

BIBLIOGRAPHY ON CARBOHYDRATE POLYMERS

1 Books, Reviews and Symposia

WIEN KLIN WOCHENSCHR 1988, 100 (24) SUPPL 178

Special Issue - Hyaluronidase - An effective substance in the treatment of malignant disease - Papers presented in the framework of the 6th Workshop of the Ludwig Institute for Leukemia Research and Hematology, Vienna (February 1-13, 1988) (German, English Abstracts)

2 Cellulose

Chen HH//IBM Corp, Div Gen Prod, 6300 Diagonal Highway, Boulder, Co 80301, USA
J APPL POLYM SCI 1989, 37 (2) 365

In situ determination of calcium carboxymethyl-cellulose on a cellulose film via ion exchange

Sikkema DJ, Janssen H//Enka BV, Res Inst Arnhem, Velperweg 76, Arnhem, The Netherlands

MACROMOLECULES 1989, 22 (1) 364
(Carboxymethyl)cellulose with xanthan gum like rheology

Westra JG//Akzo Corp Res Labs, Velperweg 76, 6800 AB Arnhem, The Netherlands
MACROMOLECULES 1989, 22 (1) 367

Rheology of (carboxymethyl)cellulose with xanthan gum properties

Acebal C, Castillon MP, Estrada P, Mata I, Aguado J, Romero D//Univ Complutense Madrid, Fac Quim, Dept Bioquim, E-28040 Madrid, Spain

ACTA BIOTECHNOL 1988, 8 (6) 487
Production of cellulases by *Trichoderma reesei* QM 9414 in batch and fed-batch cultures on wheat straw

Alea F, Rodriguez H, Enriquez A//Ctr Nacl Invest Cient, Apartado 6990, La Habana, Cuba
INTERFERON BIOTECNOL 1988, 5 (2) 158
Production of hypercellulolytic mutants of *Cel-*

lulomonas (Spanish, English Abstract)

Allen AL, Roche CD//USA, Natick Res & Dev Ctr, Sci & Adv Technol Directorate, Natick, Ma 01760, USA

BIOTECHNOL BIOENG 1989, 33 (5) 650
Effects of strain and fermentation conditions on production of cellulase by *Trichoderma reesei*

Chen HC, Grethlein HE**//Michigan Biotechnol Inst, POB 27609, Lansing, Mi 48909, USA
BIOTECHNOL LETT 1988, 10 (12) 913
Effects of cellulase size reduction on activity and accessibility

Garcia A, Oh S, Engler CR//Texas A&M Univ, Dept Agr Chem, College Stn, Tx 77843, USA
BIOTECHNOL BIOENG 1989, 33 (3) 321
Cellulase immobilization on Fe₃O₄ and characterization

Kyriacou A, Neufeld RJ, MacKenzie CR//McGill Univ, Dept Chem Carcinogenesis, 3480 Univ St, Montreal, Quebec, Canada H3A 2A7
BIOTECHNOL BIOENG 1989, 33 (5) 631
Reversibility and competition in the adsorption of *Trichoderma reesei* cellulase components

Nigam P, Prabhu KA//103-304 Colonelganj, Kanpur, India
BIOTECHNOL LETT 1988, 10 (12) 919
Thermal activation and stability of cellulases derived from two basidiomycetes

Pizziranikleiner AA, Neirotti E, Goldman GH, Deazevedo JL, Furlaneto MC, Vicente VA, Rodriguez EC//Univ Sao Paulo, E Esalq, Inst Genet, Caixa Postal 83, BR-13400 Piracicaba, SP, Brazil
INTERFERON BIOTECNOL 1988, 5 (1) 77
Isolation and genetic studies for improvement of cellulolytic fungi (Spanish, English Abstract)

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.

Szczodrak J//Marie Curie Skłodowska Univ,
Dept Appl Microbiol, 19 Akad St, PL-20033
Lublin, Poland

ACTA BIOTECHNOL 1988, 8 (6) 509

Production of cellulases and xylanase by
Trichoderma reesei F-522 on pretreated wheat
straw

Arai K, Udagawa H//Gunma Univ, Fac Engr,
Kiryu, Gunma 376, Japan

MAKROMOL CHEM-RAPP COMM 1988, 9
(12) 797

Application of photoresponsive groups-containing
cellulose as an adsorbent for thin layer
chromatography

Barkalow DG, Rowell RM*, Young RA//*Univ
Wisconsin, Dept Forestry, 1630 Linden Dr,
Madison, WI 53706, USA

J APPL POLYM SCI 1989, 37 (4) 1009

A new approach for the production of cellulose
acetate: acetylation of mechanical pulp with sub-
sequent isolation of cellulose acetate by differen-
tial solubility

Bindschaedler C, Gurny R, Doelker E//Univ
Geneva, Sch Pharm, CH-1211 Geneva 4, Switzer-
land

J APPL POLYM SCI 1989, 37 (1) 173

Influence of emulsifiers on film formation from
cellulose acetate latexes. Modeling approach to
the fate of emulsifiers in highly plasticized films.
II

Cooley S, Antal MJ//Univ Hawaii, Dept Mech
Engr, Honolulu, HI 96822, USA

J ANAL APPL PYROL 1988, 14 (2-3) 149

Kinetics of cellulose pyrolysis in the presence of
nitric oxide

Delgado J//Address not available

INTERFERON BIOTECNOL 1988, 5 (1) 82

Biochemistry and genetics of cellulose degrada-
tion (Spanish, English Abstract)

Dernovaya LI, Eltekov YA*//*Acad Sci USSR,
Inst Phys Chem, Moscow 117915, USSR

J CHROMATOGR 1988, 455 (NOV) 263

Retention and heats of adsorption of hydrocar-
bons and aliphatic alcohols on cellulose

Fairbrother TE, Brink GE//USDA ARS, Crop
Sci Res Lab, Forage Res Unit, POB 5367, Mis-
sissippi State, MS 39762, USA

CROP SCI 1989, 29 (1) 209

Forage source and maturity effects on enzymatic
digestion rate of isolated cellulose

Hofmann D, Fink H-P, Philipp B//Acad Sci
GDR, Inst Polymer Chem Erich Correns, DDR-
1530 Teltow Seehof, Ger Dem Rep

POLYMER 1989, 30 (2) 237

Lateral crystallite size and lattice distortions in
cellulose II samples of different origin

Horrocks AR, Price D*, Tunc M//*Univ Sal-
ford, Dept Chem & Appl Chem, Salford M5
4WT, Lancs, England

J APPL POLYM SCI 1989, 37 (4) 1051

Studies on the temperature dependence of ex-
tinction oxygen index values for cellulose
fabrics. II. Commercial quality flame-retarded
cotton

Kerley MS, Garleb KA, Fabey GC, Berger LL,
Moore KJ, Phillips GN, Gould JM//Univ Mis-
souri, Columbia, MO 65211, USA

J ANIM SCI 1988, 66 (12) 3235

Effects of alkaline hydrogen peroxide treatment
of cotton and wheat straw on cellulose crystal-
linity and on composition and site and extent of
disappearance of wheat straw cell wall phenolics
and monosaccharides by sheep

Kowsaka K, Okajima K, Kamide K*//*Asahi
Chem Ind Co Ltd, Fundamental Res Lab Fibers
& Fiber Forming Polymers, 11-7 Hachchonawate,
Takatsuki, Osaka 569, Japan

POLYM J 1988, 20 (12) 1091

Two-dimensional nuclear magnetic resonance
spectra of cellulose and cellulose triacetate

Lee NE, Lima M, Woodward J*//*Oak Ridge
Nat'l Lab, Div Chem Technol, Oak Ridge, TN
37831, USA

BIOCHIM BIOPHYS ACTA, 1988, 967 (3) 437

Hydrolysis of cellulose by a mixture of *Tricho-*
derma reesei cellobiohydrolase and *Aspergillus*
niger endoglucanase

Maldas B, Kokta BV, Daneault C//Univ
Quebec, Ctr Rech Pates & Papiers, CP 500,
Trois Rivières GA9 5H7, Quebec, Canada

J APPL POLYM SCI 1989, 37 (3) 751

Influence of coupling agents and treatments on
the mechanical properties of cellulose fiber-
polystyrene composites

Miyamoto T, Takahashi S, Ito H, Inagaki H,

Noishiki Y//Kyoto Univ, Inst Chem Res, Uji,
Kyoto 611, Japan

J BIOMED MATER RES 1989, 23 (1) 125

Tissues biocompatibility of cellulose and its
derivatives

Nishio Y, Manley RSJ//Address not available

MACROMOLECULES 1989, 22 (1) 502

Cellulose/poly(vinyl alcohol) blends prepared
from solutions in N,N-dimethylacetamide-
lithium chloride (Correction)

Nishioka N, Kosai K, Uno M//Osaka Electro-
commun Univ, Fac Engrn, Neyagawa, Osaka 572,
Japan

POLYMER 1989, 30 (1) 182

Permeability through cellulose membranes
grafted with vinyl monomers in a homogeneous
system: 5. 2-hydroxyethyl methacrylate grafted
cellulose membranes

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

J APPL POLYM SCI 1989, 37 (5) 1253

Studies in the graft copolymerization of vinyl
monomers on cellulosic materials

Pietersz RNI, Dekker WJA, Reesink HW//Red
Cross Bloodbank Amsterdam, POB 9137, 1006
AC Amsterdam, The Netherlands

VOX SANG 1989, 56 (1) 37

A new cellulose acetate filter to remove
leukocytes from buffy-coat-poor red cell con-
centrates

Rajeshwar K, Kaneko M//Univ Texas, Dept
Chem, Arlington, Tx 76019, USA

LANGMUIR 1989, 5 (1) 255

Luminescence probe studies on naked and cad-
mium sulfide modified cellulose matrices

Sapieha S, Pupo JF, Schreiber HP//Ecole
Polytech, Pulp & Paper Res Inst Canada,
Montreal, Quebec, Canada H3C 3A7

J APPL POLYM SCI 1989, 37 (1) 233

Thermal degradation of cellulose-containing
composites during processing

Tailliez P, Girard H, Longin R, Beguin P*, Mil-
let J//Inst Pasteur, Unite Physiol Cellulaire, 28
Rue Dr Roux, F-75724 Paris 15, France

APPL ENVIRON MICROBIOL 1989, 55 (1)
203

Cellulose fermentation by an asporogenous

mutant and an ethanol-tolerant mutant of
Clostridium thermocellum

Tailliez P, Girard H, Millet J, Beguin P*//Inst
Pasteur, Unite Physiol Cellulaire, 28 Rue Dr
Roux, F-75724 Paris 15, France

APPL ENVIRON MICROBIOL 1989, 55 (1)
207

Enhanced cellulose fermentation by an
asporogenous and ethanol-tolerant mutant of
Clostridium thermocellum

Wood BF, Conner AH, Hill CG*//Univ Wis-
consin, Dept Chem Engrn, Madison, WI 53706,
USA

J APPL POLYM SCI 1989, 37 (5) 1373

The heterogenous character of the dilute acid
hydrolysis of crystalline cellulose

Liotta LJ, Bernotas RC, Wilson DB, Ganem
B*//Cornell Univ, Dept Chem, Baker Lab,
Biochem Molec & Cellular Biol Sect, Ithaca,
NY 14853, USA

J AMER CHEM SOC 1989, 111 (2) 783

A new class of endoglycosidase inhibitors.
Studies on endocellulases

Nesic M//Res Inst Galenika, Belgrade, Yugos-
lavia

ACTA PHARM JUGOSL 1988, 38 (4) 381

Influence of compression pressure on kinetics of
iron sulfate release from tablets containing ethyl
cellulose

Focher B, Marzetti A, Naggi A, Torri G//Staz
Sperimentale Cellulosa Carta & Fibre Tessili,
Piazza L Davinci 26, I-20133 Milano, Italy

MAKROMOL CHEM-MACRO CHEM PHYS
1989, 190 (1) 129

Sulfopropylated hemicellulose: Synthesis and
NMR characterization

Kostov V, Zhelev S, Lazarova G, Sokolov T,
Ivanova V, Vassileva M//Bulgarian Acad Sci,
Inst Microbiol, BU-1113 Sofia, Bulgaria

DOKL BOLG AKAD NAUK 1988, 41 (10) 97

Studies on the growth of yeasts in hemicellulose
beech wood hydrolysates

Okieimen F, Idehen K//Univ Benin, Dept
Chem, PMB 1154, Benin City, Nigeria

ANGEW MAKROMOL CHEM 1988, 164
(DEC) 93

Some aspects of graft copolymerization of

holocellulose

Suto S, Gotoh H, Nishibori W, Karasawa M//Yamagata Univ, Fac Engn, Dept Polymer Chem, Jonan 4-3-16, Yonezawa, Yamagata 992, Japan

J APPL POLYM SCI 1989, 37 (4) 1147

Rheology of liquid crystalline solutions of hydroxypropyl cellulose in m-cresol

Suto S, Nishibori W, Kudo K, Karasawa M//Yamagata Univ, Fac Engn, Dept Polymer Chem, Jonan 4-3-16, Yonezawa, Yamagata 992, Japan

J APPL POLYM SCI 1989, 37 (3) 737

Lyotropic liquid crystalline solutions of hydroxypropyl cellulose in water: effect of salts on the turbidity and viscometric behavior

Begum A, Rashid H, Choudhury N*//Atom Energy Res Estab, Inst Food & Radiat Biol, GPO Box 3787, Dhaka 1000, Bangladesh

J FERMENT TECHNOL 1988, 66 (6) 681

Saccharification of gamma-ray and alkali pretreated lignocellulosics

Castillo S, Bennini S, Gas G, Traverse JP//Univ Toulouse 3, Rech Energie Lab, 38 Rue 36 Ponts, F-31400 Toulouse, France

FUEL 1989, 68 (2) 174

Pyrolysis mechanisms studied on labelled lignocellulosic materials: method and results

Zafar SI, Sheeraz Q, Abdullah N//Pakistan Council Sci & Ind, Res Labs, Lahore 16, Pakistan

BIOL WASTE 1989, 27 (1) 67

Degradation of the lignocellulosic component on wheat straw - *Coriolus versicolor* solid state fermentation under nitrogen-starved conditions

Zimmermann W, Broda P//Swiss Fed Inst Technol, Inst Biotechnol, CH-8093 Zurich, Switzerland

APPL MICROBIOL BIOTECHNOL 1989, 30 (1) 103

Utilization of lignocellulose from barley straw by actinomycetes

Schwendig P, Thier H-P*//Univ Munster, Inst Lebensmittelchem, Piusallee 7, D-4400 Munster, Fed Rep Ger

Z LEBENSMITTEL-UNTERSUCH FORS 1989, 188 (1) 1

Identification and quantitation of methylcellulose amongst other thickeners in foods (German, English Abstract)

Liu H, Fu R//Beijing Inst Technol, Dept Chem Engn, POB 327, Beijing, Peoples R China

J ANAL APPL PYROL 1988, 14 (2-3) 163

Studies on thermal decomposition of nitrocellulose by pyrolysis-gas chromatography

Winkler DA//CSIRO, Div Chem & Polymers, GPO Box 4331, Melbourne 3000, Australia

POLYM COMMUN 1989, 30 (2) 50

Molecular interactions of dinitrotoluene with nitrocellulose

Nemchinov IA, Molotkov VA, Kurlyankina VI//Acad Sci USSR, Inst Macromolec Cpd, Leningrad, USSR

VYSOKOMOL SOEDIN SER A SSSR 1989 31 (1) 123

Graft polymerization of acrylamide to oxyethyl cellulose initiated with Co(III) complexes (Russian, English Abstract)

3 Lignin

Cochran RC, Vanzant ES, DelCurto T//Kansas State Univ Agr & Appl Sci, Dept Anim Sci & Ind, Call Hall, Manhattan, Ks 66506, USA

J ANIM SCI 1988, 66 (12) 3245

Evaluation of internal markers isolated by alkaline hydrogen peroxide incubation and acid detergent lignin extraction

Faix O, Meier D, Fortmann I//Fed Res Ctr Forestry & Forest Prod, Inst Wood Chem & Chem Technol Wood, Leuschnerstr 91, D-2050 Hamburg 80, Fed Rep Ger

J ANAL APPL PYROL 1988, 14 (2-3) 135

Pyrolysis-gas chromatography-mass spectrometry of two trimeric lignin model compounds with alkyl-aryl ether structure

Feldman D, Banu D, Khoury M//Concordia Univ, Ctr Bldg Studies, Montreal, Quebec, Canada H3G 1M8

J APPL POLYM SCI 1989, 37 (4) 877

Epoxy-lignin polyblends. III. Thermal properties and infrared analysis

Jung H-JG, Himmelsbach DS//Univ Minnesota, USDA, ARS, Dairy Forage Res Ctr, St Paul, Mn 55108, USA

J AGR FOOD CHEM 1989, 37 (1) 81

Isolation and characterization of wheat straw lignin

Kovalenko EI, Kotenko NP, Sherstyukova ND//S Ordzhonikidze Polytech Inst, Novocherkassk, USSR

J APPL CHEM-ENGL TR 1988, 61 (4) Pt2, 768

Electrochemical chlorination of lignins at graphite electrodes in aqueous, nonaqueous, and aqueous-organic solutions

Lewis NG, Razal RA, Dhara KP, Yamamoto E, Bokelman GH, Wooten JB//Virginia Polytech Inst & State Univ, Dept Biochem, Blacksburg, Va 24601, USA

J CHEM SOC CHEM COMMUN 1988, (24) 1626

Incorporation of [2-¹³C]ferulic acid, a lignin precursor, into *Leucaena leucocephala* and its analysis by solid state ¹³C N.M.R. spectroscopy

Pelmont J, Tournesac C, Mliki A, Bèrrelle M, Beguin C//Univ Joseph Fourier, Cermo, Biochem Microorganismes Lab, BP 53, F-38041 Grenoble, France

FEMS MICROBIOL LETT 1989, 57 (1) 109

A new bacterial alcohol dehydrogenase active on degraded lignin and several low molecular weight aromatic compounds

Rials TG, Glasse WG//So Forest Expt Stn, Pineville, La 71360, USA

WOOD FIBER SCI 1989, 21 (1) 80

Multiphase materials with lignin. VI. Effect of cellulose derivative structure on blend morphology with lignin

Roy AK, Sardar D, Sen SK//Jute Technol Res Labs Icar, 12 Regent Pk, Calcutta 700040, India

BIOL WASTE 1989, 27 (1) 63

Jute stick lignin-based adhesives for particle boards

Stomberg R, Hauteville M, Lundquist K//Chalmers Univ Technol, Dept Inorgan Chem, S-41296 Gothenburg, Sweden

ACTA CHEM SCAND SER B 1988, 42 (10) 697

Studies on lignin model compounds of the beta-O-4 type: crystal structures of threo-1-(4-hydroxy-3,5-dimethoxyphenyl)-2-(2-methoxyphenoxy)-1,3-propanediol and 3-hydroxy-1-(4-hydroxy-3,5-dimethoxyphenyl)-2-(2-methoxyphenoxy)-1-propanone-methanol (1/1)

Umezawa T, Higuchi T//Kyoto Univ, Wood Res Inst, Res Sect Lignin Chem, Uji, Kyoto 611, Japan

FEBS LETT 1989, 242 (2) 325

Cleavages of aromatic ring and beta-O-4 bond of synthetic lignin (DHP) by lignin peroxidase

4 Polysaccharides

Defives C, Bouslamti R, Derieux JC, Kol O, Fournet B*//Univ Lille 1, Chim Biol Lab, CNRS, UA 217, F-59655 Villeneuve d'Ascq, France

FEMS MICROBIOL LETT 1989, 57 (2) 203

Characterization of sialic acids containing lipopolysaccharide from *Rhizobium meliloti* M 11 S

Elekes E, Luderitz O, Galanos C, Bertok L//Frederic Joliot Curie Natl Res Inst Radiobiol & Radiohyg, POB 101, H-1775 Budapest, Hungary

ACTA MICROBIOL HUNG 1988, 35 (3) 301

Alterations in the chemical composition and antigenicity of *Escherichia coli* O89 lipopolysaccharide and lipid A after ⁶⁰Co gamma irradiation

Gibson BW, Webb JW, Yamasaki R, Fisher SJ, Burlingame AL, Mandrell RE, Schneider H, Griffiss JM//Univ Calif San Francisco, Dept Pharmaceut Chem, San Francisco, Ca 94143, USA

PROC NAT ACAD SCI USA 1989, 86 (1) 17

Structure and heterogeneity of the oligosaccharides from the lipopolysaccharides of a pyocin-resistant *Neisseria gonorrhoeae*

Lehmann V, Benninghoff B//German Canc Res Ctr, Inst Immunol & Genet, Im Neuenheimer Feld 280, D-6900 Heidelberg 1, Fed Rep Ger

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Isolation of a mutant from *Salmonella typhimurium* producing acyl-deficient lipopolysaccharides

Mayer H, Krauss JH, Urbanik-Sypniewska T, Puvanesarajah V, Stacey G, Auling G//Max Planck Inst Immunbiol, Stubeweg 51, D-7800 Freiburg, Fed Rep Ger

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Lipid A with 2,3-diamino-2,3-dideoxy-glucose in lipopolysaccharides from slow-growing members of Rhizobiaceae and from "Pseudomonas carboxydovorans"

- Moule AL, Wilkinson SG*//Univ Hull, Dept Chem, Hull HU6 7RX, N Humberside, England
J GEN MICROBIOL 1989, 135 (JAN) PT1, 163
Composition of lipopolysaccharides from *Alteromonas putrefaciens* (*Shewanella putrefaciens*)
- Bereman RD, Berg KA//N Carolina State Univ, Dept Chem, Raleigh, NC 27695, USA
INORG CHIM ACTA 1989, 155 (2) 183
The structure, size and solution chemistry of a polysaccharide iron complex (Niferex)
- Bousquet M, Escoula L, Pipy B, Bessieres MH, Chavant L, Sequela JP//INRA, Pharmacol & Toxicol Stn, F-31300 Toulouse, France
ANN PARASITOL HUM COMP 1988, 63 (6) 398
2 Beta-1-3, beta-1-6 polysaccharides (PSAT and scleroglucan) induce enhancement of the resistance of mice to *Toxoplasma gondii*
- Chasseing NA, Lederkremer RM, Couto A, Mayer A, Rumi LS//Univ Buenos Aires, Fac Ciencias Exactas & Nat, Inst Biol & Med Exptl, Obligado 2490, RA-1428 Buenos Aires, Argentina
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- Churms SC, Stephen AM//Univ Cape Town, Dept Organ Chem, Rondebosch 7700, South Africa
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Application of universal calibration to estimation of M-bar-W of plant-gum polysaccharides by steric-exclusion chromatography
- Iwasaki H, Araki Y, Kaya S, Ito E*//Hokkaido Univ, Fac Sci, Dept Chem, Kita-10-jo, Nishi-8-chome, Kita ku, Sapporo, Hokkaido 060, Japan
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Structural studies on the neutral polysaccharide to *Bacillus subtilis* AHU 1219 cells walls
- Jones C, Currie F//Natl Inst Biol Stand & Control, Div Chem, Blanche Lane, Potters Bar EN6 3QG, Herts, England
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The pneumococcal polysaccharide S4: a structural re-assessment
- Kenne L, Lindberg B//Univ Stockholm, Arrhenius Lab, Dept Organ Chem, S-10691 Stockholm, Sweden
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The structure of the *Streptococcus pneumoniae* type 29 polysaccharide: a re-examination
- McCrae SI, Falconer DJ, Wood TM//Rowett Res Inst, Bucksburn AB2 9SB, Aberdeen, Scotland
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Hydrolysis of the polysaccharides of straw by enzymes produced by a mutant strain of the fungus *Penicillium pinophilum*
- Niemela K//Helsinki Univ Technol, Wood Chem Lab, SF-02150 Espoo, Finland
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The formation of 2-hydroxy-2-cyclopenten-1-ones from polysaccharides during kraft pulping of pine wood
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Host-range related structural features of the acidic extracellular polysaccharides of *Rhizobium trifolii* and *Rhizobium leguminosarum*
- Pier GB, Pollack M//Harvard Univ, Brigham & Womens Hosp, Sch Med, Channing Lab, Bos-

ton, Ma 02115, USA

INFECTION IMMUNITY 1989, 57 (2) 426

Isolation, structure, and immunogenicity of *Pseudomonas aeruginosa* immunotype 4-high-molecular-weight polysaccharide

Racusen RH//Univ Maryland, Dept Bot, College Pk, Md 20742, USA

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Separation of dense, polysaccharide-containing vesicles from secreting, cultured oat cells - characterization of a putative secretory vesicle

Ramsey KP, Popejoy LA, Jesse SW, Gonzales-Torres I//William Beaumont Army Med Ctr, Dept Pediat, El Paso, Tx 79920, USA

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Haemophilus B polysaccharide vaccine

Sanderson PN, Huckerby TN, Nieduszynski IA*//Univ Lancaster, Dept Biol Sci, Lancaster LA1 4YQ, England

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Chondroitinase ABC digestion of dermatan sulphate. N.m.r. spectroscopic characterization of the oligo- and polysaccharides

Turdamambetov K, Plekhanova NV, Rakhimov DA//Acad Sci UzSSR, Inst Bot Chem, Tashkent, Uzbekistan, USSR

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Polysaccharides of certain sort of Cousinia

5 Starch

Dubreucq E, Boze H, Nicol D, Moulin G, Galzy P//INRA, Ecole Natl Super Agron, Chaire Genet & Microbiol, F-34060 Montpellier, France

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Kinetics of the alpha-amylase of *Schwannomyces castellii*

Kamihira M, Taniguchi M, Iijima S, Kobayashi T*//Nagoya Univ, Fac Engr, Dept Chem Engr, Chikusa ku, Nagoya 46401, Japan

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Purification of recombinant alpha-amylase with immuno-affinity chromatography using monoclonal antibody

MacGregor AW, Dushnicky L//Canadian Grain Commiss, Grain Res Lab, 1040-303 Main St, Winnipeg, Manitoba, Canada R3C 3G8

J INST BREW 1989, 95 (1) 29

Alpha-amylase in developing barley kernels: a reappraisal

Clark AH, Gidley MJ*, Richardson RK, Ross-Murphy SB//Unilever Res Lab, Colworth House, Sharnbrook MK44 1LQ, Beds, England

MACROMOLECULES 1989, 22 (1) 346

Rheological studies of aqueous amylose gels: the effect of chain length and concentration on gel modulus

Gidley MJ, Bulpin PV//Unilever Res Lab, Colworth House, Sharnbrook MK44 1LQ, Beds, England

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Aggregation of amylose in aqueous systems: the effect of chain length on phase behavior and aggregation kinetics

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Molecular mechanisms underlying amylose aggregation and gelation

Hovenkamp-Hermelink JHM, de Vries JN, Adamse P, Jacobsen E, Witholt B, Feenstra WJ//State Univ Groningen, Ctr Biol Sci, Dept Genet, Kerklaan 30, 9751 NN Haren, The Netherlands

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Rapid estimation of the amylose/amylopectin ratio in small amounts of tuber and leaf tissue of the potato

Nishimura T, Yajima H, Kubota S, Ishii T, Endo R//Sci Univ Tokyo, Fac Sci, Dept Appl Chem, 1-3 Kagurazaka, Tokyo 162, Japan

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Immobilization of glucoamylase on porous glass

Uttapap D, Koba Y, Ishizaki A//Kyushu Univ 46-09, Fac Agr, Dept Food Sci & Technol, Fukuoka 812, Japan

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Recycle use of immobilized glucoamylase by tangential flow filtration unit

- Witkowska-Gwiazdowska A, Ilnicka-Olejniczak O, Czajkowska D//Inst Fermentat Ind, 36 Rakowiecka St, PL-02532 Warsaw, Poland
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Azhari R, Szlak AM, Ilan E, Sideman S, Lotan N//Technion Israel Inst Technol, Dept Biomed Engn, IL-32000 Haifa, Israel

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Saxena A, Hammer CF, Cihlar RL**Georgetown Univ, Sch Med, Dept Microbiol, Washington, DC 20007, USA

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Shimoto H, Watanabe Y, Tamai Y, Takakuwa M//Ehime Univ, Fac Agr, Matsuyama, Ehime 790, Japan

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Grasdalen H, Bakoy OE, Larsen B//Univ Trondheim, Norwegian Inst Technol, Div Biotechnol, N-7034 Trondheim, Norway

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Matsuura Y, Hatanaka C//Okayama Prefectural Jr Coll, Dept Food Sci, Ishima cho, Okayama 700, Japan

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Wassink JWDG, Campbell GL*, Classen HL//Univ Saskatchewan, Dept Anim & Poultry Sci, Saskatchewan, Canada S7N 0W0

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McKeon TA//USDA ARS, Western Reg Res Ctr, Albany, Ca 94710, USA

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Imanaka T, Kuiki T//Osaka Univ, Fac Engn, Dept Fermentat Technol, Suita, Osaka 565, Japan

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

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Marquet M, Mikolajczak M, Thorne L, Pollock TJ*//Syntro Corp, 10655 Sorrento Valley Rd, San Diego, Ca 92121, USA

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Robinson DK, Wang DIC*//MIT, Ctr Biotechnol Proc Engn, Dept Chem Engn, Cambridge, Ma 02139, USA

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Bailey MJ, Poutanen K//Valt Teknillinen Tutkimuskeskus, Biotech Lab, Tietotie 2, SF-02150 Espoo, Finland

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Tan L, Saddler JN//Forintek Canada Corp,
Dept Biotechnol & Chem, 800 Montreal Rd, Ot-
tawa, Ontario, Canada K1G 3Z5

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Farkas V, MacLachlan G*//McGill Univ, Dept
Biol, 1205 DR Penfield Ave, Montreal, Quebec,
Canada H3A 1B1

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