

BIBLIOGRAPHY ON CARBOHYDRATE POLYMERS

1 Books, Reviews and Symposia

Blanshard JMV, Mitchell JR (Eds)
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Butterworths (Stoneham), 1988, 504 pp, \$225.00
Hardbound ISBN: 0-408-02950-1
Contains the papers: Mixed and filled gels -
Models for foods (Brownsey GJ, Morris VJ);
Gel structure of food biopolymers (Hermansson
AM); Elements of cereal product structure
(Blanshard JMV); Extrusion and co-extrusion
of cereals (Guy RCE, Horne AW)

Klopfenstein C//Kansas State Univ Agr & Appl
Sci, Dept Grain Sci & Ind, Manhattan, Ks
66506, USA

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The role of beta-glucans in nutrition and health
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Nombela C, Molina M, Cenamor R, Sanchez
M//Univ Complutense Madrid, Fac Farm, Dept
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Miranda Ave, Palo Alto, Ca 94304, USA

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Lin KC, Keeton JT, Gilchrist CL, Cross
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T//Meiji Milk Prod Co Ltd, Cent Res Inst, 1-21-
3 Sakae cho, Higashimuayam, Tokyo 189, Japan
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Studies on the elimination of beta-lactoglobulin
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Chakrabarti AC, Storey KB*//Carleton Univ,

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 six sections: 1. Books, Reviews and Symposia; 2. Cellulose; 3. Lignin; 4. Polysaccharides; 5. Starch; 6. Others. 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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 *Natl Chem Lab, Div Biochem Sci, Poona 411008, Maharashtra, India
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Fielden KE, Newton JM*, O'Brien P, Rowe RC//Univ London, Sch Pharm, Dept Pharmaceut, 29-39 Brunswick Sq, London WC1N 1AX, England

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4 Polysaccharides

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Komuro T, Galanos C*//Max Planck Inst Immunbiol, Stubweg 51, D-7800 Freiburg, W Germany

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Kosma P, Schulz G, Brade H//Agr Univ Vienna, Inst Chem, A-1180 Vienna, Austria

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Ainsworth EJ//Univ Calif Berkeley, Lawrence Berkeley Lab, Div Biol & Med, Berkeley, Ca 94720, USA

PHARMACOL THER 1988, 39 (1-3) 223

From endotoxins to newer immunomodulators: survival-promoting effects of microbial polysaccharide complexes in irradiated animals

Ananyeva EP, Vitovskaya GA, Trushina OA, Sinitskaya IA, Elinov NP//Kebubgrad Pharmaceut Chem Res Inst, Leningrad, USSR

MIKOL FITOPATOL 1988, 22 (5) 432

The specificity of synthesis and structure of extracellular polysaccharides in *Bullera tsugae* (Russian)

Baba M, Snoeck R, Pauwels R, de Clercq E/**Catholic Univ Leuven, Rega Inst Med Res, B-3000 Louvain, Belgium

ANTIMICROB AGENTS CHEMOTHER 1988, 32 (11) 1742

Sulfated polysaccharides are potent and selective inhibitors of various enveloped viruses, including herpes simplex virus, cytomegalovirus, vesicular stomatitis virus, and human immunodeficiency virus

Blaha K, Capek K//Prague Inst Chem Technol, Monosaccharides Lab, CS-16628 Prague 6, Czechoslovakia

CHEM LISTY 1988, 82 (11) 1198

Nomenclature rules of organic chemistry and biochemistry. IUPAC-IUB rules for nomenclature of polysaccharides (Czech/Slovak, English Abstract)

Capek P, Uhrin D, Rosik J, Kardosova A, Toman R, Mihalov V//Slovak Acad Sci, Ctr Chem Res, Inst Chem, CS-84238 Bratislava, Czechoslovakia

CARBOHYD RES 1988 182 (1) 160

Polysaccharides from the roots of the marsh mallow (*Althaea officinalis* L., var. *Rhubusta*): dianhydrides of oligosaccharides of the aldose type

Cote GL, Krull LH//USDA ARS, No Reg Res Ctr, 1815 N Univ St, Peoria, Il 61604, USA

CARBOHYD RES 1988, 181 (OCT) 143

Characterization of the exocellular polysaccharides from *Azotobacter chroococcum*

Druzhinina TN, Gogilashvili LM, Shibaev VN//ND Zelinskii Organ Chem Inst, Moscow, USSR
BIOORG KHIM 1988, 14 (9) 1242

The incorporation of modified hexosyl residues into the salmonella serogroup-E, serogroup-B, serogroup-C2 and serogroup-C3 O-specific polysaccharides using synthetic nucleotide sugars (Russian, English Abstract)

Dutton GGS, Karunaratne DN, Lim AVS//Univ British Columbia, Dept Chem, Vancouver, BC, Canada V6T 1Y6

CARBOHYD RES 1988, 183 (1) 111

Escherichia coli serotype K44 - an acidic capsular polysaccharide containing two 2-acetamido-2-deoxyhexoses

Dutton GGS, Lam Z, Lim AVS//Univ British Columbia, Dept Chem, Vancouver, BC, Canada V6T 1Y6

CARBOHYD RES 1988, 183 (1) 123

N-acetyl-beta-D-galactosaminidase activity of *E. coli* phage 44 and the sequencing of *E. coli* K44 capsular polysaccharide by mass spectrometry

Garin EH, Barrett DJ//Med Univ S Carolina, 171 Ashley Ave, Charleston, SC 29425, USA
NEPHRON 1988, 50 (4) 383

Pneumococcal polysaccharide immunization in patients with active nephrotic syndrome

Hackland PL, Parolis H, Dell A, Tiller PR//Rhodes Univ, Sch Pharmaceut Sci,

Grahamstown 6140, South Africa

CARBOHYD RES 1988, 181 (OCT) 153

Bacteriophage degradation of the capsular polysaccharide from *Klebsiella* K69: location of the O-acetyl groups

Hermans JPG, Dreef CE, Hoogerhout P, van der Marel GA, van Boom JH//Gorlaeus Labs, POB 9502, 2300 RA Leiden, The Netherlands
REC TRAV CHIM-J ROY NETH CHEM 1988, 107 (10) 600

Synthesis of two analogues of a fragment of the complex polysaccharide C substance from *Streptococcus pneumoniae* type 1

Hermans JPG, Noort D, van der Marel GA, Hoogerhout P, van Boom JH//Gorlaeus Lab, POB 9502, 2300 RA Leiden, The Netherlands
REC TRAV CHIM-J ROY NETH CHEM 1988, 107 (11) 635

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Inoue K, Korenaga H, Tanaka NG, Sakamoto N, Kadoya S//Daiichi Seiyaku Co Ltd, Res Inst, 1-16-13 Kitakasai, Edogawa ku, Tokyo 134, Japan

CARBOHYD RES 1988, 181 (OCT) 135

The sulfated polysaccharide-peptidoglycan complex potentially inhibits embryonic angiogenesis and tumor growth in the presence of cortisone acetate

Issa MA//El Minia Univ, Fac Agr, Dept Agr Chem, El Minia, Egypt
CAN J CHEM 1988, 66 (11) 2777

Structural investigation of water-hyacinth (*Eichhornia crassipes*) polysaccharides. Part I. Water-soluble polysaccharides

Jansson P-E, Lindberg B, Andersson M, Lindquist U, Henrichsen J//Univ Stockholm, Arrhenius Lab, Dept Organ Chem, S-10691 Stockholm, Sweden

CARBOHYD RES 1988 182 (1) 111

Structural studies of the capsular polysaccharide from *Streptococcus pneumoniae* type 2, a reinvestigation

Jansson P-E, Lindberg B, Widmalm G//Univ Stockholm, Arrhenius Lab, Dept Organ Chem, S-10691 Stockholm, Sweden

CARBOHYD RES 1988 182 (1) 166

Structural studies of an extracellular polysaccharide, S-53, elaborated by a *Klebsiella* species

Kawaguchi K, Amano T, Satomi K, Yokoyama M, Kadota H//Kureha Chem Ind Co Ltd, Food Sci Labs, Shinju ku, Tokyo 160, Japan

NIPPON SUISAN GAKKAISHI 1988, 54 (10) 1817

Studies on a extracellular polysaccharide produced by bacteria isolated from river water (Japanese, English Abstract)

Kulshin VA, Antsiferova NG, Moroz AF, Dmitriev BA//NF Gamaleya Epidemiol & Microbiol Inst, Moscow, USSR

ZH MIKROB EPIDEM IMMUN SSSR 1988, (11) 69

Artificial polysaccharide-protein antigens prepared from O-specific polysaccharides of *Pseudomonas aeruginosa*, immunotype-1, immunotype-2 and immunotype-7 (Russian, English Abstract)

Lahaye M, Revol JF, Rochas C, McLachlan J, Yaphe W//INRA, LBTG, BP 527, F-44026 Nantes 03, France

BOT MAR 1988, 31 (6) 491

The chemical structure of *Gracilaria crassissima* P. et H. Crouan in Schramm et Maze and *G. tikvahiae* McLachlan (Gigartinales, Rhodophyta) cell-wall polysaccharides

Latge J-P, Boucias DG, Fournet B//Inst Pasteur, Unite Mycol, 25 Rue Dr Roux, F-75724 Paris, France

CARBOHYD RES 1988, 181 (OCT) 282

Structure of the exocellular polysaccharide produced by the fungus *Nomuraea rileyi*

Maisin JR, Topalova S, Kondi-Tamba A, Matelin G//CENS, Ctr Etud Energie Nucl, Dept Biol, B-2400 Mol, Belgium

PHARMACOL THER 1988, 39 (1-3) 255

Radioprotection by polysaccharides

Medvedev SA, Vaneeva NP, Domaradskaya TI//Minist Publ Hlth USSR, Inst Immunol, Moscow, USSR

ZH MIKROB EPIDEM IMMUN SSSR 1988, (11) 119

Development of a simplified method for the isolation of salmonella O-specific polysaccharides in preparative amounts (Russian, English Abstract)

Moreau M, Richards JC, Perry MB, Kniskern PJ//Natl Res Council Canada, Div Biol Sci, Ottawa, Ontario, Canada K1A 0R6

CARBOHYD RES 1988 182 (1) 79

Application of high-resolution n.m.r. spectroscopy to the elucidation of the structure of the specific capsular polysaccharide of *Streptococcus pneumoniae* type 7F

Nelson TC, Huang JYC, Ramaswami D//Univ Wisconsin, Dept Biol Sci, Milwaukee, WI 53201, USA

WATER RES 1988, 22 (9) 1185

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Ofosu FA, Fernandez F, Anvari N, Caranobe C, Dol F, Cadroy Y, Petitou M, Mardiguian J, Sir P, Boneu B//McMaster Univ, Dept Pathol, 1200 Main St W, Hamilton, Ontario, Canada L8N 3Z5

THROMB HAEMOST 1988, 60 (2) 188

Further studies on the mechanisms for the antithrombotic effects of sulfated polysaccharides in rabbits

Panza L, Ronchetti F, Toma L//Dipartimento Chem & Biochim Med, Via Saldini 50, I-20133 Milano, Italy

CARBOHYD RES 1988, 181 (OCT) 242

Streptococcus pneumoniae type 19A polysaccharide. Synthesis of the trisaccharide component of the repeating unit

Parolis H, Parolis LAS, Dutton GGS//Rhodes Univ, Sch Pharmaceut Sci, Grahamstown 6140, South Africa

CARBOHYD RES 1988 182 (1) 127

Preparation of branched hexasaccharides by the action of a viral lyase on *Klebsiella* K14 polysaccharide

Perry RW, Aplan FF//13 Cassia Lane, Tequesta, FL 33458, USA

SEPAR SCI TECHNOL 1988, 23 (12-13) 2097

Adsorption of polysaccharides and related compounds onto coal and their effect on the flotation of coal and pyrite

Poulsen OM, Petersen LW//Royal Vet & Agr Univ, Dept Vet Pathol, Lab Anim Unit, Bulowsvej 13, DK-1870 Frederiksberg C, Denmark

APPL MICROBIOL BIOTECHNOL 1988, 29 (5) 480

Growth of *Cellulomonas* sp ATCC-21399 on different polysaccharides as sole carbon source in induction of extracellular enzymes

Ramos-Sanchez C, Leal JA, Martin-Gil J, Martin-Gil FJ//Univ Valladolid, Escuela Tecn Super Ingn Ind, Valladolid, Spain

THERMOCHIM ACTA 1988, 134 (OCT) 61

DTG and DTA studies on fungal polysaccharides

Redgwell RJ, Melton LD, Brasch DJ//DSIR, Div Hort & Proc, Auckland, New Zealand

CARBOHYD RES 1988, 182 (2) 241

Cell-wall polysaccharides of kiwifruit (*Actinidia deliciosa*): chemical features in different tissue zones of the fruit at harvest

Sidorenko GI, Darashkevich ON, Kurtasova TP, Porotikov VI, Filippov AK, Gatsura VV//Belorussian Cardiol Res Inst, Minsk, Belorussia, USSR

KHIM-FARM ZH SSSR 1988, 22 (11) 1309

Mechanism of antiarrhythmic action shown by agent C-81 from oxidized polysaccharides (Russian)

Skjak-Braek G, Grasdalen H, Smidsrod O//Lab Marine Biochem, Div Biotechnol, Norwegian Inst Technol, N-7034 Trondheim-NTH, Norway

CARBOHYD POLYM 1989, 10 (1) 31

Inhomogeneous polysaccharide ionic gels

Stack RJ, Ericsson LD//USDA ARS, No Reg Res Ctr, 1815 N Univ St, Peoria, IL 61604, USA

FEMS MICROBIOL LETT 1988, 56 (1) 1

Methods for the identification and analysis of L-altriose in bacterial polysaccharides

Stack RJ, Stein TM, Plattner RD//USDA ARS No Reg Res Ctr, 1815 N Univ St, Peoria, IL 61604, USA

BIOCHEM J 1988, 256 (3) 769-773

4-O-(1-carboxyethyl)-D-galactose. A new acidic sugar from the extracellular polysaccharide produced by *Butyrivibrio fibrisolvens* strain 49

Takeo S, Kado H, Yamamoto H, Kamimura M, Watanabe N*, Uchida K, Mori Y//Sapporo Breweries Ltd, Dept Res & Dev, 7-10-1 Ginza, Chuo ku, Tokyo 104, Japan

CHEM PHARM BULL TOKYO 1988, 36 (9) 3609

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derived from rice bran. II. Preparation and general properties of RON, and active fraction of RBS

Tao BY, Reilly PJ, Robyt JF//Iowa State Univ Sci & Technol, Dept Chem Engr, Ames, Ia 50011, USA

CARBOHYD RES 1988, 181 (OCT) 163

Neisseria perflava amylsucrase: characterization of its product polysaccharide and a study of its inhibition by sucrose derivatives

Tsai J-S, Nonaka M, Yamada K, Murakami H, Omura H*//Kyushu Univ 4609, Fac Agr, Inst Food Chem, Fukuoka 812, Japan

J FAC AGR KYUSHU UNIV 1988, 33 (1-2) 47

Effect of polysaccharides on rheological properties of soy protein isolate emulsion gels

Vinogradov EV, Knirel YA, Shashkov AS, Gorin SE, Vustina TF, Sayfer VS, Esipov SE, Lisak LV, Kochetkov NK//ND Zelinskii Organ Chem Inst, Moscow, USSR

BIOORG KHIM 1988, 14 (9) 1214

Structure of the extracellular polysaccharide from Rhodococcus sp containing D-lyxohexulosonic acid (Russian, English Abstract)

Vinogradov EV, Pietrasik D, Shashkov AS, Knirel YA//ND Zelinskii Organ Chem Inst, Moscow, USSR

BIOORG KHIM 1988, 14 (9) 1282

Structure of the Proteus mirabilis 027 O-specific polysaccharide, containing amino acids and phosphoethanolamine (Russian, English Abstract)

5 Starch

Asp EH, Midness LT, Spelhaug S//Univ Minnesota, Dept Food Sci & Nutr, 1334 Eckles Ave, St Paul, Mn 55108, USA

FOOD TECHNOL AUST 1988, 40 (8) 330

Alpha-amylase activities in yeasted doughs with added surfactants

Bajpai P, Bajpai PK//Thapar Corp Res & Dev Ctr, Div Chem & Biochem Engr, Patiala 147001, India

BIOTECHNOL BIOENG 1989, 33 (1) 72

High-temperature alkaline alpha-amylase from Bacillus licheniformis TCRDC-B13

Cauvain SP, Chamberlain N//Flour Milling &

Baking Res Assoc, Chorleywood WD3 5SH, Herts, England

J CEREAL SCI 1988, 8 (3) 239

The bread improving effect of fungal alpha-amylase

Henderson WE, Teague WM//Enzyme Biosyst Ltd, 3350 Salt Creek Lane, Arlington Hts, Il 60005, USA

STARCH 1988, 40 (11) 412

A kinetic model of Bacillus stearothermophilus alpha-amylase under process conditions

McHale RH//Univ Auckland, Dept Cell Biol, Auckland, New Zealand

STARCH 1988, 40 (11) 422

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Roychoudhury S, Parulekar SJ*, Weigand WA// *ITT, Dept Chem Engr, Chicago, Il 60616, USA

BIOTECHNOL BIOENG 1989, 33 (2) 197

Cell growth and alpha-amylase production characteristics of Bacillus amyloliquefaciens

Shetty JK, Allen WG//Miles Labs Inc, Sales & Tech Serv, Elkhart, In 46515, USA

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An acid-stable, thermostable alpha amylase for starch liquefaction

Dahlhoff WV, Imre J, Koster R//Max Planck Inst Coal Res, Kaiser Wilhelm Platz 1, D-4330 Mulheim, W Germany

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Poly(1,4-anhydro-D-glucitols) by regioselective reductions of amylose or cellulose¹

Gomez MH, Waniska RD, Rooney LW, Lucas EW//Texas A&M Univ, Cereal Qual Lab, College Stn, Tx 77843, USA

J FOOD SCI 1988, 53 (6) 1818

Extrusion cooking of sorghum containing different amounts of amylose

Stevenson DL, Kennedy JF, White CA//Univ Birmingham, Dept Chem, Chem Bioact Carbohydrates & Prot Res Lab, POB 363, Birmingham B15 2TT, W Midlands, England

STARCH 1988, 40 (11) 433

The interaction between Cibacron® blue 3G-A dyed amyloses and microcrystalline cellulose

Svensson B, Moller H, Clarke AJ//Carlsberg

Lab, Dept Chem, Gamle Carlsberg Vej 10, DK-2500 Copenhagen, Denmark

CARLSBERG RES COMMUN 1988, 53 (6) 331
Chemical modification of carboxyl groups in glucoamylase from *Aspergillus niger*

Tani Y, Fuji A, Nishise H//Kyoto Univ, Fac Agr, Cell & Tissue Culture Res Ctr, Kyoto 606, Japan

J FERMENT TECHNOL 1988, 66 (5) 545
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Ehrly AM, Seebens H, Saegerlorenz K//Univ Frankfurt Klinikum, Zentrum Inneren Med, Angiol Abt, Theodor Stern Kai 7, D-6000 Frankfurt 70, Fed Rep Ger

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Steinhoff J, Mansky T, Reitz M, Schultz E, Sack K//Med Univ Lubeck, Innere Med Klin, Ratzeburger Allee 160, D-2400 Lubeck 1, Fed Rep Ger

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Pharmacokinetics of hydroxyethylstarch in patients on hemodialysis and hemofiltration (German, English Abstract)

Abraham TE, Krishnaswamy C, Ramakrishna SV//CSIR, Reg Res Lab, Fermentat Sect, Trivandrum 695019, India

STARCH 1988, 40 (10) 387
Hydrolytic depolymerization of starch raw materials

Akingbala JO, Gomez MH, Rooney LW*, Sweat VE//Texas A&M Univ, Dept Soil & Crop Sci, Cereal Qual Lab, College Stn, Tx 77843, USA

STARCH 1988, 40 (10) 375
Thermal properties of sorghum starch

Atwell WA, Hyldon RG, Godfrey PD, Galle EL, Sperber WH, Pedersen DC, Evans WD, Rabe GO//Pillsbury Co, Res & Dev Labs, 311 2nd St SE, Minneapolis, Mn 55414, USA

CEREAL CHEM 1988, 65 (6) 508
Germinated quinoa flour to reduce the viscosity of starchy foods

Berry SK, Gramshaw JW//GN Engrn Coll, CFTRI Reg Ctr, Gill Rd, Ludhiana 141006, India

J AGR FOOD CHEM 1988, 36 (6) 1265
Influence of starch plus gluten on the non-enzymic browning reaction of the glucose-glutamic acid system

Bhattacharya M, Hanna MA//Univ Minnesota, Food Engrn, Minneapolis, Mn 55455, USA

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Bhatty RS, MacGregor AW//Univ Saskatchewan, Ctr Crop Dev, Dept Crop Sci & Plant Ecol, Saskatoon, Saskatchewan, Canada S7N 0W0

CEREAL CHEM 1988, 65 (6) 463
Gamma irradiation of hullless barley: Effect on grain composition, beta-glucans and starch

Bjork E, Edman P//Pharmacia AB, S-75182 Uppsala, Sweden

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Degradable starch microspheres as a nasal delivery system for insulin

Bouchard J, Chronet E, Overend RP//Univ Sherbrooke, Dept Genie Chim, Ctr Quebecois Valorisation Biomasse, Sherbrooke, Quebec, Canada J1K 2R1

J AGR FOOD CHEM 1988, 36 (6) 1188
High-performance liquid chromatographic monitoring of carbohydrate fractions in partially hydrolyzed corn starch

Caransa A, Simell M, Lehmuusaari A, Vaara M//Baden Powellweg 305, 1069 LH Amsterdam, The Netherlands

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Chandrashekar A, Kirleis AW//Purdue Univ, Dept Food Sci, W Lafayette, In 47907, USA

CEREAL CHEM 1988, 65 (6) 457
Influence of protein on starch gelatinization in sorghum

Claire A, Verrier E, Ntonga Mimbe J//Lab Phytomorphogenese, CNRS, UA 045, 4 Rue Ledru, F-63038 Clermont Ferrand, France

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twining shoots of *Ipomoea purpurea*. Determination of glucose, fructose, sucrose and starch content

Czajkowska D, Ilnicka-Olejniczak O//Inst Fermentat Ind, Dept Tech Microbiol & Biochem, Rakowiecka 36, PL-02532 Warszawa, Poland
ACTA BIOTECHNOL 1988, 8 (5) 407

Biosynthesis of protein by microscopic fungi in solid state fermentation. I. Selection of *Aspergillus* strain for enrichment of starchy raw materials in protein

Delheye G, Moreels E//Burchststr 10, B-9300 Aalst, Belgium
STARCH 1988, 40 (11) 430

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Drouzas AE, Saravacos GD//Rutgers State Univ, Cook Coll, New Jersey Agr Exptl Stn Dept Food Sci, New Brunswick, NJ 08903, USA
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Egboh SH, Jinadu B//Univ Ilorin, Dept Chem, Ilorin, Nigeria
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Modification of starch by graft copolymerization with methyl methacrylate

Finney PL, Kinney JE, Donelson JR//Ohio State Univ, Ohio Agr Res & Dev Ctr, USDA ARS, Soft Wheat Qual Lab, Wooster, Oh 44691, USA
CEREAL CHEM 1988, 65 (6) 449

Prediction of damaged starch in straight-grade flour by near-infrared reflectance analysis of whole ground wheat

Fujii T, Danno G-I//Kobe Womens Univ, 2-1 Suma Aoyama, Suma ku, Kobe 654, Japan
J JPN SOC FOOD SCI TECHNOL 1988, 35 (10) 684

Properties of sponge cakes made with wheat starch (Japanese, English Abstract)

Holm J, Bjorck I, Eliasson A-C//Univ Lund, Ctr Chem, Dept Food Chem, POB 124, S-22100 Lund, Sweden
J CEREAL SCI 1988, 8 (3) 249

Effects of thermal processing of wheat on starch: I. Physico-chemical and functional

properties

Holm J, Bjorck I//Univ Lund, Ctr Chem, Dept Food Chem, POB 124, S-22100 Lund, Sweden
J CEREAL SCI 1988, 8 (3) 261

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Hoover R, Hannouz D, Sosulski FW//Univ Ottawa, Dept Biochem, Ottawa, Ontario, Canada K1N 6N5
STARCH 1988, 40 (10) 383

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Jackson DS, Choto-Owen C, Waniska RD, Rooney LW//Texas A&M Univ, Dept Soil & Crop Sci, Cereal Qual Lab, College Stn, Tx 77843, USA
CEREAL CHEM 1988, 65 (6) 493

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Kennedy JF, Stevenson DJ, White CA//Univ Birmingham, Dept Chem, Chem Bioact Carbohydrates & Prot Res Lab, POB 363, Birmingham B15 2SQ, England
STARCH 1988, 40 (10) 396

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Kleinman M, Evans IH, Bevan EA//Hatfield Polytech, Sch Nat Sci, POB 109, Coll Lane, Hatfield AL10 9AB, Herts, England
BIOTECHNOL LETT 1988, 10 (11) 825

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Mercier C, Colonna P//INRA, Ctr Rech Agroalimentaires, Rue Geraudiere, F-44072 Nantes, France
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Starch and enzymes: innovations in the products, processes and uses

Meredith P//DSIR, Ilam Res Ctr, Div Chem, Christchurch 4, New Zealand
STARCH 1988, 40 (10) 369

The development and properties of the tuber of the potato (*Solanum tuberosum* L.). Part 2: The pattern of growth in the field: Bibliography

Mestres C, Colonna P, Buleon A//CIRAD, Inst Rech Agron Trop, Technol Lab, 9 Pl Pierre Viala, F-34060 Montpellier, France

J FOOD SCI 1988, 53 (6) 1809

Characteristics of starch networks within rice flour noodles and mung bean starch vermicelli

Randen L, Nilson J, Edman P**//Pharmacia Leo Therapeut AB, S-75182 Uppsala, Sweden

J PHARM PHARMACOL 1988, 40 (11) 763

Coprecipitation of enzymes with water soluble starch - an alternative to freeze-drying

Rapaille A, Vanhemelryck J, Mottar J//Cergstar, Euro Ctr Food, Havenst 84, B-1800 Vilvoorde, Belgium

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The use of starches and gums in UHT milk deserts

Saha BC, Lecureux LW, Zeikus JG**//Michigan Biotechnol Inst, POB 27609, E Lansing, MI 48909, USA

ANAL BIOCHEM 1988, 175 (2) 569

Raw starch adsorption-desorption purification of a thermostable beta-amylase from *Clostridium thermosulfurogenes*

Seidler W, Schultz E, Oslage HJ//Forsch Anstalt Landwirtschaft, Inst Tierernahrung, Bundesalle 50, D-3300 Brunswick, W Germany

LANDWIRT FORSCH 1988, 41 (1-2) 90

Experiments on starch determination in digesta and faeces (German, English Abstract)

Sharma UC, Arora BR//Punjab Agr Univ, Dept Soils, Ludhiana 141004, Punjab, India

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Straathof AJJ, van Bekkum H, Kieboom APG//Delft Univ Technol, Organ Chem Lab, Julianalaan 136, 2628 BL Delft, The Netherlands

STARCH 1988, 40 (11) 438

Solid state and solution properties of octyl D-glucopyranosides

Takahashi S, Seib PA//Kyoritsu Womens Univ, Fac Home Econ, 2-2-1 Chiyoda ku, Tokyo 101,

Japan

CEREAL CHEM 1988, 65 (6) 474

Paste and gel properties of prime corn and wheat starches with and without native lipids

Tharanathan RN, Bhat UR//Cent Food Technol Res Inst, Biochem Sect, Dept Food Chem, Mysore 570013, Karnataka, India

STARCH 1988, 40 (10) 378

Scanning electron microscopy of chemically and enzymatically treated black gram (*Phaseolus mungo*) and ragi (*Eleusine coracana*) starch granules

Tsuji S//Osaka Shoin Womens Coll, 2-26 Hishiya Nishi 4 chome, Higashiosaka, Osaka 577, Japan

J JPN SOC FOOD SCI TECHNOL 1988, 35 (11) 748

Analysis on pasting properties of corn and waxy corn starches (Japanese, English Abstract)

Wayman M, Parekh SR, Parekh RS, Trass O, Gandolfi E//Univ Toronto, Dept Chem Engn & Appl Chem, Toronto, Ontario, Canada M5S 1A4

STARCH 1988, 40 (11) 418

Saccharification and fermentation of whole barley ground in the Szego mill

Zobel HF, Young SN, Rocca LA//CPC Int Inc, Box 345, Argo, IL 60501, USA

CEREAL CHEM 1988, 65 (6) 443

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Zrust J//Oseva Vyzkumny & Slechtitelsky Ustav Bramborarsky, Dobrovskeho 2366, CS-58003 Havlickuv Brod, Czechoslovakia

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6 Others

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Martinsen A, Skjak-Brack G, Smidsrod O//Nor

wegian Inst Technol, Marine Biochem Lab, N-7034 Trondheim, Norway

BIOTECHNOL BIOENG 1989, 33 (1) 79

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Papageorgiou GC, Kalosaka K, Sotiropoulou G, Barbotin JN, Thomasset B, Thomas T//Natl Res Ctr Demokritos, Inst Biol, GR-15310 Athens, Greece

APPL MICROBIOL BIOTECHNOL 1988, 29 (6) 565

Entrapment of active ion-permeable cyanobacteria (*Anacystis nidulans*) in calcium alginate

Skjak-Braek G, Murano E, Paoletti S//Univ Trondheim, Div Biotechnol, Marine Biochem Lab, N-7034 Trondheim, Norway

BIOTECHNOL BIOENG 1989, 33 (1) 90

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Toman R, Chimidcogzol A//Slovak Acad Sci, Ctr Chem Res, Inst Chem, CS-84238 Bratislava, Czechoslovakia

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Dell A, Carman NH, Tiller PR, Thomas-Oates JE//Univ London Imperial Coll Sci & Technol, Dept Biochem, London SW7 2AZ, England

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Millane RP, Chandrasekaran R, Arnott S, Dea ICM//Purdue Univ, Whistler Ctr Carbohydrate Res, W Lafayette, In 47907, USA

CARBOHYD RES 1988 182 (1) 1

The molecular structure of kappa-carrageenan and comparison with iota-carrageenan

Patil SG, Patil BG//Natl Chem Lab, Div Biochem Sci, Poona 411008, Maharashtra, India

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Imeri AG, Knorr D//Tech Univ Berlin, Dept Food Technol, Konigin Luise Str 22, B-1000 Berlin 33, W Germany

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Keates RH, Rabin B//Ohio State Univ, Dept Ophthalmol, Corneal Serv, 456 W 10th Ave, Columbus, Oh 43210, USA

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Akkaya EU, Czarnik AW**/Ohio State Univ, Dept Chem, Columbus, Oh 43210, USA

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Gurha SG, Singh L/**Natl Sugar Inst, Dept Organ Chem, Kanpur 2080117, India
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C//Gifu Coll Pharm, Mitahora higashi, Gifu 502, Japan

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CARBOHYD RES 1988 182 (1) 119

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Agnelli G, Borm J, Cosmi B, Levi M, ten Cate JW//Univ Perugia, Ist Semeiot Med, Via E Dal Pozzo, I-06100 Perugia, Italy

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Bakker M et al//Acad Hosp Dijkzigt, Dept Internal Med 2, 3015 GD Rotterdam, The Netherlands

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Harenberg J, Heene DL//Univ Heidelberg, Klinikum Mannheim, Dept Med 1, Theodor

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 Res & Dev, 909 River Rd, Piscataway, NJ 08854,
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 MA//McMaster Univ, Dept Pathol, 1200 Main
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 berg Leuven, Dept Pediat, Renal Unit, Herestr
 49, B-3000 Leuven, Belgium

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 Catania, Italy

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Gao Q-P, Kiyohara H, Cyong J-C, Yamada
 H**//Kitasato Inst, Oriental Med Res Ctr,
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CARBOHYD RES 1988, 181 (OCT) 175
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Nilsson M, Norberg T//Univ Stockholm, Ar-
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Goldberg RL//Ciba Geigy Corp, Div Phar-
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 NJ 07901, USA

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Seki K, Haraguchi K, Kishimoto M, Kobayashi S, Kainuma K//Minist Agr Forestry & Fisheries, Natl Food Res Inst, 2-1-2 Kannondai, Tsukuba, Ibaraki 305, Japan

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Rong X, Tanida M, Takao S*//Hokkaido Univ, Fac Agr, Dept Agr Chem, Sapporo, Hokkaido 060, Japan

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Tojo M, Shibata N, Osanai T, Mikami T, Suzuki M, Suzuki S*//Tohoku Coll Pharm, Dept Hyg Chem 2, Sendai, Miyagi 981, Japan

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Dubey R, Reynolds D, Abbas SA, Matta KL*//New York State Dept Hlth, Roswell Pk Mem Inst, Dept Gynecol Oncol, 666 Elm St, Buffalo, NY 14263, USA

CARBOHYD RES 1988, 183 (2) 155

Synthesis of O-alpha-L-fucopyranosyl-(1-3)-O-beta-D-galactopyranosyl-(1-4)-2-acetamido-2-deoxy-D-glucopyranose (N-acetyl-3'-O-alpha-L-fucopyranosyllactosamine)

Ohrui H, Nishida Y, Hori H, Meguro H, Zushi S//Tohoku Univ, Fac Agr, Dept Food Chem, Tsutsumidori Amamiyamachi 1-1, Sendai, Miyagi 980, Japan

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Thomas RL, Abbas SA, Matta KL*//New York State Dept Hlth, Roswell Pk Mem Inst, Dept Gynecol Oncol, 666 Elm St, Buffalo, NY 14263, USA

CARBOHYD RES 1988, 183 (2) 163

Synthetic mucin fragments. Benzyl O-(2-acetamido-2-deoxy-alpha-D-glucopyranosyl)-(1-3)-O-beta-D-galactopyranosyl-(1-3)-O-[(2-acetamido-2-deoxy-beta-D-glucopyranosyl)-(1-6)]-2-acetamido-2-deoxy-alpha-D-galactopyranoside and benzyl O-(2-acetamido-2-deoxy-beta-D-glucopyranosyl)-(1-3)-O-beta-D-galactopyranosyl-(1-3)-O-[beta-D-galactopyranosyl-(1-6)]-2-acetamido-2-deoxy-alpha-D-galactopyranoside

Berger R, Ruhlemann I//Acad Sci GDR, Inst Biotechnol, Permoserstr 15, DDR-7050 Leipzig, Ger Dem Rep

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Saulnier L, Brillouet J-M, Joseleau J-P//INRA, Inst Produits Vigne, Polymeres & Tech Physicochim Lab, 9 Pl Viala, F-34060 Montpellier, France

CARBOHYD RES 1988 182 (1) 63

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Guillon F, Thibault JF//Ctr Rech Agroalimentaires Nantes, INRA, Biochim & Technol Glucides Lab, Rue Geraudiere, F-44072 Nantes 03, France

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Kiyohara H, Cyong J-C, Yamada H*//Kitasato Inst, Oriental Med Res Ctr, Minato ku, Tokyo 108, Japan

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Kuwahara Y, Otsuka N, Manabe M//Matsuyama Shinonome Jr Coll, Dept Life Sci, Kuwahara cho, Matsuyama, Ehime 790, Japan

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Manachini PL, Parini C, Fortina MG//Univ Milano, Dipartimento Sci & Tecnol Alimentari & Microbiol, Sezione Microbiol, Via Celoria 2, I-20133 Milan, Italy

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Wagenvoort R, Hendrix H, Soria C, Hemker HC*//State Univ Limburg, Ctr Biomed, Dept Biochem, POB 616, 6200 MD Maastricht, The Netherlands

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Altman E, Brisson J-R, Perry MB//Natl Res Council Canada, Div Biol Sci, Ottawa, Ontario, Canada K1A 0R6

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Hronowski LJ, Anastassiades TP//Queens Univ, Dept Med, Rm 2050, Etherington Hall, Kingston, Ontario, Canada K7L 3N6

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cancer. An analysis of data on 579 patients followed for five years

Hoffman RE, Davies DB*//Birkbeck Coll, Dept Chem, Malet St, London WC1E 7HX, England

J MAGN RESONANCE 1988, 80 (2) 318

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Shin YC, Kim YH, Lee HS, Cho SJ, Byum SM//Address not available

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Stevenson TT, Darvill AG, Albersheim P*//Univ Georgia, Dept Biochem, USDA, Russell Res Ctr, Athens, Ga 30613, USA

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Catley BJ, Fraser ME//Heriot Watt Univ, Dept Brewing & Biol Sci, Edinburgh EH1 1HX, Midlothian, Scotland

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Yokoyama A, Srinivasan KR, Fogler HS//Univ Michigan, Dept Chem Engr, Ann Arbor, MI 48109, USA

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Cheetham NWH, Norma NMN//Sch Chem, Univ New South Wales, PO Box 1, Kensington, NSW 2033, Australia

CARBOHYD POLYM 1989, 10 (1) 55

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Kojima T, Berry GC*//Carnegie Mellon Univ, Dept Chem, 4400 5th Ave, Pittsburgh, Pa 15213, USA

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Fukushi Y, Otsuru O, Maeda M//Saitama Univ, Dept Biochem, Urawa, Saitama 338, Japan

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Naoshima Y, Shudo H, Uenishi M, Carraher CE//Okayama Univ Sci, Fac Sci, Dept Chem, Ridai cho, Okayama 700, Japan

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Thukral V, Dey S, Panda T//Indian Inst Technol, Dept Chem Engn, Biochem Engn Unit, Madras 600036, Tamil Nadu, India

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Gil-Serrano A, Tejero-Mateo P//Univ Sevilla, Fac Quim, Dept Quim Organ, E-41071 Sevilla, Spain

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A xyloglucan from olive pulp

Hayashi T, Delmer DP//Ajinomoto Co Inc, Cent Res Labs, 1-1 Suzuki cho, Kawasaki, Kanagawa 210, Japan

CARBOHYD RES 1988, 181 (OCT) 273

Xyloglucan in the cell walls of cotton fiber