

BIBLIOGRAPHY ON CARBOHYDRATE POLYMERS

1. Books, Reviews and Symposia

BeMiller JN

Whistler Ctr Carbohyd Res, Smith Hall, Purdue Univ, West Lafayette, In 47907, USA

CARBOHYD POLYM 1988 9 (1) 3

The Whistler Center for Carbohydrate Research at Purdue University

Robinson RK (Ed)

Developments in Food Microbiology - 3

Developments Series

Elsevier Appl Sci Publ Ltd (Essex) 1988 198pp
\$61.25 hardbound ISBN: 1-85166-131-X

Contains the chapter: Challenges in bioconversion of cellulosic and partially soluble plant materials in submerged culture (Sukan SS)

2. Cellulose

Hebeish A, Abdel-Hafiz SA, El-Sisi F//Natl Res Ctr, Div Text Res, Cairo, Egypt

J APPL POLYM SCI 1988 36 (1) 191

Synthesis and applications of reactive carbohydrates. IV. Reactive finishes based on CMC and oxidized CMC copolymers

Azancheev NM, Sergeev YN, Sopin VF, Marchenko GN//Address not available

VYSOKOMOL SOEDIN SER B SSSR 1988 30 (4) 296

On reactivity of cellulose hydroxyl groups (Russian)

Bocek AM, Petropavlovskii GA//Address not available

J APPL CHEM-ENGL TR 1987 60 (9) PT2 1905

Properties of dilute solutions of cellulose in amino oxide solvents

Cheradame H, Tadjang AU, Gandini A//Ecole Francaise Papeterie, Inst Natl Polytech

Grenoble, Chim Macromolec & Papetiere Lab, BP 65, F-38402 St Martin d'Heres, France

MAKROMOL CHEM-RAP COMM 1988 9 (4) 255

The cationic grafting of cellulose with 2-methyl-2-oxazoline, 2. Influence of the extent of esterification of cellulose

D'Ambra AJ, Rice MJ, Zeller SG, Gruber PR, Gray GR*//Univ Minnesota, Dept Chem, Minneapolis, Mn 55455, USA

CARBOHYD RES 1988 177 (JUN) 111

Analysis of positions of substitution of O-methyl or O-ethyl groups in partially methylated or ethylated cellulose by the reductive-cleavage method

Ermolenko IN, Savrikov EV, Nazarova TL, Frumin LE, Shabanova NV//Address not available

J APPL CHEM-ENGL TR 1987 60 (9) PT2 1895

Mechanism of sorption of transition metal ions by a phosphorus-containing fibrous ion-exchanger based on cellulose

Flink P, Westerlind B, Rigdahl M, Stenberg B//Royal Inst Technol, Dept Polymer Technol, S-10044 Stockholm 70, Sweden

J APPL POLYM SCI 1988 35 (8) 2155

Bonding of untreated cellulose fibers to natural rubber

Huglin MB, O'Donohue SJ, Sasia PM//Univ Salford, Dept Chem & Appl Chem, Salford, Manchester M5 4WT, Lancs, England

J POLYM SCI B-POLYM PHYS 1988 26 (5) 1067

Selective adsorption to cellulose in cadoxen solution

Lee JM, Wolf JH//Washington State Univ, Dept Chem Engr, Pullman, Wa 99164, USA

APPL BIOCHEM BIOTECH 18 (AUG) 203

Continuous attrition bioreactor with enzyme

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.

recycling for the bioconversion of cellulose

Lenz J, Schurz J, Wrentschur E//Lenzing AG, A-4860 Lenzing, Austria

J APPL POLYM SCI 1988 35 (8) 1987

The fibrillar structure of cellulosic man-made fibers spun from different solvent systems

Lushchik LG, Grinshpan DD, Tsygankova NG, Kaputskii FN//VI Lenin State Univ, Minsk, Belorussia, USSR

J APPL CHEM-ENGL TR 1987 60 (10) PT2 2123

IR spectroscopic study of the initial stage of the interaction of cellulose hydrate films with carbon-containing acids and nitrogen (IV) oxides

Menendes TM, Margolin AL//Acad Sci USSR, Inst Chem Phys, Moscow V-71, USSR

VYSOKOMOL SOEDIN SER B SSSR 1988 30 (6) 1322

Catalysis of phototransformation of cellulose with a base (Russian)

Novikova NV, Matyushin YN, Kon'kova TS, Vorob'ev AB, Ryzhova GL, Lebedev YA//Acad Sci USSR, Inst Chem Phys, Moscow V-71, USSR

BULL ACAD SCI USSR D CHEM SCI 1987 36 (10) PT2 2150

Calorimetric study of the esterification of cellulose by H₃PO₄-HNO₃ mixtures

Novikova NV, Matyushin YN, Sopin VF, Ryzhova GL, Lebedev YA//Acad Sci USSR, Inst Chem Phys, Moscow V-71, USSR

BULL ACAD SCI USSR D CHEM SCI 1987 36 (9) PT2 1947

Calorimetric study of the reaction of cellulose with mixtures of nitric acid and methane derivatives

Paralikar KM, Aravindanath S//Indian Council Agr Res, Cotton Technol Res Lab, Bombay 400019, India

J APPL POLYM SCI 1988 35 (8) 2085

Crystallization of cellulose

Pawlowski WP, Gilbert RD*, Fornes RE, Purington ST//N Carolina State Univ, Fiber & Polymer Sci Program, Raleigh, NC 27695, USA

J POLYM SCI B-POLYM PHYS 1988 26 (5) 1101

The liquid-crystalline properties of selected cellulose derivatives

Petropavlovskii GA, Kotel'nikova NE, Arslanov SS, Volkova LA//Address not available

J APPL CHEM-ENGL TR 1987 60 (9) PT2 1900

Mechanism of structural transformations of cellulose in a medium of aliphatic amines

Petropavlovskii GA, Larina EI, Zakharov SK, Volodin VP, Izmailova PA, Gladchenko SK, Borisova TI//Acad Sci USSR, Inst Macromolec Cpds, Moscow V-71, USSR

VYSOKOMOL SOEDIN SER B SSSR 1988 30 (6) 1155

Relaxational and strain-strength properties of blends of butadiene-styrene rubber with cellulose esters (Russian)

Rowland SP, Howley PS//USDA ARS, So Reg Res Ctr, New Orleans, La 70179, USA

J POLYM SCI A-POLYM CHEM 1988 26 (7) 1769

Hydrogen bonding on accessible surfaces of cellulose from various sources and relationship to order within crystalline regions

Sakai K, Chiba H, Naitoh A//Waseda Univ, Dept Chem Engrg, 3-4-1 Ohkubo, Shinjuku ku, Tokyo 160, Japan

J MEMBRANE SCI 1988 37 (2) 101

Determination of the pore radius of regenerated cellulose membranes by a dyeing technique

Schwenke KD, Augustat D, Wagenknecht W//Acad Sci GDR, Cent Inst Nutr, Arthur Schuenert Allee 114-116, DDR-1505 Bergholz, Ger Dem Rep

NAHRUNG 1988 32 (4) 393

Binding of cellulose sulphates to the 12S globulin and the low molecular mass basic protein fraction from rape seed in insoluble complexes

Sergeev YN, Azancheev NM, Sopin VF, Kovalenko VI, Belova YM, Marchenko GN//Address not available

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C-13 NMR study of kinetics of cellulose esterification

Singla AK, Sakhuja A, Malik A//Panjab Univ, Dept Pharmaceut Sci, Chandigarh 160014, India

DRUG DEVELOP IND PHARM 1988 14 (8) 1131

Evaluation of microcrystalline cellulose prepared from absorbent cotton as a direct compression carrier

Sosnovskaya NB, Klinova LP, Shipina OT, Marchenko GI//Address not available

J APPL CHEM-ENG TR 1987 60 (11) PT1 2294

Holographic interferometry in studying mass transfer in processing cellulose esters

Spindler DD, Wyman CE, Mohagheghi A, Grohmann K//Solar Energy Res Inst, Biotechnol Res Branch, Golden, Co 80401, USA

APPL BIOCHEM BIOTECH 17 (APR) 279

Thermotolerant yeast for simultaneous saccharification and fermentation of cellulose to ethanol

Zeni M, Bellobono IR, Muffato F, Polissi A, Selli E, Rastelli E//Univ Milan, Cattedra Chim, Dept Phys Chem & Electrochem, Via C Golgi 19, I-20133 Milan, Italy

J MEMBRANE SCI 36 (MAR) 277

Photosynthetic membranes. VI. Characterization of ultrafiltration membranes prepared by photografting zeolite-epoxy-diacrylate resin composites onto cellulose

Kim SS, Cha JS, Kim JJ*, Kim UY//Korea Adv Inst Sci & Technol, Div Chem Engn & Polymer, POB 131, Seoul 131, South Korea

J MEMBRANE SCI 1988 37 (2) 113

Morphological studies of cellulose acetate hollow fiber membranes

Sada E, Kumazawa H, Yoshio Y, Wang ST, Xu P//Kyoto Univ, Dept Chem Engn, Kyoto 606, Japan

J POLYM SCI B-POLYM PHYS 1988 26 (5) 1035

Permeation of carbon dioxide through homogeneous dense and asymmetric cellulose acetate membranes

Wolf RM, Francotte E, Lohmann D//Ciba Geigy AG, Cent Res Res Labs, CH-4002 Basel, Switzerland

J CHEM SOC PERKIN TRANS II (6) (JUN) 893

Quantitative correlation between calculated molecular properties and retention of a series of structurally related racemates on cellulose triacetate

Marchenko GN, Sopin VF, Kovalenko VI,

Azancheev NM, Sergeev YN, Belova YM//Address not available

VYSOKOMOL SOEDIN SER B SSSR 1988 30 (4) 295

N-15 NMR high resolution spectrum of cellulose nitrate (Russian)

Wirsén A//Pharmacia LKB, Biotechnol AB, POB 305, S-16126 Brumma, Sweden

MAKROMOL CHEM-MACRO CHEM PHYS 1988 189 (4) 833

Characterization of cellulose nitrate with gel permeation chromatography - low angle laser light scattering (GPC-LALLS), GPC-IR, and membrane osmometry

Przybył M, Sugier H//Tech Univ Lodz, Inst Gen Food Chem, Stefanowskiego 4-10, PL-90924 Lodz, Poland

STARCH 1988 40 (5) 171

The properties of glucoamylase soluble and immobilized on DEAE-cellulose. Part II: Thermostability of glucoamylase

Rosell KG//British Columbia Res Council, Div Ind Chem, 3650 Westbrook Mall, Vancouver, BC, Canada V6S 2L2

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Distribution of substituents in O-ethylcellulose

Sribnaya VP, Kucheruk DD, Grishchenko LI//Acad Sci UkSSR, Inst Colloid Chem & Water Chem, Kiev, Ukraine, USSR

UKR KHIM ZH SSSR 1988 54 (6) 585

Separation of citric acid and citric buffer solutions on the ethyl cellulose membrane (Russian)

Huang Y, Chen MC, Li LS//Acad Sinica, Guangzhou Inst Chem, Guangzhou, Peoples R China

ACTA CHIM SIN 1988 46 (4) 367

Study on lyotropic liquid crystal of ethyl cyanoethyl cellulose (Chinese, English Abstract)

Van Zyl C, Prior BA, du Preez JC//Univ Orange Free State, Dept Microbiol, POB 339, Bloemfontein 9300, South Africa

APPL BIOCHEM BIOTECH 17 (APR) 357

Production of ethanol from sugar cane bagasse hemicellulose hydrolyzate by *Pichia stipitis*

Wen LF, Chang KC, Brown G, Gallaher DD//Rutgers State Univ, Cook Coll, Dept Food Sci, New Brunswick, NJ 08903, USA

J FOOD SCI 1988 53 (3) 826

Isolation and characterization of hemicellulose and cellulose from sugar beet pulp

Okieimen FE, Idehen KI//Univ Benin, Dept Chem, Benin City, Nigeria

ACTA POLYM 1988 39 (5) 236

Graft copolymerization of acrylonitrile, methyl methacrylate and vinyl acetate on bleached holocellulose by use of ceric ions

Rodu B, Russell CM//Univ Alabama, Sch Dent, Dept Diagnost Sci, Box 440, Univ Stn, Birmingham, Al 35294, USA

ORAL SURG ORAL MED ORAL PATHO 1988 65 (6) 699

Performance of a hydroxypropyl cellulose film former in normal and ulcerated oral mucosa

Bonn G, Oefner PJ, Bobleter O//Innsbruck Univ, Inst Radiochem, Innrain 52A, A-6020 Innsbruck, Austria

FRESENIUS Z ANAL CHEM 1988 331 (1) 46

Analytical determination of organic acids formed during hydrothermal and organosolv degradation of lignocellulosic biomass

Martin C, Negro MJ, Alfonsel M, Saez R//Ctr Invest Energet Medioambientales & Technol, Inst Energias Renovables, Div Biomasa, E-28040 Madrid, Spain

BIOTECHNOL BIOENG 1988 32 (3) 341

Enzymatic hydrolysis of lignocellulosic biomass from *Onopordum nervosum*

Wright JD, Wyman CE, Grohmann K//Solar Energy Res Inst, 1617 Cole Blvd, Golden, Co 80401, USA

APPL BIOCHEM BIOTECH 18 (AUG) 75

Simultaneous saccharification and fermentation of lignocellulose: process evaluation

Kaneko H, Yasuoka Y, Gamo K, Namba S//Natl Def Acad, Dept Elec Engn, Yokosuka, Kanagawa 239, Japan

J VACC SCI TECHNOL B 1988 6 (3) 982

Nitrocellulose as a self-developing resist for focused ion beam lithography

Toro H//Univ Chile, Fac Med Vet, Dept Med Prevent, Casilla 2, Correo 15, Santiago, Chile

J VET MED B-INFECT DIS IMMUN 1988 35 (2) 109

Avian infectious bronchitis diagnosis using an

enzyme immunoassay on nitrocellulose

Warren RC//Def Sci & Technol Org, Def Res Ctr, Weapons Syst Res Lab, Salisbury, SA, Australia

POLYMER 1988 29 (5) 919

Transitions and relaxations in plasticised nitrocellulose

3. Lignin

Adhi TP, Korus RA*, Pometto AL, Crawford DL//Univ Idaho, Dept Chem Engn, Moscow, Id 83843, USA

APPL BIOCHEM BIOTECH 18 (AUG) 291

Lignin degradation and production of microbially modified lignin polymers by *Streptomyces viridosporus* in slurry reactors

Conchie J, Hay AJ, Lomax JA//Rowett Res Inst, Bucksburn, AB2 9SB, Aberdeen, Scotland

CARBOHYD RES 1988 177 (JUN) 127

Soluble lignin-carbohydrate complexes from sheep rumen fluid: Their composition and structural features

Dart RK, Betts WB//Loughborough Univ Technol, Dept Chem, Loughborough LE11 3TU, Leics, England

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Alternative synthesis of lignin-related phenolic beta-aryl ethers

Dershem SM, Fisher TH, Johnson S, Schultz TP//Mississippi State Univ, Dept Chem, Mississippi State, Ms 39762, USA

HOLZFORSCHUNG 1988 42 (3) 163

Substituent effects in the nitrobenzene and copper (II) oxidations of some hydroxystilbene lignin model compounds

Leary GJ, Lloyd JA, Morgan KR//DSIR, Div Chem, Petone, New Zealand

HOLZFORSCHUNG 1988 42 (3) 199

A ¹³C CP/MAS NMR study of residual lignin in Kraft pulps

Miki K, Kondo R, Renganathan V, Mayfield MB, Gold MH*//Oregon Grad Ctr, Dept Chem & Biol Sci, Beaverton, Or 97006, USA

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Mechanism of aromatic ring cleavage of a beta-biphenyl ether dimer catalysed by lignin peroxidase of *Phanerochaete chrysosporium*

Ratcliff MA, Johnson DK, Posey FL, Chum HL*//Solar Energy Res Inst, Chem Convers Res Branch, 1617 Cole Blvd, Golden, Co 80401, USA

APPL BIOCHEM BIOTECH 17 (APR) 151

Hydrodeoxygenation of lignins and model compounds

Saka S, Goring DAI//Daicel Chem Ind Ltd, Res Ctr, 1239 Shinzaike, Aboshi ku, Himeji, Hyogo 67112, Japan

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The distribution of lignin in white birch wood as determined by bromination with TEM-EDXA

Tylli H, Forsskahl I, Olkkonen C//Univ Helsinki, Dept Chem, E Hesperiankatu 4, SF-00100 Helsinki 10, Finland

J PHOTOCHEM PHOTOBIOLOG A-CHEM 1988 43 (3) 345

A singlet oxygen generation system for use in the investigation of the involvement of oxygen in the yellowing of lignin

Vuori A, Bredenberg JB//Helsinki Univ Technol, Dept Chem Engr, SF-02150 Espoo, Finland

HOLZFORSCHUNG 1988 42 (3) 155

Liquefaction of Kraft lignin. 1. Primary reactions under mild thermolysis conditions

Wooten AL, Sellers T, Tahir PM//Mississippi State Univ, Sch Forest Resources, Dept Wood Sci & Technol, Mississippi State, Ms 39762, USA

FOREST PROD J 1988 38 (6) 45

Reaction of formaldehyde with lignin

Mandenius CF//Univ Lund, Ctr Chem, Dept Pue & Appl Biochem, POB 124, S-22100 Lund, Sweden

BIOTECHNOL BIOENG 1988 32 (2) 123

Controlling fermentation of lignocellulose hydrolysates in a continuous hollow-fiber reactor using biosensors

4. Polysaccharides

Brandenburg K, Seydel U//Forschungsinstitut Borstel, D-2061 Borstel, Fed Rep Ger

EUR BIOPHYS J 1988 16 (2) 83

Orientation measurements on membrane systems made from lipopolysaccharides and free lipid A by FT-IR spectroscopy

Kondo S, Iguchi T, Hisatsune K*//Josai Univ,

Sch Pharmaceut Sci, Dept Microbiol, Sakado, Saitama 35002, Japan

J GEN MICROBIOL 1988 134 (JUN) PT6 1699

A comparative study of the sugar composition of lipopolysaccharides isolated from *Vibrio cholerae*, '*Vibrio albensis*', and *Vibrio metschnikovii*

Meissner J, Pfennig N, Krauss JH, Mayer H, Weckesser J*//Univ Freiburg, Inst Biol 2, Schanzlestr 1, D-7800 Freiburg, Fed Rep Ger

J BACTERIOL 1988 170 (7) 3217

Lipopolysaccharides of *Thiocystis violacea*, *Thiocapsa pfennigii*, and *Chromatium tepidum*, species of the family Chromatiaceae

Oxley D, Wilkinson SG//Univ Hull, Dept Chem, Hull HU6 7RX, N Humberside, England

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Structure of a neutral polymer isolated from the lipopolysaccharide of the reference strain (CDC 4523-60) for *Serratia marcescens* serogroup O15

Adeyeye A, Jansson PE, Lindberg B, Abaas S, Svenson SB//Univ Stockholm, Arrhenius Lab, Dept Organ Chem, S-10691 Stockholm, Sweden

CARBOHYD RES 1988 176 (2) 231

Structural studies of the *Escherichia coli* O-149

O-antigen polysaccharide

Annison G, Dutton GGS, Mandal PK//Univ British Columbia, Dept Chem, 2036 Main Mall, Vancouver, BC, Canada V6T 1Y6

CARBOHYD RES 1988 177 (JUN) 278

Bacteriophage degradation of the capsular polysaccharide of *Klebsiella* K24 and determination of the position of the O-acetyl group

Asensio A//Univ Valencia, Dept Organ Chem, Valencia, Spain

J NAT PROD-LLOYDIA 1988 51 (3) 488

Polysaccharides from the cork of *Quercus suber*. 2. Hemicellulose

Crow VL//New Zealand Dairy Res Inst, Palmerston North, New Zealand

APPL ENVIRON MICROBIOL 1988 54 (7) 1892

Polysaccharide production by *Propionibacteria* during lactose fermentation

Englyst HN, Cummings JH//MRC, Dunn Clin Nutr Ctr, 100 Tennis Court Rd, Cambridge CB2 1QL, England

J ASSN OFFIC ANAL CHEM 1988 71 (4) 808

Improved method for the measurement of dietary fiber as non-starch polysaccharides in plant foods

Gowda DC, Sarathy C, Raju TS//NYU, Sch Med, Dept Pharmacol, 550 1st Ave, New York, NY 10016, USA

CARBOHYD RES 1988 177 (JUN) 117

Structural investigations on the mucilaginous polysaccharides isolated from bark of the avocado tree (*Persea americana* Mill)

Granoff DM, Suarez BK, Pandey JP, Shackelford PG//St Louis Childrens Hosp, 400 S Kingshighway Blvd, St Louis, Mo 63110, USA

J INFEC DIS 1988 157 (6) 1142

Genes associated with the G2m(23) immunoglobulin allotype regulate the IgG subclass responses to *Haemophilus influenzae* type b polysaccharide vaccine

Jann B, Ahrens R, Dengler T, Jann K*//Max Planck Inst Immunbiol, D-7800 Freiburg, Fed Rep Ger

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Structure of the capsular polysaccharide (K19 antigen) from uropathogenic *Escherichia coli* O25:K19:H12

Kalmykova EN, Gorshkova RP, Isakov VV, Ovodov YS//Acad Sci USSR, Far E Sci Ctr, Pacific Inst Bioorg Chem, Vladivostok, USSR

BIOORG KHM 1988 14 (5) 652

Structural studies of side-chains of the O-specific polysaccharide from lipopolysaccharide of *Yersinia enterocolitica*, serovar O-6.31 (Russian, English Abstract)

Kocharova NA, Vinogradov EV, Knirel YA, Shashkov AS, Kochetkov NK, Stanislavsky ES, Kholodkova EV//ND Zelinskii Organ Chem Inst, Moscow, USSR

BIOORG KHM 1988 14 (5) 697

The structure of the O-specific polysaccharide chains of the lipopolysaccharides of *Citrobacter* O32 and *Salmonella arizonae* O64 (Russian, English Abstract)

Kojima N, Kaya S, Araki Y, Ito E*//Hokkaido Univ, Fac Sci, Dept Chem, Kita 10 jyo, Nishi 8 chome, Kita ku, Sapporo 600, Japan

EUR J BIOCHEM 1988 174 (2) 255

Pyruvic-acid-containing polysaccharide in the cell wall of *Bacillus polymyxa* AHU 1385

Krochta JM, Tillin SJ, Hudson JS//USDA ARS, Western Reg Res Ctr, Albany, Ca 94710, USA

APPL BIOCHEM BIOTECH 17 (APR) 23

Thermochemical conversion of polysaccharides in concentrated alkali to glycolic acid

Kuhn MC, Grosch W//Deutsch Forschungsanstalt Lebensmittelchem, Lichtenbergstr 4, D-8046 Garching, Fed Rep Ger

J FOOD SCI 1988 53 (3) 889

Influence of the enzymatic modification of the nonstarchy polysaccharide fractions on the baking properties of reconstituted rye flour

Lenoir AA, Pandey JP, Granoff DM//Washington Univ, St Louis Childrens Hosp, Sch Med, Dept Pediat, Div Infect Dis, St Louis, Mo 63110, USA

J INFEC DIS 1988 157 (6) 1242

Antibody responses of black children to *Haemophilus influenzae* type b polysaccharide-*Neisseria meningitidis* outer-membrane protein conjugate vaccine in relation to the Km(1) allotype

Lin YF, Wu GL//Beijing Normal Univ, Fac Biol, Dept Biochem, Beijing 100088, Peoples R China

ACTA PHARMACOL SIN 1988 9 (4) 345

Protective effect of *Polyporus umbellatus* polysaccharides on toxic hepatitis in mice (Chinese, English Abstract)

Nakajima T, Nishihara H, Chiba Y, Matsuda K//Tohoku Univ, Fac Agr, Dept Agr Chem, Sendai, Miyagi 980, Japan

J FERMENT TECHNOL 1988 66 (3) 251

Structural alteration of cell wall polysaccharides from *Saccharomyces cerevisiae* mutants

Osman SF, Fett WF, Hicks KB//USDA ARS, Eastern Reg Res Ctr, 600 E Mermaid Lane, Philadelphia, Pa 19118, USA

CARBOHYD RES 1988 176 (2) 205

Structure of the O-antigen of *Pseudomonas syringae* pv *phaseolicola* strain NPS 3121

Pidoux M, Brillouet JM, Quemener B//ENTIAA, Gen Alimentaire Lab, Chemin Geraudiere, F-44072 Nantes, France

BIOTECHNOL LETT 1988 10 (6) 415

Characterization of the polysaccharides from a *Lactobacillus brevis* from sugary kefir grains

Prieto A, Ruperez P, Hernandez-Barranco A, Leal JA//CSIC, Ctr Invest Biol, Velazquez 144, E-28006 Madrid, Spain

CARBOHYD RES 1988 177 (JUN) 265

Partial characterisation of galactofuranose-containing heteropolysaccharides from the cell walls of *Talaromyces helicus*

Ray B, Ghosal PK, Thakur S, Majumdar SG//Univ Burdwan, Nat Prod Lab, Dept Chem, Burdwan 713104, W Bengal, India

CARBOHYD RES 1988 176 (2) 324

Structural studies of a neutral polysaccharide from the root bulb of *Mirabilis jalapa*

Shyamali S, de Silva M, Kumar NS//Dept Chem, Univ Peradeniya, Peradeniya, Sri Lanka

CARBOHYD POLYM 1988 9 (1) 49

Composition of the water-soluble polysaccharide isolated from the leaves of *Cyclea burmanni*

Stanislavsky ES, Kholodkova EV, Knirel YA, Kocharova NA//II Mechnikov Vaccine & Serum Inst, Moscow, USSR

ZH MIKROB EPIDEM IMMUNOB SSSR (6) (JUN) 3

Structure of O-specific polysaccharides and the protective activity of lipopolysaccharides obtained from *Pseudomonas aeruginosa* of 7 immunotypes (according to Fisher Classification) (Russian, English Abstract)

Yamasaki R//Univ Calif San Francisco, Vet Adm Med Ctr, Dept Lab Med, 113A, San Francisco, Ca 94121, USA

BIOCHEM BIOPHYS RES COMMUN 1988 154 (1) 159

2D NMR analysis of group B capsular polysaccharide of *Neisseria meningitidis*: Complete assignment of ^1H NMR spectrum of B polysaccharide of strain 6275

Klein J, Blumenberg K//GBE, Mascheroder Weg 1, D-3300 Braunschweig, Fed Rep Ger

MAKROMOL CHEM-MACRO CHEM PHYS 1988 189 (4) 805

Poly(vinylsaccharide)s. 4. Synthesis and polymerization of 6-O-methylallylgalactose derivatives

5. Starch

Hui Y, Gai Y//Chinese Acad Sci, Shanghai Inst Organ Chem, 345 Lingling Lu, Shanghai,

Peoples R China

MAKROMOL CHEM-MACRO CHEM PHYS 1988 189 (6) 1287

Influence of inter-turn hydrogen bonding on the stabilization of the helical inclusion complex of amylose

Siso MIG, Murado MA*, Franco JM, Miron J, Gonzalez MP//CSIC, Inst Invest Marinas, Eduardo Cabello 6, E-36208 Vigo, Spain

BIOTECHNOL LETT 1988 10 (6) 431

Microfungus-yeast mixed cultures in the degradation of amylaceous wastes. I: Interactions affecting amylolytic activity

Boneh A, Landau H, Abramovitch N//Montreal Childrens Hosp, Dept Biochem Genet, 2300 Tupper St, Montreal, Quebec, Canada H3H 1P3

AMER J CLIN NUTR 1988 47 (6) 1001

Raw cornstarch as an additional therapy in nesidioblastosis

Brockett E, Thompson D, Davis T, Boyer C//Penn State Univ, Dept Food Sci, University Pk, Pa 16802, USA

STARCH 1988 40 (5) 175

Gelatinization characteristics of starch from du, wx, ae, and ae wx endosperm of sweet corn inbred Ia5125

Chang SM//Acad Sinica, Inst Chem, Taipei 115, Taiwan

J FOOD SCI 1988 53 (3) 837

Characterization of starch from *Sagittaria trifolia* L var *sinensis* Makino

Chinnaswamy R, Hanna MA//Univ Nebraska, Dept Agr Engr, Lincoln, Ne 68583, USA

J FOOD SCI 1988 53 (3) 834

Optimum extrusion-cooking conditions for maximum expansion of corn starch

Chinnaswamy R, Hanna MA//Univ Nebraska, Dept Agr Engr, Lincoln, Ne 68583, USA

STARCH 1988 40 (5) 186

Expansion, color and shear strength properties of corn starches extrusion-cooked with urea and salts

Eligwe CA, Okorie BA, Chukwudorue CO, Orumwense FFO//New Mexico Inst Min & Technol, Dept Mat & Met Engr, Socorro, NM 87801, USA

J CHEM TECHNOL BIOTECHNOL 1988 42

(2) 135

The adsorption of causticized cassava starch on coal-washery effluent solids in relation to flocculation

Ershov BG, Isakova OV//Acad Sci USSR, Inst Phys Chem, Moscow V-71, USSR

BULL ACAD SCI USSR D CHEM SCI 1987 36 (10) PT2 2166

Nature of the radicals arising upon the gamma-irradiation of starch and maltose

FOOD TECHNOL 1988 42 (6) 160

Introducing new line of cold water-swelling starches

German ML, Gotlib AM, Blyumenfeld AL, Yurev VP, Braudo EE, Fedin EI, Tolstoguzov VB, Aikhoff U//Moscow Organoelement Cpd Chem & Technol Res Inst, Moscow, USSR

ZH FIZ KHIM SSSR 1988 62 (4) 1054

Water distribution in dispersions and gels of starch, isolated from different products (Russian)

Gottvaldova M, Hrabova H, Sillinger V, Kucera J//Res Inst Food Ind, Dept Microbial Enzymes, Belidle 21, CS-15038 Prague 5, Czechoslovakia

J CHROMATOGR-BIOMED APPL 1988 427 (2) 331

Biospecific sorption of cyclodextrin glucosyl-transferase on physically modified starch

Hebeish A, El-Alfy E, Bayazeed A//Natl Res Ctr, Div Text Res, Cairo, Egypt

STARCH 1988 40 (5) 191

Synthesis of vinyl polymer-starch composites to serve as size base materials

Hizukuri S, Takeda Y, Shitaozono T, Abe J, Oh-takara A, Takeda C, Suzuki A//Kagoshima Univ, Dept Agr Chem, Korimoto-1, Kagoshima 890, Japan

STARCH 1988 40 (5) 165

Structure and properties of water chestnut (*Trapa natans* L var *bispinosa* Makino) starch

Hoogenboom G, Huck MG, Peterson CM, Goli A//Univ Florida, Dept Agr Engr, Gainesville, FL 32611, USA

J ASSN OFFIC ANAL CHEM 1988 71 (4) 844

Automated microanalysis for reducing sugars, sucrose, and starch in single soybean leaflets

Inlow D, McRai J, Ben-Bassat A**Cetus Corp, 1400 53rd St, Emeryville, Ca 94608, USA

BIOTECHNOL BIOENG 1988 32 (2) 227

Fermentation of corn starch to ethanol with genetically engineered yeast

Kim CH, Lee GM, Abidin Z, Han MH, Rhee SK//Korea Adv Inst Sci & Technol, Genet Engr Res Ctr, Biochem Proc Lab, POB 131, Seoul 131, South Korea

ENZYME MICROB TECHNOL 1988 10 (7) 426

Immobilization of *Zymomonas mobilis* and amyloglucosidase for ethanol production from sago starch

Kozlova NY, Melnichenko IV, Liptuga NI, Yasnikov AA//Acad Sci UkSSR, Inst Bioorgan Chem, Kiev, Ukraine, USSR

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Solid phase synthesis of phosphorylated starch (Ukrainian, English Abstract)

Kwak YT, Winter WT**SUNY Coll Environm Sci & Forestry, Dept Chem, Syracuse, NY 13210, USA

J APPL POLYM SCI 1988 35 (8) 2091

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Meredith FI, Thomas CA, Snook ME, Himmelsbach DS, Van Halbeek H//USDA ARS, Richard B Russell Agr Res Ctr, POB 5677, Athens, Ga 30613, USA

J FOOD SCI 1988 53 (3) 768

Soluble carbohydrates, oligosaccharides and starch in lima bean seeds

Shetty K, Crawford DL*, Korus RA, Pometto AL**Univ Idaho, Dept Bacteriol Biochem, Moscow, Id 83843, USA

APPL BIOCHEM BIOTECH 17 (APR) Amylase activity and L-phenylalanine overproduction from starch by an analog resistant mutant of *Bacillus polymyxa*

Subbaramaiah K, Sharma R//Univ Hyderabad, Sch Life Sci, Hyderabad 500134, Andhra Pradesh, India

STARCH 1988 40 (5) 182

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Taki M, Suzuki K, Hisamatsu M, Yamada

T*//Mie Univ, Fac Agr, Tsu, Mie 514, Japan
 STARCH 1988 40 (5) 177

Gel chromatography of residue and extract obtained from starch granules by hot aqueous 1-butanol solution treatment

Vanaerde P, Remon JP*//State Univ Ghent, Pharmaceut Technol Lab, Harelbekestr 72, B-9000 Ghent, Belgium

INT J PHARM 1988 45 (1-2) 145

In vitro evaluation of modified starch as matrices for sustained release dosage forms

Walker C, Ross AS, Wrigley CW, McMaster GJ//Kansas State Univ Agr & Appl Sci, Dept Grain Sci & Ind, Manhattan, Ks 66506, USA

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Yamaguchi M, Watamoto H, Sakamoto M//Nihon Shokuhin Kato Co Ltd, Chiyodaku, Tokyo 100, Japan

CARBOHYD POLYM 1988 9 (1) 15

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De Iannino NI, Couso RO, Dankert MA*//Fac Ciencias Exactas Nat Buenos Aires, Fdn Campomar, Inst Invest Bioquim, Antonio Machado 151, RA-1405 Buenos Aires, Argentina

J GEN MICROBIOL 1988 134 (JUN) PT6 1731

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Lahaye M, Yaphe W//INRA-LBTG, Rue Geraudiere, 44072 Nantes Cedex, France

CARBOHYD POLYM 1988 8 (4) 285

Effects of seasons on the chemical structure and gel strength of *Gracilaria pseudoverrucosa* agar (*Gracilariaceae*, *Rhodophyta*)

Schmaltz G//Univ Regensburg, Zahnerhaltung & Padontol Poliklin, Univ Str 31, D-8400 Regensburg, Fed Rep Ger

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Agar overlay method

Belton PS, Hills BP, Raimbaud ER//AFRC, Inst Food Res, Norwich Lab, Colney Lane, Norwich NR4 7UA, Norfolk, England

MOL PHYS 1988 63 (5) 825

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Bite MG, Berezenko S, Reed FJS, Derry L//Sterling Organ R & D, Edgefield Ave, Newcastle-upon-Tyne NE3 3TT, England

APPL BIOCHEM BIOTECH 1988 18 (AUG) 275

Macrosorb kieselguhr-agarose composite adsorbents: New tools for downstream process design and scaleup

Clarke AD, Sofos JN, Schmidt GR//Univ Missouri, Dept Food Sci & Nutr, 21 Agr Bldg, Columbia, Mo 65211, USA

J FOOD SCI 1988 53 (3) 711

Effect of algin/calcium binder levels on various characteristics of structured beef

Adami A, Cavazzoni V*, Trezzi M, Craveri R//Univ Milan, Dipartimento Sci & Tecnol Alimentari & Microbiol, I-20133 Milan, Italy

BIOTECHNOL BIOENG 1988 32 (3) 391

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Axelsson A, Persson B//Univ Lund, Dept Chem Engn, Box 124, S-22100 Lund, Sweden

APPL BIOCHEM BIOTECH 18 (AUG) 231

Determination of effective diffusion coefficients in calcium alginate gel plates with varying yeast cell content

Daly MM, Knorr D//Univ Delaware, Dept Food Sci, Biotechnol Grp, Newark, De 19716, USA

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Iso N, Mizuno H, Saito T, Enomoto M, Ohgoshi M, Ohzeki F//Tokyo Univ Fisheries, Dept Food Sci & Technol, Tokyo 108, Japan

NIPPON SUISAN GAKKAISHI 1988 54 (6) 1023

Effect of ratio of mannuronic acid to guluronic acid on solution properties of sodium alginate

Yonese M, Baba K, Kishimoto H//Nagoya City Univ, Fac Pharmaceut Sci, Tanabe dori, Mizuho ku, Nagoya, Aichi 467, Japan

BULL CHEM SOC JPN 1988 61 (6) 1857

Stress relaxation of alginate gels crosslinked by various divalent metal ions

Yonese M, Baba K, Kishimoto H//Nagoya City Univ, Fac Pharmaceut Sci, Mizuho ku, Nagoya, Aichi 467, Japan

BULL CHEM SOC JPN 1988 61 (4) 1077

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Rombouts FM, Voragen AGJ, Searle-van Leeuwen MF, Geraeds CCJM, Schols HA, Pilnik W//Agr Univ, Dept Food Sci, De Dreijen 12, 6703 BC Wageningen, The Netherlands

CARBOHYD POLYM 1988 9 (1) 25

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Mollion J, Morvan H, Bellanger F, Moreau S//Univ Sci & Tech Lille Flandres Artois, Ufr Biol, Equipe Polysaccharides Parietaux Vegetaux, F-59650 Villeneuve Dascq, France

PHYTOCHEMISTRY 1988 27 (7) 2023

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Kurita K, Yoshida A, Koyama Y//Seikei Univ, Fac Engn, Dept Ind Chem, Musashino, Tokyo 180, Japan

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Bai RK, Huang MY, Jiang YY//Acad Sinica, Inst Chem, Beijing 100080, Peoples R China

POLYM BULL 1988 20 (1) 83

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Pal MK, Pal PK//Kalyani Univ, Dept Biochem & Biophys, Kalyani 741235, W Bengal, India

MAKROMOL CHEM-RAP COMM 1988 9 (4) 237

Circular dichroism in extrinsic chromophores induced by chitosan

Acerbi D, Bonati C, Boscarino G, Bufalino L, Cesari F, D'Ambrosio E, Mansanti P, Scali G//Chiesi Farmaceut Spas, Pharmacotoxicol Res Labs, Parma, Italy

INT J CLIN PHARM RES 1988 8 (3) 175

Pharmacokinetic study on piroxicam at the steady state in elderly subjects and younger adults after administration of piroxicam beta-

cyclodextrin

Diaz A, Quintela PA, Schuette JM, Kaifer AE**//Univ Miami, Dept Chem, Coral Gables, Fl 33124, USA

J PHYS CHEM 1988 92 (12) 3537

Complexation of redox-active surfactants by cyclodextrins

Dong SJ, Zhang DB//Acad Sinica, Changchun Inst Appl Chem, Changchun, Peoples R China

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Enmanji K//Mitsubishi Elect Corp, Mat Engn Lab, Amagasaki, Hyogo 661, Japan

J POLYM SCI A-POLYM CHEM 1988 26 (5) 1465

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Eshima K, Matsushita Yi, Hasegawa E, Nishide H, Tsuchida E//Taiho Pharmaceut Co Ltd, Tokushima Res Inst, Tokushima 77101, Japan

NIPPON KAGAKU KAISHI 1988 (4) (APR) 518

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Fujiki M, Deguchi T, Sanemasa I**//Kumamoto Univ, Fac Sci, Dept Chem, Kurokami 2-39-1, Kumamoto 860, Japan

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Hamilton JA, Chen L//Indiana Univ, Sch Med, Dept Biochem, Indianapolis, In 46223, USA

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Harata K//Res Inst Polymers & Text, 1-1-4 Higashi, Tsukuba, Ibaraki 305, Japan

BULL CHEM SOC JPN 1988 61 (6) 1939

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Hui YZ, Gai YH, Chen XE//Chinese Acad Sci, Shanghai Inst Organ Chem, Shanghai, Peoples R China

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Jobe DJ, Verrall RE, Palepu R, Reinsborough VC**/Mt Allison Univ, Dept Chem, Sackville, NB, Canada E0A 3C0

J PHYS CHEM 1988 92 (12) 3582

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Kano K, Yoshiyasu K, Hashimoto S//Doshisha Univ, Fac Engn, Dept Appl Chem, Kyoto 602, Japan

J CHEM SOC CHEM COMMUN 1988 (12) (JUN) 801

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Lincoln SF, Hounslow AM, Coates JH, Villani RP, Schiller RL//Univ Adelaide, Dept Phys & Inorgan Chem, Adelaide, SA 5001, Australia

J INCLUSION PHENOM 1988 6 (2) 183

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Monma M, Mikuni K, Kainuma K//Minist Agr Forestry & Fisheries, Natl Food Res Inst, 2-1-2 Kannondai, Tsukuba, Ibaraki 305, Japan

BIOTECHNOL BIOENG 1988 32 (3) 404

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Muto M, Mori W//Seiwa Technol Labs Ltd, Itabashi ku, Tokyo 174, Japan

NIPPON KAGAKU KAISHI 1988 (4) (APR) 533

Preparation of metal complexes with modified cyclodextrins $[\text{Cu}_2(\text{salen}_2\text{-alphaCD})]^{2+}$ and $[\text{Fe}(\text{por-betaCD}_2)]^+$ (Japanese, English Abstract)

Patonay G, Fowler K, Nelson G, Warner IM**//Emory Univ, Dept Chem, Atlanta, Ga 30322, USA

ANAL CHIM ACTA 1988 207 (1-2) 251

Investigation of ternary cyclodextrin complexes by fluorescence spectrometry

Pitha J, Irie T, Sklar PB, Nye JS//NIA, Ctr Geriatr, Baltimore, Md 21224, USA

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Sakurai M, Kitagawa M, Hoshi H, Inoue Y, Chujo R//Tokyo Inst Technol, Dept Polymer Chem, 12-1 Ookayama 2 chome, Meguro ku, Tokyo 152, Japan

CHEM LETT 1988 (5) (MAY) 895

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Smulevich G, Feis A, Mazzi G, Vincieri FF//Univ Florence, Dept Chem, I-50121 Florence, Italy

J PHARM SCI 1988 77 (6) 523

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Taraszewska J, Sledzik J, Piasecki AK//Polish Acad Sci, Inst Phys Chem, Pl-01224 Warsaw, Poland

J ELECTROANAL CHEM INTERFAC 1988 247 (1-2) 287

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Tarimci N, Celebi N//Univ Ankara, Fac Pharm, Dept Pharmaceut Technol, Ankara, Turkey

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Tonellato U//Univ Padua, Dipartimento Chim Organ, CNR, Ctr Meccanismi Reaz Organ, Via Marzolo 1, I-35131 Padua, Italy

BULL SOC CHIM FRANCE 1988 (2) (MAR-APR) 277

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Warner IM, Nelson G, Patonay G, Blyshak L, Neal SL//Emory Univ, Dept Chem, Atlanta, Ga 30322, USA

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Yamaguchi H, Higashi M, Oda M//Ibaraki Univ, Coll Technol, 4-12-1 Nakanarusawa, Hitachi 316, Japan

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Yu EKC//Stake Technol Ltd, 208 Wyecroft Rd, Oakville, Ontario, Canada L6K 3T8

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Joo I, Emod J//WHO, Collaborating Ctr Reference & Res Bacterial Vaccines, Human Inst Serobacteriol Prod & Res, H-1107 Budapest, Hungary

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Mellbye OJ, Froland SS, Lilleaasen P, Svennevig JL, Mollnes TE//FR Qvamsgt 1, N-0172 Oslo 1, Norway

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Zygmunt D, Labrude P, Vigneron C, Sacco D, Dellacherie E//Ecole Natl Super Ind Chim, Chim Phys Macromolec Lab, CNRS, UA 494, 1 Rue Grandville, F-54042 Nancy, France

J CHIM PHYS PHYS-CHIM BIOL 1988 85 (2) 315

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Anderson DMW, Brydon WG, Eastwood MA//Univ Edinburgh, Dept Chem, Edinburgh EH9 3JJ, Midlothian, Scotland

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Adachi Y, Ohno N, Yadomae T, Suzuki Y, Sato K, Oikawa S//Tokyo Coll Pharm, Immunopharmacol Microbial Prod Lab, Hachioji, Tokyo 19203, Japan

CARBOHYD RES 1988 177 (JUN) 91

Degradation with formic acid of conformationally different (1-3)-beta-D-glucans isolated from liquid-cultured mycelium of *Grifola frondosa*

Baron M, Gorin PAJ, Iacomini M//Univ Fed Parana, Dept Bioquim, CP 19046, BR-81504

Curitiba, Parana, Brazil

CARBOHYD RES 1988 177 (JUN) 235

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Kato Y, Otsuki T, Nakajima T, Ojima K, Matsuda K//Hirosaki Univ, Fac Educ, Food Sci Lab, Hirosaki, Aomori 036, Japan

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Kogan G, Alföldi J, Masler L//Slovak Acad Sci, Inst Chem, CS-84238 Bratislava, Czechoslovakia

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Mol PC, Vermeulen CA, Wessels JGH//State Univ Groningen, Ctr Biol, Dept Plant Physiol, 9751 NN Haren, The Netherlands

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Garcia MJ, Charlez M, Fauli C, Carrascosa AdP, Ghirardi PE//Farmasimes SA, Calle Zamora 46, E-08005 Barcelona, Spain

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Vemuri S//Cooper Labs Inc, 455 E Middlefield Rd, Mt View, Ca 94039, USA

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Bjornsson TD, Schneider DE, Hecht AR//Thomas Jefferson Univ, Jefferson Med Coll, Dept Med, Div Clin Pharmacol, 1100 Walnut St, Philadelphia, Pa 19107, USA

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Lund T, Smidsrod O, Stokke BT, Elgsaeter A//Statoil, PO 300, Forus, N-4001 Stavanger, Norway

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Milas M, Rinaudo M*, Tinland B, de Murcia G//*Univ J Fourier, Ctr Rech Macromolec Vegetales, CNRS, Lab Propre, BP 53, F-38042 Grenoble, France

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Sadler GD, Nelson PE//Univ Florida, Ctr Agr Res & Educ, Inst Food & Agr Sci, Ctr Citrus Res & Educ, 700 Expt Stn Rd, Lake Alfred, FL 33850, USA

J FOOD SCI 1988 53 (3) 873

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Tako M, Nakamura S//Univ Ryukyus, Coll Agr, Dept Agr Chem, Nishihara, Okinawa 90301, Japan

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Paice MG, Bernier R, Jurasek L//Pulp & Paper Res Inst Canada, 570 St Johns Blvd, Pointe Claire, Quebec, Canada H9R 3J9

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Usov AI, Dobkina IM//ND Zelinskii Organ Chem Inst, Moscow, USSR

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