Carbohydrate Polymers **9** (1988) 61–74

BIBLIOGRAPHY ON CARBOHYDRATE POLYMERS

1. Books, Reviews and Symposia

Amano K//Hirosaki Univ, Sch Med, Dept Bacteriol, Hirosaki, Aomori 036, Japan
SEIKAGAKU 1988 60 (4) 255
Structure and function of lipopolysaccharides from the genus Rickettsia (Review) (Japanese)

Knirel Y, Vinogradov EV, Kocharova NA, Paramonov NA, Kochetkov NK, Dmitriev BA, Stanislavsky ES, Lanyi B//ND Zelinsky Inst Organ Chem, Leninsky Prospect 47, Moscow 8334, USSR
ACTA MICROBIOL HUNG 198835 (1) 3
The structure of O-specific polysaccharides and serological classification of Pseudomonas aeruginosa (Review)

ZUCKERINDUSTRIE 1988 113 (4) 290
Starch Convention 1988 - New processes

Papers

2. Cellulose

Petropavlovskii GA, Vasil'eva GG, Kallistov OV, Sidorovich AV, Volkova //No address available
J APPL CHEM-ENGL TR 1987 60 (8) PT2 1736
Self-organization of the supermolecular structure of carboxymethylcellulose in highly purified aqueous solutions

Ahlneck C, Alderborn G//Univ Uppsala, Ctr Biomed, Dept Pharmaceut, Box 580, S-75123 Uppsala, Sweden
ACTA PHARM SUEC 1988 25 (1) 41
Solid state stability of acetylsalicylic acid in binary mixtures with microcrystalline and microfine cellulose

Chum HL, Johnson DK, Black S, Baker J, Grohmann K, Sarkanen KV, Wallace K, Schroeder HA//Solar Energy Res Inst, Div Solar Fuels Res, 1617 Cole Blvd, Golden, Co 80401, USA
BIOTECHNOL BIOENG 1988 31 (7) 643
Organosolv pretreatment for enzymatic hydrolysis of poplars: I. Enzyme hydrolysis of cellulosic residues

Gol'bina TG, Gal'braikh LS, Tyuganova MA//NG Chernyshevskii State Univ, Chem Res Inst, Saratov, USSR
VYSOKOMOL SOEDIN SER B SSSR 1988 30 (3) 221
Comparative study of thermal properties of fire-protected cellulose acetates (Russian)

Gow LA, Wood TM*//*Rowett Res Inst, Bucksburn AB2 9SB, Aberdeen, Scotland
FEMS MICROBIOL LETT 1988 50 (2-3) 247
Breakdown of cystalline cellulose by synergistic action between cellulase components from Clostridium thermocellum and Trichoderma koningii

Henrissat B, Vigny B, Buleon A, Perez S//INRA, Biochim Prot Lab, Rue Geraudiere, F-44072 Nantes, France
FEBS LETT 1988 231 (1) 177
Possible adsorption sites of cellulases on crystalline cellulose

Jin FX, Toda K//Univ Tokyo, Inst Appl Microbiol, Bunkyo ku, Tokyo 113, Japan
BIOTECHNOL LETT 1988 10 (3) 221
Preparation of immobilized papain covalently bound on natural cellulose for treatment of beer

Kasulke U, Linow KJ, Philipp B, Dautzenberg H//Akad Wissensch DDR, Inst Polymerenchem Erich Correns, DDR-1530 Teltow, Ger Dem Rep
ACTA POLYM 1988 39 (3) 127
Investigations on the hydrolytic degradation of water-soluble cellulose derivatives under homogeneous conditions of reaction.

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.

4. Mechanism of the enzymatic hydrolysis (German, English Abstract)

Kim DW, Yang JH, Jeong YK//Chunbuk Natl Univ, Coll Nat Sci, Dept Chem, Cheongju 310, North Korea
APPL MICROBIOL BIOTECHNOL 1988 28 (2) 148
Adsorption of cellulase from Trichoderma viride on microcrystalline cellulose

Kuzina SI, Stovbun SV, Salina AG, Kochukov VA, Kuznetsova NY, Mikhailov AI//Acad Sci USSR, Inst Chem Phys, Moscow V-71, USSR
HIGH ENERG CHEM-ENGL TR 21 (5) 346
Effect of gamma-radiation on the properties of a cellulose nitrate detector

Larsson A, Johns WE//Pharm AB, S-75182 Uppsala, Sweden
J ADHES 1988 25 (2) 121
Acid-base interactions between cellulose/lignocellulose and organic molecules

Lenz J, Schurz J, Wrentschur E//Lenzing AG, Dept Res, A-4860 Lenzing, Austria
HOLZFORSCHUNG 1988 42 (2) 117
The length of the crystalline domains in fibres of regenerated cellulose. Determination of the the crystallite length of cellulose II by means of wide-angle x-ray diffraction and transmission electron microscopy

Mikhalyuk SA, Serpuchenko EA, Pakirbaeva VL, Grom VD//AM Gorkii State Teachers Inst, Kiev, Ukraine, USSR
UKR KHIM ZH SSSR 1988 54 (4) 358
Physico-chemical properties of cellulose ether mixtures (Russian)

Nud'ga LA, Petropavlovskii GS, Plisko EA, Isakova OV, Ershov BG//Acad Sci USSR, Inst High Molec Cpds, Moscow V-71, USSR
J APPL CHEM-ENGL TR 1987 60 (8) PT2 1740
Radiation-induced transformations of cellulose ethers

Nygren H, Karlsson C//Gothenburg Univ, Dept Histol, POB 33031, S-40033 Gothenburg, Sweden
J IMMUNOL METHOD 1988 109 (2) 221
Use of cellulose ethers as peptide antigen carriers in the ELISA

Paralikar KM, Bhatawdekar SP//Indian Council Agr Res, Colton Technol Res Lab, Post Bag 16640, Adenwala Rd, Bombay 400019, India
BIOL WASTE 1988 24 (1) 75
Microcrystalline cellulose from bagasse pulp

Pasteka M//Slovak Acad Sci, Ctr Chem Res, Inst Chem, CS-84238, Bratislava, Czechoslovakia
ACTA POLYM 1988 39 (3) 130
Quaternization of regenerated cellulose under homogeneous reaction conditions

Schwald W, Bobleter O//Innsbruck Univ, Inst Radiochem, Innrain 52 A, A-6020 Innsbruck, Austria
J APPL POLYM SCI 1988 35 (7) 1937
Characterization of nonderivatized cellulose by gel permeation chromatography

Simon I, Glasser L, Scheraga HA*, Manley RSJ//*Cornell Univ, Baker Lab Chem, Ithaca, NY 14853, USA
MACROMOLECULES 1988 21 (4) 990
Structure of cellulose. II. Low-energy crystalline arrangements

Simon I, Scheraga HA*, Manley RSJ//*Cornell Univ, Baker Lab Chem, Ithaca, NY 14853, USA
MACROMOLECULES 1988 21 (4) 983
Structure of cellulose. I. Low-energy conformations of single chains

Stefuca V, Gemeiner P*, Bales V//*Slovak Acad Sci, Ctr Chem Engn, Inst Chem, CS-84238 Bratislava, Czechoslovakia
ENZYME MICROB TECHNOL 1988 10 (5) 306
Study of porous cellulose beads as an enzyme carrier via simple mathematical models for the hydrolysis of saccharose using immobilized invertase reactors

Tsilipotkina MV, Tager AA, Tyukova IS, Shilnikova NI//AM Gorkii State Univ, Dept Macromolec Cpds, Sverdlovsk, USSR
IZV VYSSH UCH ZAV KHIM KHIM T 1987 30 (11) 108
Effect of the porous structure and cellulose activation by acetic acid on its reactivity (Russian)

Toda T, Sano-Shiba K, Cho H, Soon PL, Nakao M, Ohashi M*//*Tokyo Metropolitan Inst Gerontol, Dept Biochem, 35-2 Sakae cho, Itabashi ku, Tokyo 173, Japan

ELECTROPHORESIS 1988 9 (3) 149
An improved method of high-voltage isoelectric focusing on cellulose acetate membranes

Asensio A//Univ Valencia, Dept Organ Chem, Valencia, Spain
CAN J CHEM 1988 66 (3) 449
Structural studies of a hemicellulose B fraction (B-2) from the cork of Quercus suber

Revilla G, Zarra I, Masuda Y//Univ Leon, Fac Biol, Fisiol Vegetal Lab, E-24071 Leon, Spain
PHYSIOL PLANT 1988 72 (4) 782
Molecular weight distribution of hemicellulosic polysaccharides of the cell wall of tall and dwarf rice cultivars, and the effect of GA3

Okieimen FE, Idehen KI//Univ Benin, Dept Chem, Benin City, Nigeria
ACTA POLYM 1988 39 (3) 132
Graft copolymerization of acrylonitrile on thiolated holocellulose

Ahmed A, Adnot A, Kaliaguine S//Univ Laval, Dept Chem Engn, Quebec City, Quebec, Canada G1K 7P4
J APPL POLYM SCI 1988 35 (7) 1909
ESCA analysis of partially converted lignocellulosic materials

Mason JC, Richards M, Zimmermann W, Broda P//Univ Manchester, Dept Biochem & Appl Molec Biol, POB 88, Manchester M60 1QD, Lancs, England
APPL MICROBIOL BIOTECHNOL 1988 28 (3) 276
Identification of extracellular proteins from Actinomycetes responsible for the solubilisation of lignocellulose

Tewari HK, Marwaha SS, Kennedy JF, Singh L//Punjab Agr Univ, Dept Microbiol, Ludhiana 141004, Punjab, India
J CHEM TECHNOL BIOTECHNOL 1988 41 (4) 261
Evaluation of acids and cellulase enzyme for the effective hydrolysis of agricultural lignocellulosic residues

Misharev OS, Abaev YK, Kaputsky VE//Minsk Med Inst, Pediat Surg, Minsk, Belorussia, USSR
KHIRURGIYA (APR) (4) 50
Monocarboxyl cellulose preparations in purulent surgery (Russian, English Abstract)

Jutier JJ, Lemieux E, Prud'homme RE//Univ Laval, Dept Chim, Ctr Rech Sci & Ingn Macromolec, Quebec City, Quebec, Canada G1K 7P4
J POLYM SCI B-POLYM PHYS 1988 26 (6) 1313
Miscibility of polyester/nitrocellulose blends: A DSC and FTIR study

Matsumura K, Kazuta Y, Endo R, Tanaka K, Inoue T Matsuda H//Yamaguchi Prefectural Res Inst Hlth, 2-5-67 Aoi, Yamaguchi 753, Japan
VET PARASITOL 1988 27 (3-4) 337
A rapid microassay for dirofilarial antibodies by using antigen-coated nitrocellulose paper

3. Lignin

Akin DE, Morrison WH//USDA ARS, Richard B Russell Agr Res Ctr, POB 5677, Athens, Ga 30613, USA
CROP SCI 1988 28 (2) 337
Ozone treatment of forage - Structure and digestibility of different types of lignified cell walls

DiCosimo R, Szabo HC//BP Amer, Res & Dev, 4440 Warrensville Ctr Rd, Cleveland, Oh 44128, USA
J ORG CHEM 1988 53 (8) 1673
Oxidation of lignin model compounds using single-electron-transfer catalysts

Feldman D, Banu D//Concordia Univ, Ctr Bldg Studies, 1455 Maisonneuve Blvd W, Montreal, Quebec, Canada H3G 1M8
J POLYM SCI A-POLYM CHEM 1988 26 (4) 973
Kinetic data on the curing of an epoxy polymer in the presence of lignin

Fisher TH, Dershem SM, Schultz TP//Mississippi State Univ, Dept Chem, Mississippi State, Ms 39762, USA
J ORG CHEM 1988 53 (7) 1504
Ceric ammonium nitrate oxidative-cleavage reaction of some lignin model compounds: role of the benzylic hydroxyl group

Hattori T, Shimada M, Umezawa T, Higuchi T, Leisola MSA, Fiechter A//Kyoto Univ, Wood Res Inst, Uji, Kyoto 611, Japan
AGR BIOL CHEM TOKYO 1988 52 (3) 879
New mechanism for oxygenative ring cleavage of 3,4-dimethoxybenzyl alcohol catalysed by the ligninase model

Iiyama K, Pant R//CSIRO, Div Chem & Wood Technol, Private Bag 10, Clayton, Vic 3168, Australia

WOOD SCI TECHNOL 1988 22 (2) 167

The mechanism of the Maule colour reaction. Introduction of methylated syringyl nuclei into softwood lignin

Janson J//Finnish Pulp & Paper Res Inst, POB 136, SF-00101 Helsinki, Finland

HOLZFORSCHUNG 1988 42 (2) 105

Influence of carbohydrates on the alkaline degradation of lignin

Kantelinen A, Waldner R, Nikupaavola ML, Leisola MSA//VTT, Biotech Lab, Tietotie 2, SF-02150 Espoo, Finland

APPL MICROBIOL BIOTECHNOL 1988 28 (2) 193

Comparison of 2 lignin-degrading fungi - Phlebia radiata and Phanerochaete chrysosporium

Morck R, Reimann A, Kringstad KP//Skogsind Tekniska Forskningsinst, Box 5604, S-11486 Stockholm, Sweden

HOLZFORSCHUNG 1988 42 (2) 111

Fractionation of Kraft lignin by successive extraction with organic solvents. III. Fractionation of Kraft lignin from birch

Nonni AJ, Dence CW*//*SUNY Coll Environm Sci & Forestry, Empire State Paper Res Inst, Syracuse, NY 13210, USA

HOLZFORSCHUNG 1988 42 (2) 99

The reaction of alkaline hydrogen peroxide with lignin model dimers. Part 4. Substituted stilbenes and undissociated hydrogen peroxide

Olivares M, Guzman JA, Natho A, Saavedra A//Catholic Univ Chile, Dept Chem Engn, Casilla 6177, Santiago, Chile

WOOD SCI TECHNOL 1988 22 (2) 157

Kraft lignin utilization in adhesives

Riggle BD, Penner D//ICI Amer Inc, POB 208, Goldsboro, NC 27533, USA

WEED SCI 1988 36 (2) 131

Controlled release of 3 herbicides with the Kraft lignin PC940C

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

HOLZFORSCHUNG 1988 42 (2) 79

A comparison of the bromination of syringyl and guaiacyl-type lignins

Takahashi N, Koshijima T//Kyoto Univ, Wood Res Inst, Res Sect Wood Chem, Uji, Kyoto 611, Japan

WOOD SCI TECHNOL 1988 22 (2) 177

Molecular properties of lignin-carbohydrate complexes from beech (Fagus crenata) and pine (Pinus densiflora) woods

Yamaguchi T//Chiba Inst Technol, Narashino, Chiba 275, Japan

NIPPON KAGAKU KAISHI 1988 (FEB) (2) 217

Preparation of activated carbon from lignin products with alkali (Japanese, English Abstract)

4. Polysaccharides

Appanna VD//McGill Univ, Montreal Neurol Inst, Donner Lab Exptl Neurochem, 3801 Univ St, Montreal, Quebec, Canada H3A 2B4

BIOTECHNOL LETT 1988 10 (3) 205

Stimulation of exopolysaccharide production in Rhizobium meliloti JJ-1 by manganese

Appanna VD//Montreal Neurol Inst & Hosp, Donner Lab Expt Neurochem, 3801 Univ St, Montreal, Quebec, Canada H3A 2B4

FEMS MICROBIOL LETT 1988 50 (2-3) 141

Alteration of exopolysaccharide composition in Rhizobium meliloti JJ-1 exposed to manganese

Brade H, Brade L, Rietschel ET//Forschungsinst Borstel, Inst Expt Biol & Med, Parkallee 22, D-2061 Borstel, Fed Rep Ger

ZBL BAKT MIKROBIOL HYG A-MED 1988 268 (2) 151

Structure-activity relationships of bacterial lipopolysaccharides (endotoxins) - Current and future aspects

Hollingsworth RI, Dazzo FB*//*Michigan State Univ, Dept Microbiol & Publ Hlth, E Lansing, Mi 48824, USA

J MICROBIAL METH 1988 7 (6) 295

The use of phenylcarbamate derivatives for the GC-MS characterization of 3-hydroxyalkanoic acids in the lipopolysaccharides of Rhizobium

Komuro T, Yomota C, Isaka H//Natl Inst Hyg Sci, Hoenzaka 1-1-43, Higashi ku, Osaka 540,

Japan
CHEM PHARM BULL TOKYO 1988 36 (3) 1218
Sodium deoxycholate-polyacrylamide gel electrophoresis of lipopolysaccharides at low temperature

Krauss JH, Weckesser J, Mayer H*//*Max Planck Inst Immunbiol, D-7800 Freiburg, Fed Rep Ger
INT J SYST BACT 1988 38 (2) 157
Electrophoretic analysis of lipopolysaccharides of purple nonsulfur bacteria

Nakamura K, Abe F//Natl Inst Anim Hlth, Poultry Dis Lab, Seki, Gifu 50132, Japan
CAN J VET RES 1988 52 (2) 264
The effect of sodium chloride extract and commercial lipopolysaccharides of Escherichia coli and Salmonella typhimurium on chickens

Oxley D, Wilkinson SG//Univ Hull, Dept Chem, Hull HU6 7RX, N Humberside, England
CARBOHYD RES 1988 175 (1) 111
Structural studies of glucorhamnans isolated from the lipopolysaccharides of reference strains for Serratia marcescens serogroups O4 and O7, and of an O14 strain

Portnoi D, Lundkvist I, Coutinho A*//*Inst Pasteur, Immunobiol Lab, Unite Immunobiol, 28 Rue Docteur Roux, F-75724 Paris 15, France
SCAND J IMMUNOL 1988 27 (4) 445
On the validity of using lipopolysaccharide-driven limiting dilution systems for clonable B cells to analyse functional antibody repertoires

Kuisma I, Tamelander G//Herttoniemi Hosp, Roihuvuoren Sairaskoti, Punahilkantie 16, SF-00820 Helsinki, Finland
ANN CLIN RES 1987 19 (6) 374
Mucopolysaccharide polysulphate cream in the prevention of pressure sores - A double blind study

Bundle DR, Cherwonogrodzky JW, Perry MB*//*Natl Res Council Canada, Div Biol Sci, Ottawa, Ontario, Canada K1A 0R6
INFEC IMMUNITY 1988 56 (5) 1101
Characterization of Brucella polysaccharide B

Cera C, Terbojevich M, Cosani A, Palumbo M//Univ Padua, Dept Organ Chem, I-35131 Padua, Italy
INT J BIOL MACROMOL 1988 10 (2) 66
Anthracycline antibiotics supported on water-soluble polysaccharides: synthesis and physicochemical characterization

Cerning J, Boullanne C, Desmazeauda MJ, Landon M//INRA, Rech Laitieres Stn, F-78350 Jouy en Josas, France
BIOTECHNOL LETT 1988 10 (4) 255
Exocellular polysaccharide production by Streptococcus thermophilus

Di Fabio JL, Perry MB, Brisson JR//Natl Res Council Canada, Div Biol Sci, Ottawa, Ontario, Canada K1A 0R6
BIOCHEM CELL BIOL 1988 66 (2) 107
Structure of the antigenic O-polysaccharide of the lipopolysaccharide produced by Salmonella eimsbuttel

Grabergubert M, Morin A*, Monsan P//*Agr Canada, Ctr Rech Alimentaires St Hyacinthe, 3600 Blvd Casavant Ouest, St Hyacinthe, Quebec, Canada J2S 8E3
SYST APPL MICROBIOL 1988 10 (2) 200
Isolation of microorganisms producing 6-deoxyhexose-containing polysaccharides

Hill SP, Winterbottom JM*//*Univ Birmingham, Dept Chem Engn, POB 363, Birmingham B15 2TT, Midlands, England
J CHEM TECHNOL BIOTECHNOL 1988 41 (3) 173
The conversion of polysaccharides to hydrogen gas. Part III. The conversion of cellulose to formic acid/formate ion and hydrogen

Jansson PE, Lindberg B, Widmalm G, Dutton GGS, Lim AVS, Sutherland IW//Univ Stockholm, Arrhenius Lab, Dept Organ Chem, S-10691 Stockholm, Sweden
CARBOHYD RES 1988 175 (1) 103
Structural studies of the capsular polysaccharides from Klebsiella types 8 and 82, a reinvestigation

Knirel YA, Zdorovenko GM, Yakoleva LM, Shashkov AS, Solyanik LP, Zakharova IY//ND Zelinskii Organ Chem Inst, Moscow, USSR
BIOORG KHIM 1988 14 (2) 166
Antigenic polysaccharides of bacteria. 28. Structure of O-specific chain of lipopolysaccharide of Pseudomonas syringae pv atrofaciens K-1025 and Pseudomonas holci 90A (serogroup-II) (Russian, English Abstract)

Knirel YA, Zdorovenko GM, Shashkov AS, Yakoleva LM, Gubanova NY, Gvozdyak RI//ND Zelinskii Organ Chem Inst, Moscow, USSR

BIOORG KHIM 1988 14 (2) 172

Antigenic polysaccharides of bacteria. 29. Structure of the polysaccharide chain of the Pseudomonas holci 8300 (serogroup-I) lipopolysaccharide (Russian, English Abstract)

Knirel YA, Zdorovenko GM, Shashkov AS, Mamyan SS, Gubanova NY, Yakoleva LM, Solyanik LP//ND Zelinskii Organ Chem Inst, Moscow, USSR

BIOORG KHIM 1988 14 (2) 180

Antigenic polysaccharides of bacteria. 30. Structure of the polysaccharide chain of the Pseudomonas syringae pv syringae-281 (serogroup-I) lipopolysaccharide (Russian, English Abstract)

Knirel YA, Zdorovenko GM, Veremeychenko SN, Lipkind GM, Shashkov AS, Zakharova IY, Kochetkov NK//ND Zelinskii Organ Chem Inst, Moscow, USSR

BIOORG KHIM 1988 14 (3) 352

Antigenic polysaccharides of bacteria. 31. Structure of the O-specific polysaccharide chain of the Pseudomonas aurantiaca IMV-31 lipopolysaccharide

Krasikova IN, Isakov VV, Fedoreeva LI, Soloveva TF, Ovodov YS//Acad Sci USSR, Far E Sci Ctr, Pacific Inst Bioorgan Chem, Vladivostok, USSR

BIOORG KHIM 1988 14 (3) 419

Application of C-13-NMR spectra of lipopolysaccharide-protein complexes for elucidation of O-specific polysaccharide structures

Lecacheux D, Brigand G//Elf Aquitaine, Grp Rech Lacq, BP 34-LACQ-64170-Artix, France

CARBOHYD POLYM 1988 8 (2) 119

Preparative fractionation of natural polysaccharides by size exclusion chromatography

Lipkind GM, Shashkov AS, Knirel YA*, Vinogradov EV, Kochetkov NK//*ND Zelinskii Organ Chem Inst, Moscow, USSR

CARBOHYD RES 1988 175 (1) 59

A computer-assisted structural analysis of regular polysaccharides on the basis of ^{13}C-n.m.r. data

Lucas AJ, Given PH, Spackman W//Millipore Corp, Div Ind Proc, 80 Ashby Rd, Bedford, Ma 01730, USA

INT J COAL GEOL 1988 9 (3) 235

Studies of peat as the input to coalification. I. Rationale and preliminary examination of polysaccharides in peats

Parolis H, Parolis LAS, Stanley SMR//Rhodes Univ, Sch Pharmaceut Sci, Grahamstown 6140, South Africa

CARBOHYD RES 1988 175 (1) 77

The use of bacteriophage-mediated depolymerisation in the structural investigation of the capsular polysaccharide from Escherichia coli serotype K36

Saito H, Tomioka H*, Sato K//*Shimane Med Univ, Dept Microbiol & Immunol, Izumo, Shimane 693, Japan

J GEN MICROBIOL 1988 134 (APR) PT4 1029

PSK, a polysaccharide from Coriolus vesicolor, enhances oxygen metabolism of murine peritoneal macrophages and the host resistance to listerial infection

Stack RJ//USDA ARS, No Reg Res Ctr, Peoria, Il 61604, USA

APPL ENVIRONM MICROBIOL 1988 54 (4) 878

Neutral sugar composition of extracellular polysaccharides produced by strains of Butyrivibrio fibrisolvens

Vodonik SA, Gray GR*//*Univ Minnesota, Dept Chem, Minneapolis, Mn 55455, USA

CARBOHYD RES 1988 175 (1) 93

Analysis by the reductive-cleavage method of linkage positions in a polysaccharide containing 4-linked D-glucopyranosyluronic residues

Weaver L, Yu LP, Rollings JE*//*Worcester Polytech Inst, Dept Engn, Worcester, Ma 01609, USA

J APPL POLYM SCI 1988 35 (6) 1631

Weighted intrinsic viscosity relationships for polysaccharide mixtures in dilute aqueous solutions

Yang BY, Tseng YH//Natl Chung Hsing Univ, Agr Biotechnol Labs, Taichung 40227, Taiwan

BOT BULL ACAD SINICA 1988 29 (2) 93

Production of exopolysaccharide and levels of protease and pectinase activity in pathogenic and non-pathogenic strains of Xanthomonas campestris pv campestris

Zhi YW, Just G*//*McGill Univ, Dept Chem, Montreal, Quebec, Canada H3A 2K6
TETRAHEDRON LETT 1988 29 (13) 1525
Synthesis of fragments of the capsular polysaccharide of Haemophilus influenzae type B

Tsvetkov YE, Bukharov AV, Backinowsky LV, Kochetkov NK//ND Zelinskii Organ Chem Inst, Moscow, USSR
CARBOHYD RES 1988 175 (1) c1
Synthesis of homopolysaccharides and block-heteropolysaccharides carrying a spacer arm

5. Starch

Bock K, Pederson H//Tech Univ Denmark, Dept Organ Chem, Bldg 201, DK-2800 Lyngby, Denmark
ACTA CHEM SCAND SER B 1988 42 (2) 75
The substrate specificity of the enzyme amyloglucosidase (AMG). Part II. 6-Substituted maltose derivatives

Przybyt M, Sugier H//Tech Univ Lodz, Inst Gen Food Chem, Stefanowskiego 4-10, PL-90924 Lodz, Poland
STARCH 1988 40 (3) 108
The properties of glucoamylase soluble and immobilized on DEAE-cellulose. Part I. Kinetics and thermodynamics of enzyme reaction

Toldra F//CSIC, Inst Agroquim & Tecnol Alimentos, Jaime Roig 11, E-46010 Valencia, Spain
REV AGROQUIM TECNOL ALIMENT 1988 28 (1) 31
Perspectives for industrial use of immobilized glucoamylase in the starch hydrolysis (Spanish, English Abstract)

Abe J, Nakajima K, Nagano H, Hizukuri S*, Obata K//*Kagoshima Univ, Dept Agr Chem, 21-24 Korimoto 1, Kagoshima 890, Japan
CARBOHYD RES 1988 175 (1) 85
Properties of the raw-starch digesting amylase of Aspergillus SP.K-27: a synergistic action of glucoamylase and alpha-amylase

Brooks JR, Griffin VK//Univ Akansas, Dept Food Sci, Fayetteville, Ar 72701, USA
ARK FARM RES 1988 37 (2) 15
Production of hydrolysed rice starch (maltodextrins) for use as a food ingredient

Chinachoti P, Steinberg MP, Payne DA//Univ Illinois, Dept Food Sci, Urbana, Il 61801, USA
J FOOD SCI 1988 53 (2) 580
Measurement of dielectric constant to quantitate solute water in the sucrose-starch-water system

Cronin T//Irish Sugar, Athy Rd, Carlow, Ireland
ZUCKERINDUSTRIE 1988 113 (4) 283
Starch/sugar competition for sweetner market in Europe

Eliasson AC, Finstad H, Ljunger G//Univ Lund, Dept Food Technol, Box 124, S-22100 Lund, Sweden
STARCH 1988 40 (3) 95
A study of starch-lipid interactions for some native and modified starches

Hansen HB, Ostergaard K*, Knudsen KEB//*Natl Inst Anim Sci, Dept Anim Physiol & Biochem, Foulum Res Ctr, PO 39, DK-8833 Orum Sonderlying, Denmark
J CEREAL SCI 1988 7 (2) 135
Effect of baking and staling on carbohydrate compostion in rye bread and on digestibility of starch and dietary fibre in vivo

Hebeish A, Khalil MI//Natl Res Ctr, Div Text Res, Cairo, Egypt
STARCH 1988 40 (3) 104
Characterization of the reaction products for starch and acrylonitrile

Istasse L, Djiele NK, Rollin F, van Eenaeme C, Bienfait JM//Fac Med Vet Bruxelles, Serv Nutr, Rue Vet 45, B-1070 Bruxelles, Belgium
ANN MED VET 1988 132 (3) 219
Composition and estimation of nutritive value by in sacco and in vitro technics of two byproducts of starch industries: amyfeed and glutenfeed (French, English Abstract)

Kim K, Park CS, Mattoon JR*//*Univ Colorado, Dept Biol, Colorado Springs, Co 80933, USA
APPL ENVIRONM MICROBIOL 1988 54 (4) 966
High-efficiency, one-step starch utilization by transformed Saccharomyces cells which secrete both yeast glucoamylase and mouse alpha-amylase

Kollacks WA, Rekers CJN//Cerestar Europe

BV, Bte 13, Ave Louise 149, B-1050 Brussels, Belgium
STARCH 1988 40 (3) 88
Five years of experience with the application of reverse osmosis on light midlings in a corn wet milling plant

Larew LA, Mead DA, Johnson DC*//*Iowa State Univ Sci & Technol, Dept Chem, Ames, Ia 50011, USA
ANAL CHIM ACTA 1988 204 (1-2) 43
Flow-injection determination of starch and total carbohydrate with an immobilized glucoamylase reactor and pulsed amperometric detection

Mestres C, Colonna P, Buleon A//Cirad Irat, Technol Cereales Lab, 9 Pl Pierre Viala, F-34060 Montpellier, France
J CEREAL SCI 1988 7 (2) 123
Gelation and crystallisation of maize starch after pasting, drum-drying or extrusion cooking

Munck L, Rexen F, Haastrup L//Carlsberg Res Lab, Dept Biotechnol, 10 Gamle Carlsberg Vej, DK-2500 Valby, Denmark
STARCH 1988 40 (3) 81
Cereal starches within the European Community - Agricultural production, dry and wet milling and potential use in industry

Ring SG, Gee JM, Whittam M, Orford P, Johnson IT//AFRC, Inst Food Res, Norwich Lab, Norwich NR4 7UA, Norfolk, England
FOOD CHEM 1988 28 (2) 97
Resistant starch: Its chemical form in foodstuffs and effect on digestibility in vitro

Slininger PG, Fanta GF, Abbott TP//USDA ARS, No Reg Res Ctr, Peoria, Il 61604, USA
BIOTECHNOL BIOENG 1988 31 (8) 759
Glucoamylase immobilized on acid-hydrolysed starch graft polyacrylonitrile

Sosulski FW, Nowakowski DM, Reichert RD//Univ Saskatchewan, Dept Crop Sci, Saskatoon, Saskatchewan, Canada S7N 0W0
STARCH 1988 40 (3) 100
Effects of attrition milling on air classification properties of hard wheat flours

Takahashi F, Sakai Y, Kobayashi S, Wakabayashi S//Utsunomiya Univ, Fac Engn, Utsunomiya, Tochigi 321, Japan
NIPPON KAGAKU KAISHI 1988 (JAN) (1) 86
Separation of glucose from starch saccharified solution by applying hydrous zirconium(IV) oxide-dynamic membrane layered on ceramic membrane (Japanese, English Abstract)

Talib YY, Karve MS, Bhide SV, Kale NR*//*Univ Poona, Dept Chem, Div Biochem, Poona 411007, Maharashtra, India
PREP BIOCHEM 1988 18 (2) 199
A simple preparative method for the isolation of amylose and amylopectin from potato starch

6. Others

Hurtado-Ponce AQ, Umezaki I//Kyoto Univ, Grad Sch Agr, Div Trop Agr, Fishery Resources Lab, Kyoto 606, Japan
BOT MAR 1988 31 (2) 171
Physical properties of agar gel from Gracilaria (Rhodophyta) of the Philippines

Wyeth PJ, Chettle NJ//Cent Vet Lab, Dept Poultry, Weybridge KT15 3NBH, Surrey, England
VET REC 1988 122 (18) 442
An agar gel diffusion test for differentiating between strains of type 1 IBD virus

Bellalou J, Sarfati RS, Predeleanu R, Ladant D, Barzu O*//*Inst Pasteur, Unite Biochim Regulat Cellulaires, CNRS, UA 1129, 28 Rue Docteur Roux, F-75724 Paris 15, France
ENZYME MICROB TECHNOL 1988 10 (5) 293
Enzymatic synthesis of 3':5' cyclic AMP using Bordetella pertussis adenylate cyclase co-immobilized with calmodulin on agarose beads

Mashaly RI, Saad MH, Elabassy F, Wahba AA//Univ Alexandria, Dept Agr Ind, Alexandria, Egypt
MILCHWISSENSCHAFT 1988 43 (2) 79
Coagulation of milk by calf rennet, pepsin and Mucor miehei rennet immobilized on large agarose beads

Viera FB, Barragan BB, Busto BL//Fac Quim Montevideo, Catedra Bioquim, Gral Flores 2124, Casilla Correo 1157, Montevideo, Uruguay
BIOTECHNOL BIOENG 1988 31 (7) 711
Reversible immobilization of soybean beta-amylase on phenylboronate-agarose

Walker P, Lerski RA, Mathur-de Vre R, Binet J, Yane F//Univ London, Hammersmith Hosp,

Dept Med Phys, London, England
MAGN RESON IMAGING 1988 6 (2) 215
Preparation of agarose gels as reference substances for NMR relaxation time measurement

Wallin RF, Hume RD, Jackson EM//N Amer Sci Associates Inc, 2261 Tracy Rd, Northwood, Oh 43619, USA
J TOXICOL-CUTAN OCUL TOXICOL 1987 6 (4) 239
The agarose diffusion method for ocular irritancy screening: Cosmetic products, part I

Zupancic TJ, Hilt DA, Zarley CD*, Kimball PC//*Battelle Mem Inst, Columbus Labs, Dept Biotechnol, 505 King Ave, Columbus, Oh 43201, USA
BIOTECHNIQUES 1988 6 (4) 296
Analysis and purification of synthetic DNA fragments with NuSieve agarose mini-gels

Chen KC, Huang CT//Natl Tsing Hua Univ, Dept Chem Engn, Hsinchu 30043, Taiwan
ENZYME MICROB TECHNOL 1988 10 (5) 284
Effects of the growth of Trichosporon cutaneum in calcium alginate gel beads upon bead structure and oxygen transfer characteristics

Dudicourt JC, Hemery P, Gignoux C, Hostein J, Denis P*, Fournet J, Galmiche JP, Colin R//*Grp Physiopathol Digest & Nutr, F-76031 Rouen, France
PRESSE MEDICALE 1988 17 (14) 683
Reduction of postprandial gastroesophageal reflux with sodium alginate liquid. Multicentre pH measurement study in 21 patients (French, English Abstract)

Flynn JL, Ohman DE*//*Univ California Berkeley, Dept Microbiol & Immunol, Berkeley, Ca 94720, USA
J BACTERIOL 1988 170 (4) 1452
Cloning of genes from mucoid Pseudomonas aeruginosa which control spontaneous conversion to the alginate production phenotype

Gray CJ, Dowsett J//Univ Birmingham, Dept Chem, POB 363, Birmingham B15 2TT, W Midlands, England
BIOTECHNOL BIOENG 1988 31 (6) 607
Retention of insulin in alginate gel beads

Kurokawa Y, Takeda T, Komura Y, Ogihara Y, Shimizu M, Takai M//Nagoya City Univ, Fac Pharmaceut Sci, Nagoya, Aichi 467, Japan
CARBOHYD RES 1988 175 (1) 144
The synthesis of tetra-, penta-, and hexasaccharides related to an L-arabino-D-glucan

Nakayama T, Kashiwagi Y, Kanoh S, Niwa E//Mie Univ, Fac Fisheries, Tsu, Mie 514, Japan
NIPPON SUISAN GAKKAISHI 1988 54 (1) 123
Manufacturing of sardine terrine by addition of carrageenan

Hoshi S, Kamada Y, Inoue S, Matsubara M//Kitami Inst Technol, Dept Environm Engn, Kitami, Hokkaido 090, Japan
ANAL SCI 1988 4 (2) 227
Preconcentration of colored metal complexes on a natural polymer chitin and its application to spectrophometric determination of metal ions

Kurita K, Chikaoka S, Kamiya M, Koyama Y//Seikei Univ, Fac Engn, Dept Ind Chem, Musashino, Tokyo 180, Japan
BULL CHEM SOC JPN 1988 61 (3) 927
Studies on chitin. 14. N-acetylation behaviour of chitosan with acetyl chloride and acetic anhydride in a highly swelled state

Kurita K, Chikaoka S, Koyama Y//Seikei Univ, Fac Engn, Dept Ind Chem, Musashino, Tokyo 180, Japan
CHEM LETT 1988 (1) 9
Studies on chitin. 15. Improvement of adsorption capacity for copper (II) ion by N-nonanoylation of chitosan

Kurita K, Ishiguro M, Kitajima T//Seikei Univ, Fac Engn, Dept Ind Engn, Musashino, Tokyo 180, Japan
INT J BIOL MACROMOL 1988 10 (2) 124
Studies on chitin: 17. Introduction of long alkylidene groups and the influence on the properties

Tanaka K, Katsura N, Saku T, Kasuga S//Nagasaki Univ, Sch Hydrocarbon Chem, Nagasaki 852, Japan
POLYM J 1988 20 (2) 119
Composite texture of chitin and keratin in an animal organ, Lingula seta

Tsen HY, Tsai SY//Natl Chunghsing Univ, Dept Food Sci, Taichung, Taiwan
J FERMENT TECHNOL 1988 66 (2) 193

Comparison of the kinetics and factors affecting the stabilities of chitin-immobilized naringinases from 2 fungal sources

Lagos A, Reyes J//Univ Chile, Fac Ciencias Quim & Farmaceut, Dept Quim Organ, Casilla 233, Santiago, Chile

J POLYM SCI-A POLYM CHEM 1988 26 (4) 985

Grafting onto chitosan. I. Graft copolymerization of methyl methacrylate onto chitosan with Fenton's reagent (Fe^{2+}-H_2O_2) as a redox initiator

Ashton PR, Stoddart JF*, Zarzycki R//*Univ Sheffield, Dept Chem, Sheffield S3 7HF, S Yorks, England

TETRAHEDRON LETT 1988 29 (17) 2103

Mass spectrometric investigation of adduct formation by methylated cyclodextrins

Buvari A, Barcza L*//*Eotvos Lorand Univ, Inst Inorgan & Analyt Chem, Muzeum Krt 4-B, H-1088 Budapest, Hungary

J CHEM SOC PERKIN TRANS II (4) (APR) 543

Complex formation of phenol, aniline, and their nitro derivatives with beta-cyclodextrin

Connors KA, Paulson A, Toledo-Velasquez D//Univ Wisconsin, Sch Pharm, Madison, Wi 53706, USA

J ORG CHEM 1988 53 (9) 2023

Complexing of alpha-cyclodextrin with sym-4,4'-disubstituted biphenyls

Ezure Y, Maruo S, Kojima M, Yamashita H, Sugiyama M//Nippon Shinyaku Co Ltd, Res Labs, Nishioji Hachijo, Kyoto 601, Japan

AGR BIOL CHEM TOKYO 1988 52 (4) 1073

Effect of alpha-cyclodextrin on thermostability of glucoamylase

Fujita K, Tahara T, Egashira Y, Yamamura H, Imoto T, Koga T, Fujioka T, Mihashi K//Fukuyama Univ, Fac Pharmaceut Sci, Fukuyama 72902, Japan

CHEM LETT 1988 (APR) (4) 705

Regiochemical correlation between 6-O-sulfonylated cyclodextrins and 3-O-sulfonated cyclodextrins via 3,6-anhydrocyclodextrins

Fujita K, Yamamura H, Imoto T, Tabushi I//Fukuyama Univ, Fac Pharmaceut Sci, Higashimura, Fukuyama 72902, Japan

CHEM LETT 1988 (MAR) (3) 543

Preparation of 3A,6A-anhydro-beta-cyclodextrin and its taka amylolysis

Fujiwara T, Tomita KI, Marseigne I, Vicens J//Shimane Univ, Fac Sci, Nishikawazu cho, Matsue, Shimane 690, Japan

MOL CRYST LIQUID CRYST 1988 156 PT A 393

X-ray structural studies of some beta-cyclodextrin inclusion complexes with stereoisomeric methyl-p-tolylsulfoxides. Protective effect during irradiation in the solid state

Hadjoudis E, Moustakali-Mavridis I, Tsoucaris G, Villain F, Le Bas G//NCRNS Demokritos, Inst Phys Chem, GR-15310 Aghia Paraskevi, Greece

MOL CRYST LIQUID CRYST 1988 156 PT A 405

Environmental effects on molecular properties of organic compounds. Part II. Beta-cyclodextrin inclusion complexes with cinnamic acids

Irie T, Tsunenari Y, Uekama K*, Pitha J//*Kumamoto Univ, Fac Pharmaceut Sci, 5-1 Oenonmachi, Kumamoto 862, Japan

INT J PHARM 1988 43 (1-2) 41

Effect of bile on the intestinal absorption of alpha-cyclodextrin in rats

Issaq HJ, Mellini DW, Beesley TE//NCI, Frederick Canc Res Facil, Program Resources Inc, POB B, Frederick, Md 21701, USA

J LIQ CHROMATOGR 1988 11 (2) 333

Mixed reversed phase/beta cyclodextrin packings in high performance liquid chromatography: single mixed support column versus two columns in series

Kato T, Nakamura Y//Josai Univ, Fac Pharmaceut Sci, Sakado, Saitama 35002, Japan

HETEROCYCLES 1988 27 (4) 973

Convenient synthesis and properties of water soluble cyclodextrin capped mesoporphyrinatoiron

Khakimzhanov AA, Fursov OV//Acad Sci KaSSR, Inst Mol Biol & Biochem, Ul Michurina 80, Alma Ata 480012, Kazakhstan, USSR

FIZIOL BIOKHIM KULT RAST 1988 20 (2) 157

Beta-cyclodextrin-inhibition of rice grain alpha-

amylase

Kobayashi S, Ashraf HRL, Braun P, French D//Minist Agr Forestry & Fisheries, Natl Food Res Inst, Carbohydrate Lab, 1-2-1 Kannondai, Tsukuba, Ibaraki 305, Japan
STARCH 1988 40 (3) 112
Coupling reaction of Bacillus macerans cyclodextrin glucanotransferase on glucosyl-alpha-cyclodextrin and glucose

Koizumi K, Kubota Y, Okada Y, Utamura T, Hizukuri S, Abe JI//Mukogawa Womens Univ, Fac Pharmaceut Sci, 4-16 Edagawa cho, Nishinomiya, Hyogo 663, Japan
J CHROMATOGR 1988 437 (1) 47
Retention behaviour of cyclodextrins and branched cyclodextrins on reversed phase columns in high-performance liquid chromatography

Komiyama M//Univ Tsukuba, Inst Mat Sci, Sakura, Ibaraki 305, Japan
CHEM LETT 1988 (APR) (4) 689
Stereospecific cleavage of adenosine 2',3'-cyclic monophosphate catalyzed by cyclodextrins

Lin SY, Kao YH, Yang JC//Vet Gen Hosp, Dept Med Res, Biopharmaceut Lab, Taipei, Taiwan
DRUG DEVELOP IND PHARM 1988 14 (1) 99
Grinding effect on some pharmaceutical properties of drugs by adding beta-cyclodextrin

Lunazzi L, Michon J, Rassat A//Univ Grenoble 1, CNRS, Etud Dynam & Struct Select Lab 332, BP68, F-38402 St Martin d'Heres, France
NEW J CHEM 1988 12 (2-3) 125
Influence de la complexation par les cyclodextrines et l'albumine sur une reaction de transfert monoelectronique

Murakami T, Harata K, Morimoto S//Res Inst Polymers Text, 1-1-4 Higashi, Tsukuba, Ibaraki 305, Japan
CHEM LETT (MAR) (3) 553
Synthesis and chiral recognition property of 3-acetylamino-3-deoxy-beta-cyclodextrin

Ripmeester JA//Natl Res Council Canada, Div Chem, Ottawa, Ontario, Canada K1A 0R6
J INCLUSION PHENOM 1988 6 (1) 31
Variable temperature CP/MAS C-13 NMR study of cyclodextrin complexes of benzaldehyde

Saenger W, Mullerfahrnow A//Inst Kristallog, Takustr 6, D-1000 Berlin 33, Fed Rep Ger
ANGEW CHEM INT ED 1988 27 (3) 393
Cyclodextrins increase surface tension and critical micelle concentrations of detergent solutions

Tabushi I, Kuroda Y*, Yamada M//*Kyoto Univ, Dept Synthet Chem, Sakyo ku, Kyoto 606, Japan
TETRAHEDRON LETT 1988 29 (12) 1413
Dynamic molecular motions of guest molecule included in modified beta-cyclodextrins

Vaisman S//No address available
BIOFUTUR 1988 (MAR) (66) 47
Cyclodextrins in Japan (French)

van Doorne H, Bosch EH, Lerk CF//State Univ Groningen, Dept Pharmaceut Technol, Ant Deusinglaan 2, 9713 AW Groningen, The Netherlands
PHARMACEUT WEEKBL-SCI ED 1988 10 (2) 80
Formation and antimicrobial activity of complexes of beta-cyclodextrin and some antimycotic imidazole derivatives

Wagner CJ, Wilson CW, Shaw PE//USDA ARS, US Citrus & Subtrop Lab, S Atlantic Area, POB 1909, Winter Haven, Fl 33883, USA
J FOOD SCI 1988 53 (2) 516
Reduction of grapefruit bitter components in a fluidized beta-cyclodextrin polymer bed

Yabe A, Kawabata Y, Niino H, Tanaka M, Ouchi A, Takahashi H, Tamura S, Tagaki W, Nakahara H, Fukuda K//Natl Chem Lab Ind, Yatabe, Ibaraki 305, Japan
CHEM LETT 1988 (1) 1
Cis-trans isomerization of the azobenzenes included as guests in Langmuir-Blodgett films of amphiphilic beta-cyclodextrin

Yamamoto Y, Kanda Y, Inoue Y*, Chujo R, Kobayashi S//*Tokyo Inst Technol, Dept Polymer Chem, Meguro ku, Tokyo 152, Japan
CHEM LETT 1988 (MAR) (3) 495
H-1-nuclear magnetic resonance study of 6-O-alpha-D-glucopyranosyl alpha-cyclodextrin para-nitrophenol inclusion complex

Adams HA, Biscoping J, Kafurke H, Muller H,

Hoffmann B, Boerner U, Hempelmann G//Univ Giessen Kinikum, Anaesthesiol & Operat Intens Med Abt, Klinikstr 29, D-6300 Giessen, Fed Rep Ger
BRIT J ANAESTH 1988 60 (6) 645
Influence of dextran on the absorption of adrenaline-containing lignocaine solutions - A protective mechanism in local anaesthesia

Kaisi M, Ngwalle EWK, Runyoro DE, Rogers J//Muhimbili Med Ctr, Dept Obstet & Gynaecol, Dar Es Salaam, Tanzania
INT J GYNAECOL OBSTET 1988 26 (2) 235
Evaluation of tolerance of and response to iron dextran (Imferon^{R})administered by total dose infusion to pregnant women with iron deficiency anemia

Schott U, Lindbom LO, Sjostrand U//Orebro Med Ctr Hosp, Dept Anesthesiol & Intens Care, S-70185 Orebro, Sweden
CRIT CARE MED 1988 16 (4) 346
Hemodynamic effects of colloid concentration in experimental hemorrhage - A comparison of Ringer acetate, 3% dextran-60, and 6% dextran-70

Kato Y, Mikuni K, Hara K*, Hashimoto H, Nakajima T, Kobayashi S, Kainuma K//*Ensuiko Sugar Refining Co Ltd, 13-46 Daikoku cho, Yokohama 230, Japan
J FERMENT TECHNOL 1988 66 (2) 159
The structure of high molecular weight dextrins obtained from potato starch by treatment with Bacillus macerans enzyme

Pezron E, Leibler L, Ricard A, Audebert R//Univ Pierre & Marie Curie, Ecole Super Phys & Chem Ind, Phys Chim Macromolec Lab, CNRS, Unite 278, F-75231 Paris 05, France
MACROMOLECULES 1988 21 (4) 1126
Reversible gel formation induced by ion complexation. 2. Phase diagrams

Pezron E, Ricard A, Lafuma F, Audebert R//Univ Pierre & Marie Curie, Ecole Super Phys & Chem Ind, Phys Chim Macromolec Lab, CNRS, Unite 278, F-75231 Paris 05, France
MACROMOLECULES 1988 21 (4) 1121
Reversible gel formation induced by ion complexation. 1. Borax-galactomannan interactions

Tako M, Nakamura S//Univ Ryukyus, Coll Agr, Dept Agr Chem, Nishihara, Okinawa 90301, Japan
AGR BIOL CHEM TOKYO 1988 52 (4) 1071
Synergistic interaction between agarose and D-galacto-D-mannan in aqueous media

Chandrasekaran R, Millane RP, Arnott S, Atkins EDT//Purdue Univ, Whistler Ctr, Carbohydrate Res, W Lafayette, In 47907, USA
CARBOHYD RES 1988 175 (1) 1
The crystal structure of gellan

Bruneteau M, Fabre I, Perret J, Michel G, Ricci P, Joseleau JP, Kraus J, Schneider M, Blaschek W, Franz G//Univ Lyon 1, Biochim Microbienne Lab, F-69622 Villeurbanne, France
CARBOHYD RES 1988 175 (1) 137
Antitumor active beta-D-glucans from Phytophthora parasitica

Ohno N, Adachi Y, Yadomae T*//*Tokyo Coll Pharm, Horinouchi, Hachioji, Tokyo 19203, Japan
CHEM PHARM BULL TOKYO 1988 36 (3) 1198
Conformations of fungal beta-D-glucans in the fruit body of edible fungi assessed by cross polarization-magic angle spinning carbon-13 nuclear magnetic resonance spectroscopy

Ohno N, Kurachi K, Yadomae T*//*Tokyo Coll Pharm, Horinouchi, Hachioji, Tokyo 19203, Japan
CHEM PHARM BULL TOKYO 1988 36 (3) 1016
Physicochemical properties and antitumor activities of carboxymethylated derivatives of glucan from Sclerotinia sclerotiorum

Wackerbauer K, Anger HM//Tech Univ Berlin, Lehrstuhl Brauereitechnol, VLB Berlin, D-1000 Berlin 65, Fed Rep Ger
MONATSSCHR BRAUWISSEN 1988 41 (4) 156
Differentiation of beta-glucans in malt and wort (German, English Abstract)

Woodward JR, Phillips DR, Fincher GB*//*Dept Biochem, La Trobe Univ, Bundoora, Vic 3083, Australia
CARBOHYD POLYM 1988 8 (2) 85
Water-soluble (1-3,1-4)-beta-D-glucans from barley (Hordeum vulgare) endosperm. IV. Comparison of 40degreesC and 65degreesC soluble fractions

Brunswick P, Manners DJ, Stark JR*//*Heriot

Watt Univ, Dept Brewing & Biol Sci, Edinburgh EH11HX, Midlothian, Scotland
J CEREAL SCI 1988 7 (2) 153
Degradation of isolated barley endosperm cell walls by purified endo-(1-3) (1-4)-beta-D-glucanases and malt extracts

Biely P, Markovic O//Slovak Acad Sci, Inst Chem, Ctr Chem Res, Dubravska Cesta 9, CS-84238 Bratislava, Czechoslovakia
BIOTECHNOL APPL BIOCHEM 1988 10 (2) 99
Resolution of glycanases of Trichoderma reesei with respect to cellulose and xylan degradation

Bajpai UDN, Rai S//Rani Durgavati Vishwavidyalaya, Dept Post Grad Studies & Res Chem, Jabalpur 482001, Madhya Pradesh, India
J APPL POLYM SCI 1988 35 (5) 1169
Grafting of acrylamide onto guar gum using KMnO4/oxalic acid redox system

Jolley JG, Geesey GG, Hankins MR, Wright RB, Wichlacz PL//EG & G Idaho Inc, Idaho Natl Engn Lab, Idaho Falls, Id 83415, USA
SURF INTERFACE ANAL 1988 11 (6-7) 371
Auger electron spectroscopy and x-ray photoelectron spectroscopy of the biocorrosion of copper by gum arabic, bacterial culture supernatant and Pseudomonas atlantica exopolymer

Turnbull JE, Gallagher JT*//*Univ Manchester, Christie Hosp & Holt Radium Inst, Dept Med Oncol, Canc Res Campaign, Wilmslow Rd, Manchester M20 9BX, England
BIOCHEM J 1988 251 (2) 597
Oligosaccharide mapping of heparan sulphate by polyacrylamide-gradient-gel electrophoresis and electrotransfer to nylon membrane

Andrassy K, Morike K, Koderisch J, Weber E//Univ Heidelberg, Hosp Med, Dept Nephrol, Bergheimer Str 58, D-6900 Heidelberg, Fed Rep Ger
THROMB RES 1988 49 (6) 601
Human pharmacological studies of a defined low molecular weight heparin fraction (Fragmin®) evidence for a simultaneous inhibition of factor Xa and IIa (thrombin)

Emanuele RM, Racanelli A, Fareed J*//*Loyola Univ, Med Ctr, Dept Pathol, 2160 S 1st Ave, Maywood, Il 60153, USA
THER DRUG MONIT 1988 10 (2) 153
Pharmacokinetics of heparins differing in mean molecular weight using a Xa amidolytic and Heptest clotting method

Hirsh J, Barrowcliffe TW*//*Natl Inst Biol Stand & Control, Dept Haematol, Blanche Lane, Potters Bar EN6 3QG, Herts, England
THROMB HAEMOST 1988 59 (2) 333
Standardization and clinical use of LMW heparin - Report of the ICTH Hepain Subcommittee, Brussels, July 1987

Lentini A, Ternai B*, Ghosh P//*La Trobe Univ, Dept Chem, Bundoora, Vic 3083, Australia
INT J BIOL MACROMOL 1988 10 (2) 113
Interaction of heparin and SP54 with gelatin

Loftus SA, Montplaisir JM, Kuo JW, Devore DP*//*Medchem Prod Inc, 43 Nagog Pk, Acton, Ma 01720, USA
J EQUINE VET SCI 1988 8 (2) 117
Comparison of the properties of hyaluronate products used in the treatment of joint dysfunction in horses

Nelson JD, Farris RL//St Paul Ramsey Med Ctr, Dept Ophthalmol, 640 Jackson St, St Paul, Mn 55101, USA
ARCH OPHTHALMOL 1988 106 (4) 484
Sodium hyaluronate and polyvinyl alcohol artificial tear preparations

Punzi L, Schiavon F, Ramonda R, Malatesta V, Gambari P, Todesco S//Inst Internal Med, Div Rheumatol, Padova, Italy
CURR THER RES 1988 43 (4) 643
Intra-articular hyaluronic acid in the treatment of inflammatory and noninflammatory knee effusions

Vila-Coro AA, Vila-Coro AA*//*Univ Complutense Madrid, Hosp Clin San Carlos, Fac Med, Dept Oftalmol, Dracena 40, E-28016 Madrid, Spain
ARCH OPHTHALMOL 1988 106 (5) 579
Hyaluronate facilitates passage of lacrimal probes for repair of lacerated canaliculi

Essien H, Lai JY, Hwang KJ*//*Univ So Calif, Sch Pharm, 1985 Zonal Ave, Los Angeles, Ca 90033, USA
J MED CHEM 1988 31 (5) 898
Synthesis of diethylenetriaminepentaacetic acid conjugated inulin and utility for cellular uptake

of liposomes

Cairns P, Miles MJ, Morris VJ//AFRC Inst Food Res, Norwich Lab, Colney Lane, Norwich NR4 7UA, Norfolk,England
CARBOHYD POLYM 1988 8 (2) 99
X-ray fibre diffraction studies on Konjac mannan-kappa carrageenan mixed gels

Kobayashi T, Satoh T, Inaoka H, Takano S, Ito S, Saitoh M, Suzuki I, Morichi T//Kao Corp, Tochigi Res Labs, 2606 Akabane, Haga, Tochigi 32134, Japan
NIPPON NOGEIKAGAKU KAISHI 1988 62 (4) 743
Antihypertensive activity of yeast mannan (Japanese, English Abstract)

Filippov MP, Komissarenko MS, Kohn R//Ctr Automatisation Sci Res & Metrology, Acad Sci MoSSR, Kishinev, USSR
CARBOHYD POLYM 1988 8 (2) 131
Investigation of ion exchange on films of pectic substances by infrared spectroscopy

Schwenke KD, Augustat D, Bock W//Acad Sci GDR, Zent Inst Ernahrung Potsdam Rehbrucke, DDR-1505 Bergholz, Ger Dem Rep
SCI ALIMENT 1988 8 (1) 97
Rapeseed protein-polyanion interactions - Binding of pectic acid to the main rapeseed protein fractions in insoluble complexes

Berth G//Cent Inst Nutr, GDR Acad Sci, Potsdam-Rehbrucke, Ger Dem Rep
CARBOHYD POLYM 1988 8 (2) 105
Studies on the heterogeneity of citrus pectin by gel permeation chromatography on Sepharose 2 B/Sepharose 4 B

Filippov MP, Vaskan RN//Acad Sci MoSSR, Ctr Automat Res & Metrol, Kishinev, Moldavia, USSR
J ANAL CHEM USSR-ENGL TR 1987 42 (9) PT2 1356
Infrared-spectroscopic determination of fractions of amido, methylated, and free carboxylic groups in pectin substances

Kobayashi Y, Komae K, Tanabe H, Matsuo R//Govt Ind Res Inst, Shikoku 2-3-3, Hananomiya cho, Takamatsu 761, Japan
BIOTECHNOL ADV 1988 6 (1) 29
Approach to maceration mechanism in enzymatic pulping of bast fibers by alkalophilic pectinolytic enzymes produced by Erwinia species

Owusu-Yaw J, Marshall MR, Koburger JA, Wei CI//Univ Florida, Dept Food Sci & Human Nutr, Gainsville, Fl 32611, USA
J FOOD SCI 1988 53 (2) 504
Low pH inactivation of pectinesterase in single-strength orange juice

Sakai T, Ozaki Y//Univ Osaka Prefecture, Coll Agr, Dept Agr Chem, Sakai, Osaka 591, Japan
AGR BIOL CHEM TOKYO 1988 52 (4) 1091
Protopectin solubilizing enzyme that does not catalyse the degradation of polygalacturonic acid

Giehring H//Pfeifer & Langen, Postfach 451080, D-5000 Koln 41, Fed Rep Ger
ZUCKERINDUSTRIE 1988 113 (4) 279
Polymers based on carbohydrates (German, English Abstract)

Sewell GW, Aldrich HC, Williams D, Mannarelli B, Wilkie A, Hespell RB, Smith PH, Ingram LO//Univ Florida, Dept Microbiol & Cell Sci, Gainsville, Fl 32611, USA
APPL ENVIRON MICROBIOL 1988 54 (5) 1085
Isolation and characterization of xylan-degrading strains of Butylvibrio fibrisolvens from a Napier grass-fed anaerobic digester

Mitsuishi Y, Yamanobe T, Yagisawa M//Minist Int Trade & Ind, Agcy Ind Sci & Technol, Fermentat Res Inst, 1-1-3 Higashi, Tsukuba, Ibaraki 305, Japan
AGR BIOL CHEM TOKYO 1988 52 (4) 921
The modes of action of three xylanases from mesophilic fungus strain Y-94 on xylooligosaccharides