Carbohydrate Polymers 17 (1992) 319–329

Bibliography on Carbohydrate Polymers

1 BOOKS, REVIEWS & SYMPOSIA

DRUGS EXP CLIN RES 1991, 17 (1)
Special Issue - New treatment prospects for osteo-arthrosis with glycosaminoglycans

SEMIN THROMB HEMOSTASIS 1991, 17 SUPPL 2
Development of non-heparin glycosaminoglycans as therapeutic agents. II.

Hirsh J (Ed)
Bailliere's Clinical Haematology vol 3 no 3, July 1990
Antithrombotic Therapy
Bailliere Tindall (London), 1990, 354pp, $38.70/£22.50 Hardbound, ISBN: 0-7020-1474-5
Contains the chapters: Mechanism of heparin action; Mechanisms of action of low molecular weight heparins and heparinoids; Pharmacokinetics of heparin and low molecular weight heparin; Clinical potential of low molecular weight heparins

Dordick JS (Ed)
Biocatalysts for Industry - Topics in Applied Chemistry
Plenum Publ Corp (New York), 1991, 330pp, $75.00 Hardbound, ISBN: 0-306-43652-3
Contains several chapters on carbohydrate polymers

Drueckhammer DG, Hennen WJ, Pederson RL, Barbas CF, Gautheron CM, Krach T, Wong CH*//*Scripps Clin & Res Inst, Dept Chem, La Jolla, Ca 92037, USA
SYNTHESIS-STUTTGART 1991, (7) 499
Enzyme catalysis in synthetic carbohydrate chemistry (Review)

Akatsuka I (Ed)
Introduction to Applied Phycology
SPB Academic Publ (Gc the Hague), 1990, 683pp, $140.00/Fls 240.00 Hardbound, ISBN: 905103-052-5
Contains several papers on algal polysaccharides

Sakagami H, Aoki T, Simpson A, Tanuma SI//Showa Univ, Sch Med, Dept Biochem 1, 1-5-8 Hatanodai, Shinagawa ku, Tokyo 142, Japan
ANTICANCER RES 1991, 11 (2) 993
Induction of immunopotentiation activity by a protein-bound polysaccharide, PSK (Review)

ZUCKERINDUSTRIE 1991, 116 (6) 560
Starch Convention 1991 in Detmold (German, English Abstract) (Review)

2 CELLULOSE

Kitano T, Zerwekh JE*, Edwards ML, Usui Y, Allen MD//*Univ Texas, SW Med Ctr, Dept Orthopaed Surg, 5323 Harry Hines Blvd, Dallas, Tx 75235, USA
SPINE 1991, 16 (7) 820
Viscous carboxymethylcellulose in the prevention of epidural scar formation

Ang JF, Miller WB//James River Corp, Solka Floc Div, Berlin, NH 03570, USA
CEREAL FOOD WORLD 1991, 36 (7) 558
Multiple functions of powdered cellulose as a food ingredient

Bellobono IR//Univ Milan, Dept Phys Chem & Elektrochem, I-20133 Milan, Italy
J PHOTOCHEM PHOTOBIOL A-CHEM 1991, 59 (1) 91
Kinetic study of the photocrosslinking of 1,6-hexanediol diacrylate grafted onto cellulose in the presence of photocatalytic systems

Bellobono IR, Marcandalli B, Selli E//Univ Milan, Dept Phys Chem & Elektrochem, I-20133 Milan, Italy
J PHOTOCHEM PHOTOBIOL A-CHEM 1991, 59 (1) 99
Kinetic study of photoinitiated grafting of diallyl oxydiethylene dicarbonate onto cellulose

Burrows HD, Eliseu PJSC, Gil MH, Freire RMS//Univ Coimbra, Dept Quim, P-3409 Coimbra, Portugal
J PHOTOCHEM PHOTOBIOL A-CHEM 1991, 59 (1) 81
Polypyridylruthenium(II) persulphate as photoinitiator in the grafting of vinyl monomers onto cellulose acetate

Carlsson CMG, Strom G//Inst Surface Chem, Box 5607, S-11486 Stockholm, Sweden
SURF INTERFACE ANAL 1991, 17 (7) 511
Adhesion between plasma-treated cellulosic materials and polyethylene

Depaoli MA, Duek ER, Rodrigues MA//Univ Estadual Campinas, Inst Quim, C Postal 6154, BR-13081 Campinas, SP, Brazil
SYNTHET METAL 1991, 41 (3) 973
Poly(aniline) cellulose acetate composites - Conductivity and electrochromic properties

Faroq AA, Price D, Milnes GJ, Horrocks AR//Clarkson Univ, Dept Elect & Comp Engn, Potsdam, NY 13676, USA
POLYM DEGRAD STABIL 1991, 33 (2) 155
Use of gas chromatographic analysis of volatile products to investigate the mechanisms underlying the influence of flame retardants on the

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

pyrolysis of cellulose in air

Francotte E, Lang RW, Winkler T//Ciba Geigy Ag, Div Pharmaceut, K-122 P25, CH-4002 Basel, Switzerland
CHIRALITY 1991, 3 (3) 177
New chiral fluoroanthryl derivatives - Resolution of the enantiomers by chromatography on cellulose esters and their evaluation as chiral solvating agents in NMR spectroscopy

Guthrie JT, Tune PD//Leeds Univ, Dept Colour Chem & Dyeing, Polymer Grp, Leeds LS2 9JT, England
J POLYM SCI A-POLYM CHEM 1991, 29 (9) 1301
The preparation, characterization, and application of cellulose-MMA graft copolymers. 1. The aqueous-based preparation of cellulose-MMA graft copolymers

Iovleva MM, Banduryan SI, Ivanova NA, Mikheleva GA, Kopev MA, Romanov VV, Sokolovskii BM//Khimvolokno Sci Ind Assoc, Moscow, USSR
VYSOKOMOL SOEDIN SER A SSSR 1991, 33 (3) 183
Structurization and morphology of a fiber obtained from the cellulose copper-ammonia complex solution (Russian)

Ivanova MV, Lazareva YI, Skokova IF, Virnik AD//Moscow Text Inst, Chair Chem Fiber Technol, Moscow, USSR
IZV VYSSH UCH ZAV KHIM KHIM T 1990, 33 (10) 109
Study of principles and optimization of trypsin addition to draft copolymer of cellulose and polyacrylic acid (Russian)

Kawaguchi M, Ryo Y, Hada T//Mie Univ, Fac Engn, Dept Chem Mat, 1515 Kamihama cho, Tsu, Mie 514, Japan
LANGMUIR 1991, 7 (7) 1340
Rheological properties of silica suspensions in aqueous cellulose derivative solutions. 1. Viscosity measurements

Kowsaka K, Kajima K, Kamide K*//*Asahi Chem Ind Co Ltd, Fundamental Res Lab Fibers & Fiber Forming Polymers, 11-7 Hacchonawate, Takatsuki, Osaka 569, Japan
POLYM J 1991, 23 (7) 823
Determination of the distribution of substituent groups in sodium cellulose sulfate - Assignment of ^{1}H and ^{13}C NMR peaks by 2-dimensional COSY and CH-COSY methods

Kuzina SI, Stovbun SV, Salina AG, Kochukov VA, Kuznetsova NY, Mikhailov AI*//*Acad Sci USSR, Inst Chem Phys, Chernogolovka 142432, USSR
EUR POLYM J 1991, 27 (7) 703
Effect of gamma-rays on the properties of the cellulose nitrate detector

Maekawa E//Kyoto Univ, Wood Res Inst, Res Sect Wood Chem, Uji, Kyoto 611, Japan
J APPL POLYM SCI 1991, 43 (3) 417
Analysis of oxidized moiety of partially periodate-oxidized cellulose by NMR spectroscopy

Nehls I, Loth F//Inst Polymerenchem Erich Correns, O-4530 Teltow, FRG
ACTA POLYM 1991, 42 (5) 233
^{13}C-NMR spectroscopic investigations on phosphorylation of cellulose products in the system orthophosphoric acid area (German, English Abstract)

Raj RG, Kokta BV//Univ Quebec, Ctr Rech Pates & Papiers, Trois Rivieres GA9 5H7, Quebec, Canada
ANGEW MAKROMOL CHEM 1991, 189 (MAY) 169
Composites of silane treated cellulosic fibers and high density polyethylene

Rassokhin DN, Kovaliov GV, Chernoglazov VM, Kalyazin EP, Bugaenko LT//MV Lomonosov State Univ, Radiat Chem Lab, Moscow 117234, USSR
VESTN MOSK UNIV KHIM SSSR 1991, 32 (1) 98
The investigation of cellulose reactivity upon enzymatic hydrolysis by the spin label technique (Russian)

Saunders CW, Taylor LT*//*Virginia Polytech Inst & State Univ, Dept Chem, Blacksburg, Va 24061, USA
APPL SPECTROSC 1991, 45 (5) 900
Determination of the degree of nitration of cellulose nitrates via GPC/FT-IR using an on-line flow cell

Schranz D, Morkowski S, Karamova ER, Abelev GI//Med Acad Poznan, Dept Pathol & Immunol Canc, UL Lakowa 1-2, PL-61787 Poznan, Poland
ELECTROPHORESIS 1991, 12 (6) 414
Counterflow affinity isotachophoresis on cellulose acetate membranes

Schuchardt DR, Berg JC//Boeing Airplane Co, POB 3707, Seattle, Wa 98124, USA
WOOD FIBER SCI 1991, 23 (3) 342
Liquid transport in composite cellulose-superabsorbent fiber networks

Spevacek J, Kafka D//Czechoslovak Acad Sci, Inst Macromolec Chem, CS-16206 Prague 6, Czechoslovakia
MAKROMOL CHEM-RAP COMM 1991, 12 (6) 359
High resolution solid state ^{13}C nuclear magnetic resonance study of the gamma-radiation effect on cellulose and wood structure

Sugiyama JJ, Vuong R, Chanzy H*//*CNRS, Ctr Rech Macromolec Vegetales, BP 53X, F-38041 Grenoble, France
MACROMOLECULES 1991, 24 (14) 4168
Electron diffraction study on the 2 crystalline phases occurring in native cellulose from an algal cell wall

Takahashi Y, Matsunaga H//Osaka Univ, Fac Sci, Dept Macromolec Sci, Toyonaka, Osaka 560, Japan
MACROMOLECULES 1991, 24 (13) 3968
Crystal structure of native cellulose

Tsaryuk VI, Frantsesson AV//Acad Sci USSR, Inst Radioengn & Electr, Moscow, USSR
VYSOKOMOL SOEDIN SER A SSSR 1991, 33 (2) 334
Infrared spectroscopy of water contained in cellulose (Russian, English Abstract)

Wagenknecht W, Philipp B, Nehls I, Schnabelrauch M, Klemm D, Hartmann M//Inst Polymerenchem Erich Correns, O-1530 Teltow, FRG
ACTA POLYM 1991, 42 (5) 213
Investigation of the formation of water-soluble cellulose phosphates by homogeneous acylation in the system cellulose/N_2O_4/DMF. 1. The problem and results on the acylation with $POCl_3$ (German, English Abstract)

Wiryana S, Berg JC//Univ Washington, Dept Chem Engn, BF-10, Seattle, Wa 98195, USA
WOOD FIBER SCI 1991, 23 (3) 457
The transport of water in wet-formed networks of cellulose fibers and powdered superabsorbent

Yoshino K, Matsuoka R, Nogami K, Araki H, Yamanaka S, Watanabe

K, Takahashi M, Honma M//Osaka Univ, Fac Engn, Suita, Osaka 565, Japan
SYNTHET METAL 1991, 42 (1-2) 1593
Electrical property of pyrolyzed bacterial cellulose and its intercalation effect

Zhdanov YA, Alexeyev YY, Alexeyeva VG, Metlushenko VP//Rostov Don State Univ, Phys & Organ Chem Res Inst, Rostov, USSR
DOKL AKAD NAUK SSSR 1991, 317 (3) 666
O-alkylation and O-acylation of cellulose in super-basic medium (Russian)

Arwidsson H, Hjelstuen O, Ingason D, Graffner C//Astra Lakemedel Ab, S-15185 Sodertalje, Sweden
ACTA PHARM NORDICA 1991, 3 (2) 65
Properties of ethyl cellulose films for extended release. 2. Influence of plasticizer content and coalescence conditions when using aqueous dispersions

Zhao Q, Long FJ, Liu XS//Acad Sinica, Guangzhou Inst Chem, Guangzhou, Peoples R China
J APPL POLYM SCI 1991, 43 (1) 19
Structural changes on plasma irradiation of ethyl cyanethyl cellulose as revealed by infrared spectroscopic technique

Claesson PM, Malmsten M*, Lindman B//*Univ Lund, POB 124, S-22100 Lund, Sweden
LANGMUIR 1991, 7 (7) 1441
Forces between hydrophobic surfaces coated with ethyl(hydroxyethyl)cellulose in the presence of an ionic surfactant

Bodmeier R, Paeratakul O//Univ Texas at Austin, Coll Pharm, Austin, Tx 78712-1074, USA
CARBOHYD POLYM 1991, 16 (4) 399
A novel multiple-unit sustained released indomethacin-hydroxypropyl methylcellulose delivery system prepared by ionotropic gelation of sodium alginate at elevated temperatures

Vazquez D, Lage MA, Parajo JC, Vazquez G//Univ Santiago de Compostela, Fac Enzymol, Dept Quim Anal Nutr & Bromatol, Campus Univ, Santiago, Spain
REV AGROQUIM TECNOL ALIMENT 1991, 31 (2) 143
Conversion of lignocellulosic materials - Composition, fractionation and use

3 CELLULOSE-DEGRADING ENZYMES

El-Naghy MA, El-Ktatny MS, Attia AA//Menia Univ, Fac Sci, Dept Bot, Menia, Egypt
ZBL MIKROBIOL 1991, 146 (5) 379
Factors affecting activity of CMC-ase and xylanase produced by Sporotrichum thermophile and fractionation of the enzymes

Abeles FB, Biles CL//USDA ARS, Appalachian Fruit Res Stn, 45 Wiltshire Rd, Kearneysville, WV 25430, USA
SCI HORT-AMSTERDAM 1991, 47 (1-2) 77
Cellulase activity in developing apple fruits

Gokhale DV, Patil SG, Bastawde KB//Natl Chem Lab, Div Biochem Sci, NCIM, Poona 411008, India
APPL BIOCHEM BIOTECH 1991, 30 (1) 99
Optimization of cellulase production by Aspergillus niger NCIM-1207

Kubicek-Pranz EM, Gruber F, Kubicek CP*//*Vienna Tech Univ, Inst Biochem Technol & Mikrobiol, Mikrobielle Biochem Abt, A-1060 Vienna, Austria
J BIOTECHNOL 1991, 20 (1) 83
Transformation of Trichoderma reesei with the cellobiohydrolase-II gene as a means for obtaining strains with increased cellulase production and specific activity

Kuzmanova S, Vandeska E, Dimitrovski A//Fac Technol & Met Skopje, Dept Food Technol & Biotechnol, Rudjer Boscovic 16, YU-91000 Skopje, Yugoslavia
J IND MICROBIOL 1991, 7 (4) 257
Production of mycelial protein and cellulolytic enzymes from food wastes

Messner R, Kubicek-Pranz EM, Gsur A, Kubicek CP//Vienna Tech Univ, Inst Biochem Technol & Mikrobiol, Mikrobielle Biochem Abt, A-1060 Vienna, Austria
ARCH MICROBIOL 1991, 155 (6) 601
Cellobiohydrolase-II is the main conidial-bound cellulase in Trichoderma reesei and other Trichoderma strains

Murata M, Hoshino E, Yokosuka M, Suzuki A//Kao Corp, Kawasaki Plant, 1-2 Ukishimacho, Kawasaki, Kanagawa 210, Japan
J AMER OIL CHEM SOC 1991, 68 (7) 553
New detergent mechanism with use of novel alkaline cellulase

Sinitsyn AP, Gusakov AV, Vlasenko EY//MV Lomonosov State Univ, Dept Chem, Moscow 117234, USSR
APPL BIOCHEM BIOTECH 1991, 30 (1) 43
Effect of structural and physico-chemical features of cellulosic substrates on the efficiency of enzymatic hydrolysis

4 CYCLODEXTRINS

Bekers O, Beijnen JH, Vis B, Suenaga A, Otagiri M, Bult A, Underberg WJM*//*State Univ Utrecht, Fac Pharm, Dept Pharmaceut Anal, POB 80082, 3508 TB Utrecht, The Netherlands
INT J PHARM 1991, 72 (2) 123
Effect of cyclodextrin complexation on the chemical stability of doxorubicin and daunorubicin in aqueous solutions

Berthod A, Jin HL, Armstrong DW//Univ Lyon 1, Sci Analyt Lab, CNRS, UA 435, F-69622 Villeurbanne, France
SEPAR SCI TECHNOL 1991, 26 (4) 515
Cyclodextrin purification with hollow fibers

Bicchi C, Artuffo G, Damato A, Nano GM, Galli A, Galli M//Dipartmento Sci & Tecnol Farmaco, via P Giuria 9, I-10125 Turin, Italy
HRC-J HIGH RES CHROMATOGR 1991, 14 (5) 301
Permethylated cyclodextrins in the GC separation of racemic mixtures of volatiles. 1.

Bonomo RP, Cucinotta V, Dalessandro F, Impellizzeri G, Maccarrone G, Vecchio G, Rizzarelli E*//*Univ Catania, Dipartimento Sci Chim, I-95125 Catania, Italy
INORG CHEM 1991, 30 (13) 2708
Conformational features and coordination properties of functionalized cyclodextrins - Formation, stability, and structure of proton and copper(II) complexes of histamine-bearing beta-cyclodextrin in aqueous solution

Du YQ, Nakamura A, Toda F*//*Tokyo Inst Technol, Fac Biosci & Biotechnol, Dept Bioengn, Meguro ku, Tokyo 152, Japan
J INCLUSION PHENOM MOL RECOGN 1991, 10 (4) 443
The conformational and binding properties of ethylbipyridinio-modified beta-cyclodextrin using induced circular dichroism

German A//Address not available

BULL ACAD NATL MED 1991, 175 (2) 259
Report on the request for authorization of the use of a cyclodextrin glucosyl transferase (intended for the manufacture of beta-cyclodextrin) obtained from the Bacillus sp Frem P 1990 (French, English Abstract)

Guo J, Hou SF, Wang WY//Acad Sinica, Changchun Inst Appl Chem, Changchun 130022, Peoples R China
ACTA CHIM SIN 1991, 49 (3) 254
Study on the complexation of acenaphthene and fluoranthene with cyclodextrins by means of time-resolved fluorescence technique

Hodi K, Tasic L*, Kata M, Selmeczi B, Jovanovic M, Djuric Z//*Univ Belgrade, Fac Pharm, Dept Pharmaceut Technol, POB 146, Belgrade, Yugoslavia
STARCH 1991, 43 (5) 186
Morphological study of products containing beta-cyclodextrin

Malik A, Jinno K*//*Toyohashi Univ Technol, Sch Mat Sci, Toyohashi 441, Japan
CHROMATOGRAPHIA 1991, 31 (11-12) 561
Retention behaviour of aromatic compounds in liquid chromatography and supercritical fluid chromatography with coarse-particles of bonded beta-cyclodextrin stationary phase

Mattson P, Korpela T, Paavilainen S, Makela M//Univ Turku, Dept Biochem, SF-20500 Turku 50, Finland
APPL BIOCHEM BIOTECH 1991, 30 (1) 17
Enhanced conversion of starch to cyclodextrins in ethanolic solutions by Bacillus circulans var alkalophilus cyclomaltodextrin glucanotransferase

McNamara M, Russell NR*//*Dublin Inst Technol, Coll Technol, Dept Chem, Kevin St, Dublin 8, Ireland
J INCLUSION PHENOM MOL RECOGN 1991, 10 (4) 485
FT-IR and Raman spectra of a series of metallo-beta-cyclodextrin complexes

Mwakibete H, Bloor DM, Wyn-Jones E*//*Univ Salford, Dept Chem & Appl Chem, Crescent, Salford M5 4WT, England
J INCLUSION PHENOM MOL RECOGN 1991, 10 (4) 497
Electrochemical studies of cationic drug inclusion complexes with alpha-cyclodextrins and beta-cyclodextrins

Nakai Y, Yamamoto K, Oguchi T, Yonemochi E, Hanawa T//Chiba Univ, Fac Pharmaceut Sci, 1-33 Yayoicho, Chiba 260, Japan
CHEM PHARM BULL TOKYO 1991, 39 (6) 1532
New methods for preparing cyclodextrin inclusion compounds. 4. Enhancement of combining molar ratio by using a ground mixture in heptakis-(2,6-di-O-methyl)-beta-cyclodextrin and benzoic acid system

Oguma T, Kikuchi M, Mizusawa K//Noda Inst Sci Res, 399 Noda, Noda, Chiba 278, Japan
AGR BIOL CHEM TOKYO 1991, 55 (6) 1661
Some culture conditions for the production of cyclodextrin-hydrolyzing enzyme from Bacillus sphaericus

Pawlowska M, Lipkowski J//Polish Acad Sci, Inst Phys Chem, Kasprzaka 44, PL-01224 Warsaw, Poland
J CHROMATOGR 1991, 547 (1-2) 59
Chromatographic liquid liquid ternary phase system with permethylated beta-cyclodextrin as chiral additive

Pekic B, Lepojevic Z//Univ Novi Sad, Fac Technol, Inst Microbiol Proc & Appl Chem, Blvd Avnoj-A 1, YU-21000 Novi Sad, Yugoslavia
BIOTECHNOL LETT 1991, 13 (6) 399
Enzymatic transformation of desacetyl lanatoside A into digitoxin by beta-glucosidase action in cyclodextrin solutions

Sakuraba H, Natori K, Tanaka Y//Kanto Gakuin Univ, Fac Engn, Dept Ind Chem, 4834 Kanazawa Matsuura, Yokohama, Kanagawa 236, Japan
J ORG CHEM 1991, 56 (13) 4124
Asymmetric oxidation of alkyl aryl sulfides in crystalline cyclodextrin complexes

Schmarr HG, Maas B, Mosandl A, Bihler S, Neukom HP, Grob K// Univ Frankfurt, Inst Lebensmittelchem, Robert Mayer Str 7-9, W-6000 Frankfurt, FRG
HRC-J HIGH RES CHROMATOGR 1991, 14 (5) 317
Unusual peak defocusing in capillary GC on hexakis (2,6-di-O-phenyl-3-O-acetyl)-alpha-cyclodextrin stationary phase

Schuette JM, Ndou T, Delapena AM, Greene KL, Williamson CK, Warner IM*//*Emory Univ, Dept Chem, Atlanta, Ga 30322, USA
J PHYS CHEM 1991, 95 (12) 4897
Characterization of the beta-cyclodextrin/acridine complex

Sharma A, Janis LS//Cent Michigan Univ, Dept Chem, Mt Pleasant, Mi 48859, USA
CLIN CHIM ACTA 1991, 199 (2) 129
Lipoprotein-cyclodextrin interaction

Smith VK, Nodu TT, Delapena AM, Warner IM*//*Emory Univ, Dept Chem, Atlanta, Ga 30322, USA
J INCLUSION PHENOM MOL RECOGN 1991, 10 (4) 471
Spectral characterization of beta-cyclodextrin - Triton X-100 complexes

Steiner T, Mason SA, Saenger W*//*Free Univ Berlin, Inst Kristallog, Takustr 6, W-1000 Berlin 33, FRG
J AMER CHEM SOC 1991, 113 (15) 5676
Topography of cyclodextrin inclusion complexes. 27. Disordered guest and water molecules - 3-center and flip-flop O-H...O hydrogen bonds in crystalline beta-cyclodextrin ethanol octahydrate at T = 295 K - A neutron and X-ray diffraction study

Sueishi Y, Nishimura N, Hirata K, Kuwata K//Okayama Univ, Fac Sci, Dept Chem, Okayama 700, Japan
J PHYS CHEM 1991, 95 (13) 5359
An ESR study of pressure effects on the inclusion-complex formation of cyclodextrins with di-tert-butyl nitroxide

Takuma T, Deguchi T, Sanemasa I*//*Kumamoto Univ, Fac Sci, Dept Chem, Kurokami 2-39-1, Kumamoto 860, Japan
BULL CHEM SOC JPN 1991, 64 (6) 1979
Association of p-halofluorobenzenes with alpha-cyclodextrins and beta-cyclodextrins in aqueous medium

Tong WQ, Lach JL, Chin TF, Guillory JK*//*Univ Iowa, Coll Med, Div Pharmaceut, Iowa City, Ia 52242, USA
PHARMACEUT RES 1991, 8 (7) 951
Structural effects on the binding of amine drugs with the diphenylmethyl functionality to cyclodextrin. 1. A microcalorimetric study

Tsuchiyama Y, Nomura H, Okabe M, Okamoto R//Mercian Co, Cent Res Labs, Fujisawa, Kanagawa 251, Japan
J FERMENT BIOENG 1991, 71 (8) 413
A novel process of cyclodextrin production by the use of specific adsorbents. 2. A new reactor system for selective production of alpha-cyclodextrin with specific adsorbent

Tsuchiyama Y, Yamamoto K, Asou T, Okabe M, Yagi Y, Okamoto R//Mercian Co, Cent Res Labs, Fujisawa, Kanagawa 251, Japan
J FERMENT BIOENG 1991, 71 (8) 407
A novel process of cyclodextrin production by the use of specific adsorbents. 1. Screening of specific adsorbents

5 LIGNIN

Fukushima K, Terashima N//Nagoya Univ, Fac Agr, Nagoya, Aichi 464, Japan
WOOD SCI TECHNOL 1991, 25 (5) 371
Heterogeneity in formation of lignin. 15. Formation and structure of lignin in compression wood of Pinus thunbergii studied by microautoradiography

Hartig C//Inst Biotechnol Leipzig, Permoserstr 15, O-7050 Leipzig, FRG
CHEM ZTG 1991, 115 (6) 177
Lignin preparations (German, English Abstract)

He LF, Terashima N//Nagoya Univ, Fac Agr, Nagoya, Aichi 464, Japan
HOLZFORSCHUNG 1991, 45 (3) 191
Formation and structure of lignin in monocotyledons. 4. Deposition process and structural diversity of the lignin in the cell wall of sugarcane and rice plant studied by ultraviolet microscopic spectroscopy

Masuku CP//Helsinki Univ Technol, Dept Chem Engn, SF-02150 Espoo, Finland
HOLZFORSCHUNG 1991, 45 (3) 181
Thermal reactions of the bonds in lignin. 4. Thermolysis of dimethoxyphenol

Mattusch J, Baran H, Schwedt G*//*Tech Univ Clausthal, Inst Inorgan & Analyt Chem, Paul Ernst Str 4, W-3392 Clausthal Zellerfe, FRG
FRESENIUS J ANAL CHEM 1991, 340 (6) 426
HPLC/UV-spectrometric and electrochemical detection of lignin-decomposition products in alcoholic beverages

Niemela K//Helsinki Univ Technol, Wood Chem Lab, SF-02150 Espoo, Finland
HOLZFORSCHUNG 1991, 45 (3) 233
Unusual propiophenones formed during hydrolysis of birch lignin

Ralph J, Elder TJ, Ede RM//USDA ARS, Dairy Forage Res Ctr, Madison, Wi 53706, USA
HOLZFORSCHUNG 1991, 45 (3) 199
The stereochemistry of guaiacyl lignin model quinone methides

Tanaka M, Asai M, Aoki N, Tanimoto M, Matsuno R//Okayama Univ Sci, Fac Sci, Dept Biochem, Ridai, Okayama 700, Japan
J FERMENT BIOENG 1991, 71 (8) 436
Alcohol fermentation using lignin-related compounds as a carbon source

Tuisel H, Grover TA, Lancaster JR, Bumpus JA, Aust SD*//*Utah State Univ, Ctr Biotechnol, Logan, Ut 84322, USA
ARCH BIOCHEM BIOPHYS 1991, 288 (2) 456
Inhibition of lignin peroxidase-H2 by sodium azide

Yoshizawa N, Satoh I, Yokota S, Idei T//Utsunomiya Univ, Fac Agr, Dept Forestry, Utsunomiya, Tochigi 321, Japan
HOLZFORSCHUNG 1991, 45 (3) 169
Lignification and peroxidase activity in bamboo shoots (Phyllostachys edulis a et C Riv)

6 POLYSACCHARIDES - NAMED

Dupuy B, Cadic C, Gin H, Baquey C, Dufy B, Ducassou D//Univ Bordeaux 2, INSERM, U306, 146 rue Leo Saignat, F-33076 Bordeaux, France
BIOMATERIALS 1991, 12 (5) 493
Microencapsulation of isolated pituitary cells by polyacrylamide microlatex coagulation on agarose beads

Carre M-C, Delestre C, Hubert P*, Dellacherie E//*Lab Chim Phys Macromolec, URA CNRS 494, ENSIC, BP 451, F-54001 Nancy Cedex, France
CARBOHYD POLYM 1991, 16 (4) 367
Covalent coupling of a short polyether on sodium alginate: Synthesis and characterization of the resulting amphiphilic derivative

Chen ZQ, Wang NH, Han ES, Chen J, Wang GX//Qingdao Inst Chem Technol, Dept Appl Chem, Qingdao 266042, Peoples R China
ACTA CHIM SIN 1991, 49 (5) 462
The effects of calcium ion, pH value on the rheological properties of sodium alginate solution

Nagai T, Nishiyama C, Yano T//Suntory Ltd, Ctr Tech, 1023-1 Ooaza yamazaki, Shimamoto cho, Mishima, Osaka 618, Japan
J JPN SOC FOOD SCI TECHNOL 1991, 38 (6) 520
Sorption characteristics of water vapor and mutagens on calcium alginate (Japanese, English Abstract)

Porter JM//Aberdeen Royal Infirm, Plast Surg & Burns Unit, Ward 39, Aberdeen AB9 2ZB, Scotland
BRIT J PLAST SURG 1991, 44 (5) 333
A comparative investigation of re-epithelialisation of split skin graft donor areas after application of hydrocolloid and alginate dressings

Ishii T//Forestry & Forest Prod Res Inst, POB 16, Tsukuba norin, Kenkyu danchinai, Ibaraki 305, Japan
PHYTOCHEMISTRY 1991, 30 (7) 2317
Acetylation at O-2 of arabinofuranose residues in feruloylated arabinoxylan from bamboo shoot cell-walls

Paakkonen K, Plit L//Univ Helsinki, Dept Food Chem & Technol, SF-00710 Helsinki 71, Finland
FOOD SCI TECHNOL-LEBENSM WISS 1991, 24 (3) 204
The state of water and chitin in the northern milk cap mushroom (Lactarius trivialis)

Paakkonen K, Plit L//Univ Helsinki, Dept Food Chem & Technol, SF-00710 Helsinki 71, Finland
FOOD SCI TECHNOL-LEBENSM WISS 1991, 24 (3) 259
Equilibrium moiture content and state of water in chitin

Vasseur V, Arigoni F, Seng JM//Univ Paris 06, Pathol Vegetale Lab, F-75230 Paris 05, France
BIOFUTUR 1991, (102) 51
Chitinases - Myth or reality

Cuero RG, Osuji G, Duffus E//Prairie View A&M Univ Texas, Cooperat Agr Res Ctr, Prairie View, Tx 77446, USA
FOOD BIOTECHNOL 1991, 5 (2) 95
N-carboxymethylchitosan - Uptake and effect on chlorophyll production, water potential and biomass in tomato plants

Cuero RG, Osuji G, Washington A//Prairie View A&M Univ, Ctr Cooperat Agr Res, Prairie View, Tx 77446, USA
BIOTECHNOL LETT 1991, 13 (6) 441
N-carboxymethylchitosan inhibition of aflatoxin production - Role of

zinc

Hirai A, Odani H, Nakajima A//Kyoto Univ, Inst Chem Res, Uji, Kyoto 611, Japan
POLYM BULL 1991, 26 (1) 87
Determination of degree of deacetylation of chitosan by ^{1}H NMR spectroscopy

Hirano S, Kaneko H, Kitagawa M//Tottori Univ, Dept Agr Biochem & Biotechnol, Tottori 680, Japan
AGR BIOL CHEM TOKYO 1991, 55 (6) 1683
N-lower-fatty-acyl derivatives of chitosan as adsorbents for lysozyme and chitinase

Holme KR, Hall LD//Ibex Technol, 6100 Royalmount Ave, Montreal, Quebec, Canada H4P 2R2
MACROMOLECULES 1991, 24 (13) 3828
Chitosan derivatives bearing C10-alkyl glycoside branches - A temperature-induced gelling polysaccharide

Kise H, Hayakawa A//Univ Tsukuba, Inst Mat Sci, Tsukuba, Ibaraki 305, Japan
ENZYME MICROB TECHNOL 1991, 13 (7) 584
Immobilization of proteases to porous chitosan beads and their catalysis for ester and peptide synthesis in organic solvents

Matsubara M, Kuroda H//Kobe Womens Coll Pharm, Motoyama Kita machi, Higashinada ku, Kobe 658, Japan
CHEM PHARM BULL TOKYO 1991, 39 (6) 1484
Isolation and physiological activity of the chitosan from conidia and mycelia of Mycosphaerella pinodes

Cheetham NWH, Slodki ME, Walker GJ//Univ New South Wales, Sch Chem, PO Box 1, Kensington, Sydney 2033, Australia
CARBOHYD POLYM 1991, 16 (4) 341
Structure of the linear, low molecular weight dextran synthesized by a D-glycosyltransferase (GTF-S3) of Streptococcus sobrinus

Drobchenko SN, Isaevaivanova LS, Kleiner AR, Kulintsova IV, Lomakin AV, Noskin VA, Forofontova SD//BP Konstantinov Nucl Phys Inst, Leningrad, USSR
VYSOKOMOL SOEDIN SER A SSSR 1991, 33 (3) 220
Aldo-enol tautomerism of dialdehyde dextrans (Russian)

Gasciolli V, Choplin L*, Paul F, Monsan P//*Univ Laval, Dept Chem Engn, Quebec City, Quebec, Canada G1K 7P4
J BIOTECHNOL 1991, 19 (2-3) 193
Viscous properties and molecular characterization of enzymatically size-controlled oligodextrans in aqueous solutions

Kato A, Shimokawa K, Kobayashi K//Yamaguchi Univ, Dept Appl Biochem, Yamaguchi 753, Japan
J AGR FOOD CHEM 1991, 39 (6) 1053
Improvement of the functional properties of insoluble gluten by pronase digestion followed by dextran conjugation

Ludwig-Baxter KG, Rej RN, Perlin AS, Neville GA*//*Hlth & Welf Canada, Hlth Protect Branch, Bur Drug Res, Ottawa, Ontario, Canada K1A 0L2
J PHARM SCI 1991, 80 (7) 655
A novel method for differentiating dextran sulfate from related sulfated polysaccharides

Nishino T, Aizu Y, Nagumo T//Kitasato Univ, Sch Hyg Sci, Dept Biophys, 1-15-1 Kitasato, Sagamihara, Kanagawa 228, Japan
THROMB RES 1991, 62 (6) 765
Antithrombin activity of a fucan sulfate from the brown seaweed Ecklonia kurome

Brillouet JM, Williams P, Moutounet M//INRA, Inst Produits Vigne, Polymeres & Tech Physicochim Lab, 2 Pl Viala, F-34060 Montpellier, France
AGR BIOL CHEM TOKYO 1991, 55 (6) 1565
Purification and some properties of a novel endo-beta-(1-6)-D-galactanase from Aspergillus niger

Usov AI, Elashvili MY//ND Zelinskii Organ Chem Inst, Moscow USSR
BIOORG KHIM 1991, 17 (6) 839
Quantitative determination of 3,6-anhydrogalactose derivatives and specific fragmentation of the red algal galactans under reductive hydrolysis conditions (Russian, English Abstract)

Elyakova LA, Isakov VV//Acad Sci USSR, Far E Sci Ctr, Pacific Bioorgan Chem Inst, Vladivostok, USSR
BIOORG KHIM 1991, 17 (6) 860
Enzymatic synthesis of beta-1,6-1,3-gluco-oligosaccharides by means of endo-beta-1,3-glucanase transglycosilation of gentio-oligosaccharides (Russian, English Abstract)

Nwoguh CE, Berry DR*//*Univ Strathclyde, Dept Biosci & Biotechnol, 204 George St, Glasgow G1 1XW, Scotland
J IND MICROBIOL 1991, 7 (4) 263
Activities of beta-glucanases and beta-glucosidases during blastospore formation in Saccharomycopsis fibuligera

Suzuki I, Sakurai T, Hashimoto K, Oikawa S, Masuda A, Ohsawa M, Yadomae T*//*Tokyo Coll Pharm, Horinouchi 1432-1, Hachioji, Tokyo 19203, Japan
CHEM PHARM BULL TOKYO 1991, 39 (6) 1606
Inhibition of experimental pulmonary metastasis of Lewis lung carcinoma by orally administered beta-glucan in mice

Uzcategui E, Ruiz A, Montesino R, Johansson G, Pettersson G*// *Univ Uppsala, Dept Biochem, POB 576 BMC, S-75123 Uppsala, Sweden
J BIOTECHNOL 1991, 19 (2-3) 271
The 1,4-beta-D-glucan cellobiohydrolases from Phanerochaete chrysosporium. 1. A system of synergistically acting enzymes homologous to Trichoderma reesei

Ahrens F, Pfeuffer M, Hagemeister H, Barth CA//Is Forschungsgesellsch Exptl Tierphysiol & Tierernahrung, Postfach 1247, W-2362 Wahlstedt, FRG
Z ERNAHRUNGSWISS 1991, 30 (2) 109
The hypocholesterolemic effect of guar gum depends on dietary sucrose - Studies in minipigs

Kawatra A, Kapoor AC*, Seghal S//*Haryana Agr Univ, Dept Food & Nutr, Hissar 125004, Haryana, India
PLANT FOOD HUM NUTR 1991, 41 (3) 241
Hypocholesterolemic effect of guar gum in overweight adults

Chai E, Stephens L, Prescott J, Lane A//CSIRO, Div Food Proc, POB 52, N Ryde, NSW 2113, Australia
FOOD AUST 1991, 43 (7) 302
Does larch gum enhance sweetness

Jacomeguth O, Aserin A, Garti N*//*Hebrew Univ Jerusalem, Sch Appl Sci & Technol, Casali Inst Appl Chem, IL-91904 Jerusalem, Israel
INT J FOOD SCI TECHNOL 1991, 26 (3) 249

Stability and opacity of orange oil cloudy emulsions based on gum elemi and gum arabic

Azarova LA, Syatkovsky VA, Kaputsky FN, Torgashov VI//Minist Publ Hlth BeSSR, Radiat Med Res Inst, Minsk, Belorussia, USSR
GERMATOLTRANSFUZIOL 1991, 36 (4) 23
Mechanisms of anticoagulation activity of new semi-synthetic heparinoids (Russian, English Abstract)

Bode V, Franz G//Univ Regensburg, Dept Pharm, W-8400 Regensburg, FRG
ARCH PHARM 1991, 324 (6) 363
Physiological activity of new heparinoids derived from plant polysaccharides

Castellani WJ, Hodges ED, Bode AP//Cleveland Clin Fdn, Dept Biochem, 9500 Euclid Ave, Cleveland, Oh 44195, USA
CLIN CHEM 1991, 37 (6) 1119
Effect of protamine sulfate on the ACA heparin assay

Chen W, Yang VC*//*Univ Michigan, Coll Pharm, Ann Arbor, Mi 48109, USA
CLIN CHEM 1991, 37 (6) 832
Versatile, non-clotting-based heparin assay requiring no instrumentation

Deboer A, Stiekema JCJ, Danhof M, Breimer DD//Ctr Human Drug Res, POB 9600, 2300 RC Leiden, The Netherlands
BRIT J CLIN PHARMACOL 1991, 32 (1) 23
The influence of Org-10172, a low molecular weight heparinoid, on antipyrine metabolism and the effect of enzyme induction on the response to Org-10172

Freick H, Haas S//Krankenhaus Bethanien, Dortmund, FRG
THROMB RES 1991, 63 (1) 133
Prevention of deep vein thrombosis by low-molecular-weight heparin and dihydroergotamine in patients undergoing total hip replacement

Giedrojc J, Breddin HK//Univ Clin Frankfurt, Ctr Internal Med, Div Angiol, Frankfurt, FRG
THROMB RES 1991, 63 (1) 99
Anticoagulant and antithrombotic effects of combinations of defibrotide with heparins and other antithrombotic agents in an animal thrombosis model

Hamano S, Kinukawa M, Komatsu H, Miyata H, Sakuragawa N//Kissei Pharmaceut Co Ltd, Pharmacol Labs, Hotaka 39983, Japan
FOLIA PHARMACOL JPN 1991, 98 (1) 53
Effects of low molecular weight heparin (FR-860) on the experimental disseminated intravascular coagulation models

Lapcik L, Schurz J*//*Graz Univ, Inst Phys Chem, Heinrichstr 28, A-8010 Graz, Austria
COLLOID POLYM SCI 1991, 269 (5) 633
Photochemical degradation of hyaluronic acid by singlet oxygen

Saettone MF, Giannaccini B, Chetoni P, Torracca MT, Monti D//Univ Pisa, Tecnol Farmaceut Biofarm Lab, I-56100 Pisa, Italy
INT J PHARM 1991, 72 (2) 131
Evaluation of high-molecular-weight and low-molecular-weight fractions of sodium hyaluronate and an ionic complex as adjuvants for topical ophthalmic vehicles containing pilocarpine

Manzoni M, Cavazzoni V//Univ Milan, Dipartimento Sci & Tecnol Alimentari & Microbiol, I-20133 Milan, Italy
FOOD SCI TECHNOL-LEBENSM WISS 1991, 24 (3) 236
Purification and characterization of the extracellular inulinase from Kluyveromyces cicerisporus

Prescott LF, McAuslane JAN, Freestone S//Univ Edinbrugh, Royal Infirm Edinburgh, Dept Clin Pharmacol, Edinburgh EH3 9YW, Scotland
EUR J CLIN PHARMACOL 1991, 40 (6) 619
The concentration-dependent disposition and kinetics of inulin

Kaputsky FN, Starobinets GL, Torgashov VI//VI Lenin State Univ, Phys Chem Problems Res Inst, Minsk, Belorussia, USSR
DOKL AKAD NAUK BSSR 1991, 35 (3) 246
Surface activity and association on mannan sodium salt (Russian, English Abstract)

Choi JH, Oh DK, Kim JH*, Lebeault JM//*Korea Adv Inst Sci & Technol, Dept Biol Sci & Engn, POB 150, Seoul 130012, South Korea
BIOTECHNOL LETT 1991, 13 (6) 417
Characteristics of a novel high viscosity polysaccharide, methylan, produced by Methylobacterium organophilum

Agravante JU, Matsui T, Kitagawa H//Kagawa Univ, Fac Agr, Dept Agroind Sci, Miki, Kagawa 76107, Japan
J JPN SOC FOOD SCI TECHNOL 1991, 38 (6) 527
Changes in pectinmethylesterase, polygalacturonase and pectic substances of ethanol-treated and ethylene-treated bananas during ripening (Japanese, English Abstract)

Ghanem KM, El-Refai AH, El-Gazaerly MA//Alexandria Univ, Botany Dept, Fac Sci, Alexandria, Egypt
CARBOHYD POLYM 1991, 16 (4) 433
Some cultural conditions for maximum bioextraction of beet pulp pectin

Hourdet D, Muller G//CNRS, URA 500, Polym Biopolym Mem, Fac Sci Rouen, F-76130 Mont St Aignan, France
CARBOHYD POLYM 1991, 16 (4) 409
Solution properties of pectin polysaccharides - III: Molecular size of heterogeneous pectin chains. Calibration and application of SEC to pectin analysis

Matthew JA, Wyatt GM, Archer DB, Morgan MRA//AFRC, Inst Food Res, Norwich NR4 7UA, England
CARBOHYD POLYM 1991, 16 (4) 381
Purification of a sugarbeet pectin modifying enzyme system from Aspergillus niger by antibody affinity column chromatography

Raynal J, Mourgues J, Conte T//Ecole Natl Super Agron, 145 Ave de Muret, F-31076 Toulouse, France
FOOD SCI TECHNOL-LEBENSM WISS 1991, 24 (3) 263
Pectic substances from plum fruits (Prunus domestica L) cv Dente - Fractional extraction and general characteristics

Schonfeld A, Behnke U//Zent Inst Ernahrung, Arthur Scheunert Allee 114-116, O-1505 Bergholz, FRG
NAHRUNG 1991, 35 (4) 395
Characterization of the enzyme spectrum of pectic enzyme and cellulase preparations and their action on cell wall polymers of the carrot. 1. Characterization of enzyme preparations

Seymour TA, Preston JF, Wicker L, Lindsay JA, Wei C, Marshall MR*// *Univ Florida, Inst Food & Agr Sci, Dept Food Sci & Human Nutr, Gainesville, Fl 32611, USA
J AGR FOOD CHEM 1991, 39 (6) 1075
Stability of pectinesterases of marsh white grapefruit pulp

Seymour TA, Preston JF, Wicker L, Lindsay JA, Marshall MR*//*Univ Florida, Inst Food & Agr Sci, Dept Food Sci & Human Nutr, Gainesville, Fl 32611, USA
J AGR FOOD CHEM 1991, 39 (6) 1080
Purification and properties of pectinesterases of marsh white grapefruit pulp

Beer M, Arrigoni E, Uhlmann D, Wechsler D, Amado R*//*Swiss Fed Inst Technol, Dept Food Sci, CH-8092 Zurich, Switzerland
FOOD SCI TECHNOL-LEBENSM WISS 1991, 24 (3) 245
Stability of polydextrose solutions to heat-treatment and storage under acid conditions

Knegt E, Vermeer E, Pak C, Bruinsma J//Agr Univ Wageningen, Dept Plant Physiol, Arboretumlaan 4, 6703 BD Wageningen, The Netherlands
PHYSIOL PLANT 1991, 82 (2) 237
Function of the polygalacturonase convertor in ripening tomato fruit

Matsuhashi S, Hatanaka C//Hiroshima Univ, Fac Appl Biol Sci, Dept Appl Biochem, Hiroshima 724, Japan
NIPPON NOGEIKAGAKU KAISHI 1991, 65 (5) 883
Polygalacturonase in strawberry fruit (Japanese, English Abstract)

Stutzenberger F//Clemson Univ, Dept Microbiol, Clemson, SC 29634, USA
J IND MICROBIOL 1991, 7 (4) 243
Polygalacturonate lyase production by Thermomonospora curvata on protein-extracted lucerne fiber

Braudo EE, Yuryev VP//AN Nesmeyanov Organoelement Cpds Inst, Vavilova Str 28, Moscow 117813, USSR
MAKROMOL CHEM-MACROMOL SYMP 1991, 45 (MAY) 145
Boundary conditions for ionotropic gelation of polyuronides

Kondrateva TF, Lobacheva NA//Acad Sci USSR, Inst Microbiol, Moscow V-71, USSR
MICROBIOLOGY-ENGL TR 1990, 59 (6) 699
Use of a mathematical planning method for optimizing the growth medium composition to increase the quantity of pullulan synthesized by Pullularia pullulans

Takizawa N, Shiro H, Hatta T, Nagao K, Kiyohara H//Okayama Univ Sci, Fac Engn, Dept Appl Chem, Biotechnol Lab, Ridai, Okayama 700, Japan
AGR BIOL CHEM TOKYO 1991, 55 (6) 1467
Extracellular production of Klebsiella pullulanase by Escherichia coli that carries the pullulanase secretion genes

Nirmala C, Purushothaman D//Sri Avinashilingam Home Sci Coll, Dept Biochem, Coimbatore 641011, Tamil Nadu, India
NATL ACAD SCI LETT 1991, 14 (2) 71
Production of xanthan gum by Xanthomonas campestris var oryzicola as influenced by nutritional factors

Sorbie KS, Huang YD//Heriot Watt Univ, Dept Petr Engn, Edinburgh EH14 4AS, Scotland
J COLLOID INTERFACE SCI 1991, 145 (1) 74
Rheological and transport effects in the flow of low-concentration xanthan solution through porous media

Zaidi A, Ghosh P, Schumpe A*, Deckwer WD//*Gesell Biotechnol Forsch GmbH, Div Biochem Engn, Mascheroder Weg 1, W-3300 Braunschweig, FRG
APPL MICROBIOL BIOTECHNOL 1991, 35 (3) 330
Xanthan production in a plunging jet reactor

Brice RE, Morrison IM*//*Scottish Corp Res Inst, Dundee DD2 5DA, Scotland
APPL BIOCHEM BIOTECH 1991, 30 (1) 9
Effect of the addition of D-xylose on xylanase activity and digestibility of fiber in an artificial rumen

7 POLYSACCHARIDES - OTHER

Abeygunawardana C, Bush CA*, Cisar JO//*Univ Maryland, Dept Chem & Biochem, Catonsville, Md 21228, USA
BIOCHEMISTRY-USA 1991, 30 (26) 6528
Complete structure of the cell surface polysaccharide of Streptococcus oralis ATCC-10557 - A receptor for lectin-mediated interbacterial adherence

Ahonkhai VI, Lukacs LJ, Jonas LC, Calandra GB*//*Merck Sharp & Dohme Ltd, W Point, Pa 19486, USA
VACCINE 1991, 9 (JUN) SUPPL S38
Clinical experience with PedvaxHIB, a conjugate vaccine of Haemophilus influenzae type-B polysaccharide Neisseria meningitidis outer membrane protein

Akiyoshi K, Yamaguchi S, Sunamoto J//Kyoto Univ, Fac Engn, Dept Polymer Chem, Sakyo ku, Kyoto 606, Japan
CHEM LETT 1991, (7) 1263
Self-aggregates of hydrophobic polysaccharide derivatives

Barker SA//Univ Birmingham, Carbohydrate Chem, POB 363, Birmingham B15 2TT, England
FOOD AUST 1991, 43 (7) 304
Carbohydrates in the food industry

Barsett H, Haraldstad KA, Paulsen BS*//*Dept Pharm, Pharmacognosy Sect, POB 1068, N-0316 Oslo 3, Norway
ACTA PHARM NORDICA 1991, 3 (2) 87
Separation and structural investigations of polysaccharides present in the seeds of Ulmus glabra Huds

Brillouet JM, Belleville MP, Moutounet M//INRA, Inst Prod Vigne, Polymeres Tech Physicochim Lab, 2 Pl Viala, F-34060 Montpellier, France
AMER J ENOL VITICULT 1991, 42 (2) 150
Possible protein-polysaccharide complexes in red wines

Chernyak AY, Sharma GVM, Kononov LO, Krishna PR, Kochetkov NK//ND Zelinskii Organ Chem Inst, Moscow 117913, USSR
GLYCOCONJUGATE J 1991, 8 (2) 82
Synthesis of glycuronamides of amino acids, constituents of microbial polysaccharides and their conversion into neoglycoconjugates of copolymer type

Granoff DM, Holmers SJ//St Louis Childrens Hosp, Dept Pediat, Div Infect Dis, 400 S Kingshighway Blvd, St Louis, Mo 63110, USA
VACCINE 1991, 9 (JUN) SUPPL S30
Comparative immunogenicity of Haemophilus influenzae type-B polysaccharide-protein conjugate vaccines

Groch MW, Urbon JA, Erwin WD, Aldoohan S//Rush Presbyterian St Lukes Med Ctr, Dept Diagnost Radiol & Nucl Med, 1653 W Congress Pkwy, Chicago, Il 60612, USA
MAGN RESON IMAGING 1991, 9 (3) 417
An MRI tissue equivalent lesion phantom using a novel polysaccharide material

Ha YW, Stack RJ, Hespell RB, Gordon SH, Bothast RJ*//*USDA ARS, Natl Ctr Agr Utilizat Res, Fermentat Biochem Unit, 1815 N

Univ St, Peoria, Il 61604, USA
APPPL ENVIRON MICROBIOL 1991, 57 (7) 2016
Some chemical and physical properties of extracellular polysaccharides produced by Butyrivibrio fibrisolvens strains

Massiot P, Baron A, Farhasmane L, Parfait A//INRA, Rech Cidricoles Biotransformat Fruits & Legumes Stn, BP 29, F-35650 Le Rheu, France
SCI ALIMENT 1991, 11 (3) 477
Evolution of cell-wall polysaccharide of cythere plum (Spondias cytherea) in the extraction and clarification of juice (French, English Abstract)

Nilsson S, Piculell L//Univ Lund, Ctr Chem, Box 124, S-22100 Lund, Sweden
MACROMOLECULES 1991, 24 (13) 3804
Helix-coil transitions of ionic polysaccharides analyzed within the Poisson-Boltzmann cell model. 4. Effects of site-specific counterion binding

Vietor RJ, Voragen AGJ*, Angelino SAGF, Pilnik W//*Agr Univ Wageningen, Dept Food Sci, POB 8129, 6700 EV Wageningen, The Netherlands
J CEREAL SCI 1991, 14 (1) 73
Non-starch polysaccharides in barley and malt - A mass balance of flour fractionation

Wong VK, Quagliata R, Adler R, Kim KS*//*Childrens Hosp Los Angeles, Dept Pediat, Div Infect Dis, 4650 Sunset Blvd, Box 51, Los Angeles, Ca 90027, USA
AMER J DIS CHILD 1991, 145 (7) 742
Dose-related immunogenicity of Haemophilus influenzae type-b capsular polysaccharide Neisseria meningitidis outer membrane protein conjugate vaccine

Zalashko MV, Salokhina GA, Shamgina TV, Grushenko MM//Acad Sci BeSSR, Inst Microbiol, Minsk, Belorussia, USSR
MICROBIOLOGY-ENGL TR 1990, 59 (6) 703
Influence of carbon sources on biosynthetic activity of yeast producers of polysaccharides

8 LIPOPOLYSACCHARIDES

Corzo J, Perez-Galdona R, Leon-Barrios M, Gutierrez-Navarro AM//Univ La Laguna, Fac Biol, Dept Bioquim & Biol Molec, E-38206 La Laguna, Spain
ELECTROPHORESIS 1991, 12 (6) 439
Alcian blue fixation allows silver staining of the isolated polysaccharide component of bacterial lipopolysaccharides in polyacrylamide gels

Kulshin VA, Zahringer U, Lindner B, Jager KE, Dmitriev BA, Rietschel ET//*Forschungsinst Borstel, Inst Exptl Biol & Med, Parkallee 22, W-2061 Borstel, FRG
EUR J BIOCHEM 1991, 198 (3) 697
Structural characterization of the lipid-A component of Pseudomonas aeruginosa wild-type and rough mutant lipopolysaccharides

Yarovaya LM, Aleshkin VA//GN Gabrichevskii Epidemiol & Microbiol Res Inst, Moscow, USSR
ZH MIKROB EPIDEM IMMUN SSSR 1991, (3) 73
New data on the chemical structure of lipopolysaccharides and practical prospects

Zubkov VA, Gorshkova RP, Nazarenko EL, Shashkov AS, Ovodov YS//Acad Sci USSR, Far E Sci Ctr, Pacific Inst Bioorgan Chem, Vladivostok, USSR
BIOORG KHIM 1991, 17 (6) 831
Structure of O-specific polysaccharide chain of the Yersinia aldovae lipopolysaccharide (Russian, English Abstract)

9 STARCH

Matsumura S, Nishioka M, Yoshikawa S//Keio Univ, Fac Sci & Technol, 3-14-1 Hiyoshi, Kohoku ku, Yokohama, Kanagawa 223, Japan
KOBUNSHI RONBUNSHU 1991, 48 (4) 231
Biodegradation of polycarboxylates containing glucopyranose groups in the backbone obtained by the partial oxidation of amylose

Ibrahim NA//Natl Res Ctr, Div Text Res, Cairo, Egypt
STARCH 1991, 43 (5) 179
Optimization of the desizability of water-soluble sizes. 6. Washing-out trials on CMS-size

El-Alfy EA, Samaha SH, Tera FM//Natl Inst Standards, Dept Text, Tahrir St, Giza, Egypt
STARCH 1991, 43 (6) 235
Synthesis of diethylaminoethyl-starch (DEAE-starch). 1.

Visavarungroj N, Remon JP//State Univ Ghent, Pharmaceut Technol Lab, Harelbekestr 72, B-9000 Ghent, Belgium
DRUG DEVELOP IND PHARM 1991, 17 (10) 1389
An evaluation of hydroxypropyl starch as disintegrant and binder in tablet formulation

Hebeish A, El-Zairy MR, El-Rafie MH, Higazy A, El-Sisy F//Natl Res Ctr, Div Text Res, Cairo, Egypt
STARCH 1991, 43 (3) 98
Poly(acrylic acid) starch composite as a substitute for sodium alginate in printing cotton fabrics with reactive dyes

Beard J//Address not available
NEW SCI 1991, 131 (1777) 27
Injection of starch helps bones to heal

Cairns P, Miles MJ, Morris VJ//AFRC Inst Food Res, Norwich Lab, Colney Lane, Norwich NR4 7UA, England
CARBOHYD POLYM 1991, 16 (4) 355
Studies of the effect of the sugars ribose, xylose and fructose on the retrogradation of wheat starch gels by X-ray diffraction

Delwiche SR, Pitt RE//USDA ARS, Beltsville Agr Res Ctr, Instrumentat & Sensing Lab, Bldg 303, Beltsville, Md 20705, USA
STARCH 1991, 43 (3) 85
Examination of starch-water and cellulose-water interactions with near infrared (NIR) diffuse reflectance spectroscopy

Ferenci T, Lee KS//Univ Sydney, Dept Microbiol, Sydney, NSW 2006, Australia
BIOTECHNOL BIOENG 1991, 38 (2) 314
Recovery of bacteria from growth media by starch-dependent floc formation

Fratzke AR, Sung W, Evangelista RL, Nikolov ZL*//*Iowa State Univ Sci & Technol, Ctr Crops Utilizat Res, Dept Food Sci & Human Nutr, Ames, Ia 50011, USA
ANAL LETT 1991, 24 (5) 847
Chemical method for the determination of starch in polyethylene

Golachowski A//Landwirtschaftliche Akad, Lehrstuhl Lagerung & Lebensmitteltechnol, UL Norwide 25, PL-50375 Wroclaw, Poland
STARCH 1991, 43 (5) 176

The properties of starch obtained from irradiated and at various temperatures stored potato tubers (German, English Abstract)

Gonsalves KE, Patel SH, Chen X//Stevens Inst Technol Lib, Dept Chem & Chem Engn, Hoboken, NJ 07030, USA
J APPL POLYM SCI 1991, 43 (2) 405
Development of potentially degradable materials for marine applications. 2. Polypropylene starch blends

Granfeldt Y, Bjorck I//Univ Lund, Ctr Chem, Dept Appl Nutr, Box 124, S-22100 Lund, Sweden
J CEREAL SCI 1991, 14 (1) 47
Glycemic response to starch in pasta - A study of mechanisms of limited enzyme availability

Haase NU, Shi HL//Fed Ctr Cereal Potato & Lipid Res, Inst Starch & Potato Technol, POB 1354, W-4930 Detmold, FRG
STARCH 1991, 43 (6) 205
A characterization of Faba bean starch (Vicia faba L)

Ishii K, Oka S//Hiroshima Bunkyo Womens Coll, Dept Living Sci, 1-2-1 Kabehigashi, Asakita ku, Hitoshima 73102, Japan
KOBUNSHI RONBUNSHU 1991, 48 (3) 163
Properties of porous polymer films prepared by amylolytic elimination of starch dispersed in methyl methacrylate 2-ethylhexyl acrylate copolymer films

Jaleel SA, Srikanta S, Ghildyal NP, Lonsane BK//Cent Food Technol Res Inst, Fermentat Technol & Bioengn Discipline, Mysore 570013, Karnataka, India
STARCH 1991, 43 (5) 183
Comparative efficiency of techniques for recovery of ethanol from pulpy substrate fermented in solid phase

Janas P//Hugo Kolltaj Acad Agr, Dept Chem & Phys, Mickiewcza Ave 21, PL-31120 Krakow, Poland
STARCH 1991, 43 (5) 168
Rheological studies on potato starch pastes at low concentrations. 3. Simplified measurements of absolute characteristics of pasting

Janas P//Hugo Kolltaj Acad Agr, Dept Chem & Phys, Mickiewcza Ave 21, PL-31120 Krakow, Poland
STARCH 1991, 43 (5) 172
Rheological studies on potato starch pastes at low concentrations. 4. Absolute measurements of the rheological properties of starch during gelatinization

Kumar KR, Ali SZ*//*Cent Food Technol Res Inst, Discipline Cereal Sci & Technol, Mysore 570013, Karnataka, India
STARCH 1991, 43 (5) 165
Properties of rice starch from paddy stored in cold and at room temperature

Kumar VNG, Bhandari MV, Bhat AN//Hindustan Lever Res Ctr, Andheri E, Bombay 400099, India
STARCH 1991, 43 (3) 93
Modifications of tapioca starch properties by polyethylene glycol (4000) and polyethylene glycol (4000) stearate additives

Kuragano T, Kimura H, Wada Y//Konan Womens Univ, 6-2-23 Morikita cho, Higashinada ku, Kobe 658, Japan
J JPN SOC FOOD SCI TECHNOL 1991, 38 (6) 476
Physical properties of cookies made of synthetic flour composed of soft or hard wheat proteins and starch (Japanese, English Abstract)

Larsson I, Eliasson AC*//*Univ Lund, Dept Food Technol, Box 124, S-22100 Lund, Sweden
STARCH 1991, 43 (6) 227
Annealing of starch at an intermediate water content

Liu H, Lelievre J//Acadia Univ, Dept Food Sci, Wolfville, NS, Canada B0P 1X0
STARCH 1991, 43 (6) 225
Effects of heating rate and sample size on differential scanning calorimetry traces of starch gelatinized at intermediate water levels

Mattilasandholm T, Alivehmas T, Wirtanen G, Ronner U, Sandholm M//Tech Res Ctr Finland, Food Res Lab, POB 203, SF-02151 Espoo, Finland
INT J FOOD SCI TECHNOL 1991, 26 (3) 325
Automated fluorimetry in quality control of pasteurized and ultra-high temperature-treated starch soup

Moorthy SN//Cent Tuber Crop Res Inst (CTCRI), Sreekariyam, Trivandrum 695 017, India
CARBOHYD POLYM 1991, 16 (4) 391
Extraction of starches from tuber crops using ammonia

Moragutierrez A, Baianu IC*//*Univ Illinois, Coll Agr, Dept Food Sci, Agr Food Chem Nucl Magnet Rech Facil, 567 Bevier Hall, Urbana, Il 61801, USA
J AGR FOOD CHEM 1991, 39 (6) 1057
^{13}C nuclear magnetic resonance studies of chemically modified waxy maize starch, corn syrups, and maltodextrins - Comparisons with potato starch and potato maltodextrins

Nagai T, Nademoto Y, Yano T//Suntory Ltd, Ctr Tech, 1023-1 Ooaza Yamazaki, Shimamoto cho, Mishima, Osaka 618, Japan
J JPN SOC FOOD SCI TECHNOL 1991, 38 (6) 533
Improvement of physical properties by increase of specific surface area of starch gel powder (Japanese, English Abstract)

Ponstein AS, Oosterhaven K, Feenstra WJ, Witholt B//Address not available
STARCH 1991, 43 (6) 208
Starch synthesis in potato tubers - Identification of the in vitro and the in vivo acceptor molecules of soluble starch synthase activity

Potente H, Schoppner V, Rucker A//Univ Gesamthsch Paderborn, Postfach 1621, W-4790 Paderborn, FRG
STARCH 1991, 43 (6) 231
Processing of potato starch on plastics processing machines (German, English Abstract)

Salomonsson BAC, Fransson GMB, Theander O//Swedish Univ Agr Sci, Dept Chem, Box 7016, S-75007 Uppsala, Sweden
STARCH 1991, 43 (3) 81
The cationic distribution in a cationized potato starch

Siscarlee JJH, Juliano BO, Tsuji S, Chikubu S, Faure J//POB 933, Manila 1099, Philippines
STARCH 1991, 43 (6) 220
Viscosity and flow properties of cooked milled rice slurries

Tihlarik K, Pasteka M//Slovak Acad Sci, Inst Chem, Dubravska Cesta 9, CS-80936 Bratislava, Czechoslovakia
STARCH 1991, 43 (3) 83
Determination of the carbonyl groups in oxidized starches by sodium borohydride

Upadhyay CM, Nehete PN, Shah DN, Shah NK, Shankar V, Kothari RM//Sarabhai Res Ctr, Dept Ind Enzymes, Baroda 390007, India

STARCH 1991, 43 (3) 107
Alternate economical starchy substrates for the production of 70% sorbitol

Wirtanen G, Mattilasandholm T, Manninen M, Ahvenainen R, Ronner U//Tech Res Ctr Finland, Food Res Lab, POB 203, SF-02151 Espoo, Finland
INT J FOOD SCI TECHNOL 1991, 26 (3) 313
Application of rapid methods and ultrasound imaging in the assessment of the microbiological quality of aseptically packed starch soup

10 STARCH-DEGRADING ENZYMES

Afe EO, Oso BA//Bendel State Univ, Dept Biol Sci, PMB 14, Ekpoma, Nigeria
J FOOD SCI TECHNOL-MYSORE 1991, 28 (2) 110
Amylolytic activities of culture filtrates of Rhizopus oryzae and Botryodiplodia theobromae

Ariga O, Andoh Y, Fujishita Y, Watari T, Sano Y//Shinshu Univ, Fac Text Sci & Technol, Dept Fine Mat Engn, Ueda, Nagano 386, Japan
J FERMENT BIOENG 1991, 71 (8) 397
Production of thermophilic alpha-amylase using immobilized transformed Escherchia coli by addition of glycine

Haska N, Ohta Y//Hiroshima Univ, Fac Appl Biol Sci, Microbial Biochem Lab, Hiroshima 724, Japan
STARCH 1991, 43 (3) 102
Glucose production from treated sago starch granules by raw starch digesting amylase

Koch R, Spreinat A, Lemke K, Antranikian G*//*Tech Univ Hamburg, Arbeitsbereich Biotechnol 1, Harburger Schlossstr 37, W-2100 Hamburg 90, FRG
ARCH MICROBIOL 1991, 155 (6) 572
Purification and properties of a hyperthermoactive alpha-amylase from the archaeobacterium Pyrococcus woesei

Abraham TE, Jamuna R, Bansilal CV, Ramakrishna SV//Reg Res Lab, Trivandrum 691519, India
STARCH 1991, 43 (3) 113
Continuous synthesis of glucoamylase by immobilized fungal mycelium of Aspergillus niger

Belshaw NJ, Williamson G*//*AFRC, Inst Food Res, Colney Lane, Norwich NR4 7UA, England
BIOCHIM BIOPHYS ACTA 1991, 1078 (1) 117
Interaction of beta-cyclodextrin with the granular starch binding domain of glucoamylase

Miller E, Sugier H//Tech Univ Lodz, Inst Gen Food Chem, Stefanowskiego 4-10, PL-90924 Lodz, Poland
STARCH 1991, 43 (6) 238
The immobilization of glucoamylase on polyethylene membrane modified by radiation grafting of acrolein

Przybyt M//Tech Univ Lodz, Inst Gen Food Chem, UL Stefanowskiego 4-10, PL-90924 Lodz, Poland
STARCH 1991, 43 (5) 190
Determination of glucoamylase activity with glucose electrode