

Ningsanond S, Ooraikul B//Univ Alberta, Ctr Agr Forestry 2-06, Dept Food Sci, Edmonton, Alberta, Canada T6G 2P5

STARCH 1989, 41 (12) 452

Use of red cowpea in the manufacture of some food products

10 Starch-degrading Enzymes

Cherney DJR, Patterson JA, Cherney JH//Purdue Univ, Dept Anim Sci, W Lafayette, In 47907, USA

J DAIRY SCI 1989, 72 (11) 3079

Use of 2-ethoxyethanol and alpha-amylase in the neutral detergent fiber method of feed analysis

Guo Y, Lou F, Peng Z-Y, Yuan Z-Y, Korus RA*//Univ Idaho, Dept Chem Engr, Moscow, Id 83843, USA

BIOTECHNOL BIOENG 1990, 35 (1) 99

Kinetics of growth and alpha-amylase production of immobilized *Bacillus subtilis* in an airlift bioreactor

Kobayashi M, Yanagihara S, Ichishima E//Tohoku Univ, Fac Agr Chem, Sendai, Miyagi 981, Japan

AGR BIOL CHEM TOKYO 1989, 53 (12) 3133

Preparation and characterization of taka-amylase A attached to carboxymethyl dextran by water-soluble carbodiimide

Kole MM, Gerson DF//Connaught Labs Ltd, 1755 Steeles Ave W, N York, Ontario, Canada M2R 3T4

J FERMENT BIOENG 1989, 68 (6) 423

Ammonium controlled fed-batch fermentation for amylase production

Chithra N, Baradarajan A//Indian Inst Technol, Dept Chem Engr, Madras 600036, Tamil Nadu, India

PROCESS BIOCHEM 1989, 24 (6) 208

Studies on co-immobilisation of amyloglucosidase and *Saccharomyces cerevisiae* for direct conversion of starch to ethanol

Basuki W, Iizuka M, Furuichi K, Minamiura N, Komaki T, Yamamoto T//Osaka City Univ, Fac Sci, Osaka 558, Japan

AGR BIOL CHEM TOKYO 1989, 53 (12) 3341

Comparison of the enzymatic isomerization of glucose produced by porcine serum alpha-glucosidase and *Rhizopus glucoamylase*