

Bibliography of carbohydrate polymers

(Five weeks journals. Search completed at 9th Aug 1995)

1 BOOKS, REVIEWS & SYMPOSIA

Semin Thromb Hemostasis 1995 21 (2) 251

Abstracts from a symposium on "New Developments in Heparin Therapy" held in conjunction with the symposium on "Frontiers in Vascular Medicine," May 1994

Chandrasekaran R, Radha A// Purdue Univ, Whistler Ctr Carbohydrate Res, 1160 Smith Hall, West Lafayette, IN 47907, USA
Trends Food Sci Technol 1995 6 (5) 143

Molecular architectures and functional properties of gellan gum and related polysaccharides (Review)

Crescenzi V// Univ Roma La Sapienza, Dept Chem, I-00185 Rome, Italy

Biotechnol Progr 1995 11 (3) 251

Microbial polysaccharides of applied interest: Ongoing research activities in Europe

Kennedy JF, Palva PMG*, Corella MTS, Cavalcanti MSM, Coelho LCBB// *Univ Fed Pernambuco, Dept Bioquim, Avda Moraes Reg s/n, Cidade Univ, BR-50000 Recife, PE, Brazil
Carbohydr Polym 1995 26 (3) 219

Lectins, versatile proteins of recognition: A review

Painter TJ// UNIT/NTH, Inst Bioteknol, Sem Saelandsvei 6/8, N-7034 Trondheim, Norway

In: Turner RC, Scaife RG (Eds) *Bog Bodies - New Discoveries and New Perspectives* (Brit Museum Press; 208pp; £30.00; ISBN 0-7141-2305-6; 1995)
Chemical and microbiological aspects of the preservation process in *Sphagnum* peat (includes the involvement of polysaccharides)

2 CELLULOSE

Abdel-Rahim KA, Ramaswamy HS*// *McGill Univ, Dept Food Sci & Agr Chem, MacDonald Campus, St Anne de Bellevue, Quebec, Canada H9X 3V9
Food Res Int 1995 28 (3) 285

High temperature/pressure rheology of carboxymethyl cellulose (CMC)

Afonso JED, Nunes RCR// Fed Univ Rio de Janeiro, Inst Macromolec, Cidade Univ, POB 68525, BR-21945-970 Rio de Janeiro, Brazil
Polym Bull 1995 34 (5-6) 669

Influence of the filler and monomer quantities in the rheometrical behaviour and crosslink density of the NBR-cellulose II composites

Amidon GE, Houghton ME// Upjohn Co, Drug Delivery Res & Dev, Kalamazoo, MI 49001, USA
Pharmaceut Res 1995 12 (6) 923

The effect of moisture on the mechanical and powder flow properties of microcrystalline cellulose

Arisz PW, Eijkel GB, Boon J// FOM, Inst Atom & Molec Phys, Kruislaan 407, 1098 SJ Amsterdam, The Netherlands
J Anal Appl Pyrol 1995 33 21

Linking of pyrolysis-chemical ionisation mass spectrometric and monomer compositional data of *O*-(2-hydroxyethyl) celluloses by canonical correlation analysis

Barragan VM, Rueda C, Ruiz-Bauza C*// *Univ Complutense Madrid, Fac Phys, Dept Appl Phys 1, E-28040 Madrid, Spain

J Colloid Interface Sci 1995 172 (1) 361

On the fixed charge concentration and the water electroosmotic transport in a cellulose acetate membrane

Beck EW, Lieser KH*// *TH Darmstadt, Eduard Zintl Inst, Fachbereich Chem, D-64289 Darmstadt, Germany
Angew Makromol Chem 1995 227 101

Synthesis and properties of a cellulose exchanger with the crown ether diamino-dibenzo-17-crown-5 as anchor group

Cardwell TJ, Cattrall RW, Deady LW*, Dorkos M, Kaye AJ, Papanikos A// *La Trobe Univ, Ctr Sci Instrumentat, Sch Chem, Bundoora, Vic 3083, Australia
Aust J Chem 1995 48 (6) 1081

Cellulose acetate-based pH indicator optodes

Casay GA, George A, Hadjichristidis N, Lindner JS, Mays JW*, Peiffer DG, Wilson WW// *Univ Alabama, Dept Chem, Birmingham, AL 35294, USA

J Polym Sci B-Polym Phys 1995 33 (10) 1537

Dilute solution properties, chain stiffness, and liquid crystalline properties of cellulose propionate

Delegido J, Dolz M*, Hernandez MJ, Pellicer J// *Univ Valencia, Fac Pharm, Dept Thermodynam, E-46100 Valencia, Spain
J Disper Sci Tech 1995 16 (3-4) 283

Pseudoplasticity and thixotropy of different types of starch hydrogels prepared with microcrystalline cellulose sodium carboxymethyl cellulose

Eason J, Seward HC*// *Croydon Eye Unit, 33 Mayday Rd, Thornton Heath CR7 7YE, Surrey, England

Brit J Ophthalmol 1995 79 (6) 541

Pupil size and reactivity following hydroxypropyl methylcellulose and sodium hyaluronate

Edgar KJ, Arnold KM, Blount WW, Lawniczak JE, Lowman DW// Eastman Chem Co, Res Labs, POB 1972, Kingsport, TN 37662, USA

Macromolecules 1995 28 (12) 4122

Synthesis and properties of cellulose acetoacetates

Ek R, Lennholm H, Davidson R, Nystrom C, Ragnarsson G// Univ Uppsala, Dept Pharm, S-75123 Uppsala, Sweden

Int J Pharm 1995 122 (1-2) 49

Pore swelling in beads made of cellulose fibres and fibre fragments

Finkenstadt VL, Hendrixson TL, Millane RP*// *Purdue Univ, Whistler Ctr Carbohydrate Res, West Lafayette, IN 47907, USA

J Carbohydr Chem 1995 14 (4-5) 601

Models of xyloglucan binding to cellulose microfibrils

Freddi G, Romano M, Massafra MR, Tsukada M// Stn Sperimentale, Via G Colombo 81, I-20133 Milan, Italy

J Appl Polym Sci 1995 56 (12) 1537

Silk fibroin/cellulose blend films: Preparation, structure, and physical properties

Ghoneum M, Wimbley M, Salem F, McKlain A, Attallah N, Gill G// Drew Univ Med & Sci, Dept Otolaryngol, 1621 East 120th St, Los Angeles, CA 90059, USA

Int J Immunother 1995 11 (1) 23

Immunomodulatory and anticancer effects of active hemicellulose compound (AHCC)

Gilbert C, Kokot S*// *Queensland Univ Technol, Sch Chem, Ctr Instrumental & Dev Chem, Brisbane 4001, Qld, Australia

Vib Spectrosc 1995 9 (2) 161

Discrimination of cellulosic fabrics by diffuse reflectance infrared Fourier transform spectroscopy and chemometrics

Hakanen A, Laine E// Univ Turku, Dept Phys, SF-20500 Turku, Finland

Drug Develop Ind Pharm 1995 21 (13) 1573

Acoustic characterization of a microcrystalline cellulose powder during and after its compression

Heinze T, Erier U, Heinze U, Camacho J, Grummt UW, Klemm D// Katholieke Univ Leuven, Polymer Res Lab, B-3001 Louvain, Belgium

Macromol Chem Physics 1995 196 (6) 1937

Synthesis and characterization of photosensitive 4,4'-bis(dimethylamino)di-phenylmethyl ethers of cellulose

Hill DJT, Le TT, Darveniza M, Saha T// Univ Queensland, Dept Chem, Polymer Mat & Radiat Grp, Brisbane, Qld 4072, Australia

Polym Degrad Stab 1995 48 (1) 79

A study of degradation of cellulosic insulation materials in a power transformer. I. Molecular weight study of cellulose insulation paper

Hosny WM, Hadi AKA, El-Saied H*, Basta AH// *Natl Res Ctr, Dept Cellulose & Paper, Cairo, Egypt

Polym Int 1995 37 (2) 93

Metal chelates with some cellulose derivatives. III. Synthesis and structural chemistry of nickel(II) and copper(II) complexes with carboxymethyl cellulose

Hoyer B, Jensen N// Aarhus Univ, Dept Chem, Langelandsgade 140, DK-8000 Aarhus C, Denmark

Talanta 1995 42 (5) 767

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 thirteen sections: 1 Books, Reviews & Symposia; 2 Cellulose; 3 Cellulose-degrading Enzymes; 4 Chitin/Chitosan; 5 Cyclodextrins; 6 Lignin; 7 Lipopolysaccharides; 8 Pectin; 9 Starch; 10 Starch-degrading Enzymes; 11 Polysaccharides - Microbial; 12 Polysaccharides - Plant; 13 Polysaccharides - Other. Within each section, articles are listed in alphabetical order with respect to author. When there are no publications to appear under one of these headings, that section will be omitted.

Phase-inversion cellulose acetate membranes for suppression of protein interferences in anodic stripping voltammetry

Ikeda K, Saitoh I, Oguma T, Takagishi Y// Shionogi & Co Ltd, Dev Res Labs, 2-1-3 Kuise Terajima, Amagasaki, Hyogo 660, Japan
Chem Pharm Bull Tokyo 1995 43 (6) 1012

Influence of indomethacin and isopropanol on hydrophobic interaction through long-chain alkyl groups of hydrophobically-modified hydroxypropyl methylcellulose

Izzo M// FMC Food Ingredients, Philadelphia, Pa, USA
Cereal Food World 1995 40 (5) 361

Trimming fat from compound coatings with microcrystalline cellulose

Kovalenko VI// Kazan State Technol Univ, ul K Marksa 68, Kazan 420015, Russia

Vysokomol Soedin 1995 37 (5) 911

Quantitative estimation of composition heterogeneity of cellulose nitrates (Russian, English Abstract)

Levison PR, Badger SE, Jones RMH, Toome DW, Streater M, Pathirana ND, Wheeler S// Whatman Int Ltd, Springfield Mill, Maidstone ME14 2LE, Kent, England

J Chromatogr A 1995 702 (1-2) 59

Validation studies in the regeneration of ion-exchange celluloses

Mishina VY, Grachev MK, Teleshev AT, Nifantev EE// Moscow State Pedagog Univ, ul Malaya Pirogovskaya 1, Moscow 119882, Russia

Vysokomol Soedin 1995 37 (4) 713

A new method of synthesis of cellulose phosphites and phosphinites. Their use as ligands in metal complex catalysis (Russian, English Abstract)

Morrell JJ, Smith SM// Oregon State Univ, Dept Forest Prod, Corvallis, Or 97331, USA

Forest Prod J 1995 45 (6) 84

Chemically protecting cellulosic string from microbial attack

Ntawukulilyayo JD, Demuyne C, Remon JP// *State Univ Ghent, Pharmaceut Technol Lab, Harelbekestr 72, B-9000 Ghent, Belgium

Int J Pharm 1995 121 (2) 205

Microcrystalline cellulose-sucrose esters as tablet matrix forming agents

Osmonkanova GN, Sarybaeva RI, Afanasev VA, Satyvaldiev AS, Dzhamanbaev ZA// Kyrgyz Acad Sci, Inst Organ Chem, pr Chui 267, Bishkek 720071, Kyrgyzstan

Vysokomol Soedin 1995 37 (4) 679

Lewis acid catalysis of acetylation of cellulose (Russian, English Abstract)

Panomsuk SP, Hatanaka T, Aiba T, Katayama K, Koizumi T// *Toyama Med & Pharmaceut Univ, Fac Pharmaceut Sci, 2630 Sugitani, Toyama 93001, Japan
Chem Pharm Bull Tokyo 1995 43 (6) 994

A study of the hydrophilic cellulose matrix: Effect of indomethacin and a water-soluble additive on release mechanisms

Park HJ, Chinnam MS// *Univ Georgia, Dept Food Sci & Technol, Ctr Food Safety & Qual Enhancement, Agr Expt Stn, Griffin, Ga 30223, USA

J Food Eng 1995 25 (4) 497

Gas and water vapor barrier properties of edible films from protein and cellulosic materials

Rogovina SZ, Zhorin VA, Enikolopian NS// Russian Acad Sci, Inst Chem Phys, Kosygin Str, Moscow 117911, Russia

J Appl Polym Sci 1995 57 (4) 439

Modification of cellulose in conditions of plastic flow under pressure

Sarkar N// Dow Chem Co USA, Cellulosics Res, 1604 Bldg, Midland, Mi 48674, USA

Carbohydr Polym 1995 26 (3) 195

Kinetics of thermal gelation of methylcellulose and hydroxypropylmethylcellulose in aqueous solutions

Shirokova MK, Melnikov BN, Vermul VG, Orekhov VD, Pismanuk KD// Ivanovo Chem Technol State Acad, Chair Fiber Mat Chem Technol, Ivanovo, Russia

Izv Vyssh Uch Zav Khim Khim T 1995 37 (7-9) 138

Effect of ionizing irradiation on the destruction of cotton cellulose in radiation-chemical technology of finishing and dyeing processes (Russian)

Silva JBAE, De Mancilha IM, Teixeira MA, Vanetti MCD// Fac Engr Quim Lorena, Ctr Biotecnol, BR-12600-000 Lorena, SP, Brazil

Arq Biol Tecnol 1995 38 (1) 147

Utilization of the hydrolysate of *Eucalyptus* hemicellulose for production of microbial protein (Portuguese, English Abstract)

Tonouchi N, Thara N, Tsuchida T, Yoshinaga F, Beppu T, Horinouchi S// Biopolymer Res Co Ltd, Takatsu ku, 3-2-1 Sakato, Kawasaki, Kanagawa 213, Japan

Biosci Biotechnol Biochem 1995 59 (5) 805

Addition of a small amount of an endoglucanase enhances cellulose production by *Acetobacter xylinum*

Torres D, Garcia-Encina G, Seijo B, Jato JLV// Fac Farm Santiago de Com-

postela, Farm Galen Lab, E-15706 Santiago de Compostela, Spain
Int J Pharm 1995 121 (2) 239

Formulation and *in vivo* evaluation of HPMCP-microencapsulated drug-resin complexes for sustained release of diclofenac

Yamagishi TA, Sixou P// *CNRS, URA 190, Phys Mat Condensee Lab, Parc Valrose, F-06108 Nice 2, France

Polymer 1995 36 (11) 2315

Preparation and characteristics of cholesteric gel from pentyl ether of hydroxypropyl cellulose

Zheng GZ, Zhao BA, He SJ, Gao J// Univ Tokyo, Fac Agr, Dept Forest Prod, Tokyo, Japan

J Macromol Sci Pure Appl Chem 1995 A32 (7) 1281

Initiation of graft copolymerization by direct oxidation of lignocellulose with KMnO₄ and its mechanism

3 CELLULOSE-DEGRADING ENZYMES

Ahn YH, Yang YL, Choi CY// *Seoul Natl Univ, Coll Engr, Dept Chem Technol, Seoul 151742, South Korea

Biotechnol Lett 1995 17 (5) 547

Cellulases as an aid to enhance saccharification of cassava root

Duenas R, Tengerdy RP, Gutierrez-Correa M// *Univ Nacl Agr La Molina, Micol & Biotecnol Lab, Apdo Postal 456, Lima 1, Peru

World J Microbiol Biotechnol 1995 11 (3) 333

Cellulase production by mixed fungi in solid-substrate fermentation of bagasse

Duran N, Milagres AMF, Esposito E, Curotto E, Aguirre C, Teixeira MFS, Carvalho SMS, Fernandes OCC// Univ Estadual Campinas, Inst Quim, Biol Chem Lab, CP 6154, BR-13081-970 Campinas, SP, Brazil

Appl Biochem Biotech 1995 53 (2) 155

Amazonian lignocellulosic materials V: Screening of xylanolytic fungi

Kang MK, Rhee YH// *Chungnam Natl Univ, Dept Microbiol, Taejeon 305764, South Korea

Biotechnol Lett 1995 17 (5) 507

Carboxymethyl cellulases active and stable at alkaline pH from alkalophilic *Cephalosporium* sp RYM-202

Kang SW, Kim SW*, Lee JS// *Univ Suwon, Dept Genet Engr, POB 77, Suwon 445743, South Korea

Appl Biochem Biotech 1995 53 (2) 101

Production of cellulase and xylanase in a bubble column using immobilized *Aspergillus niger* KKS

Latif F, Rajoka MI, Malik KA// Natl Inst Biotechnol & Genet Engr, POB 577, Faisalabad, Pakistan

World J Microbiol Biotechnol 1995 11 (3) 347

Production of cellulases by thermophilic fungi grown on *Leptochloa fusca* straw

Parajo JC, Alonso JL, Santos V// Univ Vigo (Campus Orense), Dept Chem Engr, R-32004 Orense, Spain

Process Biochem 1995 30 (6) 537

Delignification and swelling of *Eucalyptus* wood ahead of enzymatic hydrolysis of the cellulosic fraction

Singh A, Kuhad RC*, Kumar M// *Univ Delhi, Dept Microbiol, Sth Campus, Benito Juarez Rd, New Delhi 110021, India

Enzyme Microb Technol 1995 17 (6) 551

Xylanase production by a hyperxylanolytic mutant of *Fusarium oxysporum*

Tenkanen M, Buchert J, Viikari L// VTT, Biotechnol & Food Res, Box 1500, SF-02044 Espoo, Finland

Enzyme Microb Technol 1995 17 (6) 499

Binding of hemicellulases on isolated polysaccharide substrates

4 CHITIN/CHITOSAN

Acikgoz M, Kas HS*, Hascelik Z, Milli U, Hincal AA// *Hacettepe Univ, Fac Pharm, Dept Pharmaceut Technol, Ankara 06100, Turkey

Pharmazie 1995 50 (4) 275

Chitosan microspheres of diclofenac sodium. II. *In vitro* and *in vivo* evaluation

Amiji MM// Northeastern Univ, Dept Pharmaceut Sci, Boston, Ma 02115, USA

Carbohydr Polym 1995 26 (3) 211

Pyrene fluorescence study of chitosan self-association in aqueous solution

Amiji MM// Northeastern Univ, Dept Pharmaceut Sci, Boston, Ma 02115, USA

Biomaterials 1995 16 (8) 593

Permeability and blood compatibility properties of chitosan-poly(ethylene oxide) blend membranes for haemodialysis

Deuchi K, Kanauchi O, Imasato Y, Kobayashi E// Kirin Brewery Co Ltd, Ctr

- Appl Biores, Div Corp Res & Dev, Miyahara, Takasaki, Gunma 37012, Japan
Biosci Biotechnol Biochem 1995 **59** (5) 781
 Effect of the viscosity or deacetylation degree of chitosan in fecal fat excreted from rats fed on a high-fat diet
- Jameela SR, Jayakrishnan A*// *Sree Chitra Tirunal Inst Med Sci & Technol, Biomed Technol Wing, Div Polymer Chem, Trivandrum 695012, Kerala, India
Biomaterials 1995 **16** (10) 769
 Glutaraldehyde cross-linked chitosan microspheres as a long acting biodegradable drug delivery vehicle: Studies on the *in vitro* release of mitoxantrone and *in vivo* degradation of microspheres in rat muscle
- Kadokawa JI, Yamashita K, Karasu M, Tagaya H, Chiba K// Yamagata Univ, Fac Engr, Dept Mat Sci & Engr, Yonezawa, Yamagata 992, Japan
J Macromol Sci Pure Appl Chem 1995 **A32** (7) 1273
 Preparation and enzymatic hydrolysis of block copolymer consisting of oligo-chitin and poly(propylene glycol)
- Kanauchi O, Deuchi K, Imasato Y, Shizukuishi M, Kobayashi E// Kirin Brewery Co Ltd, Ctr Appl Biores, Div Corp Res & Dev, 3 Miyahara, Takasaki, Gunma 37012, Japan
Biosci Biotechnol Biochem 1995 **59** (5) 786
 Mechanism for the inhibition of fat digestion by chitosan and for the synergistic effect of ascorbate
- Khor E, Whey JH// Natl Univ Singapore, Dept Chem, Kent Ridge, Singapore 0511
Carbohydr Polym 1995 **26** (3) 183
 Interaction of chitosan with polypyrrole in the formation of hybrid biomaterials
- Kristmundsdottir T, Ingvarsdottir K, Saemundsdottir G// Univ Iceland, Dept Pharm, IS-101 Reykjavik, Iceland
Drug Develop Ind Pharm 1995 **21** (13) 1591
 Chitosan matrix tablets: The influence of excipients on drug release
- Lopatin SA, Ilyin MM, Pustobaev VN, Bezchetskova ZA, Varlamov VP, Davankov VA// Russian Acad Sci, Ctr Bioengn, Moscow, Russia
Anal Biochem 1995 **227** (2) 285
 Mass spectrometric analysis of *N*-acetylchito oligosaccharides prepared through enzymatic hydrolysis of chitosan
- Mitani T, Yamashita T, Okumura C, Ishii H// Tokyo Natl Coll Technol, Dept Sci & Chem Engr, 1220-2 Kunugida, Hachioji, Tokyo 193, Japan
Biosci Biotechnol Biochem 1995 **59** (5) 927
 Adsorption of benzoic acid and its derivatives to swollen chitosan beads
- Muzzarelli RAA, Xia WS, Tomasetti M, Ilari P// Univ Ancona, Fac Med, I-60100 Ancona, Italy
Enzyme Microb Technol 1995 **17** (6) 541
 Depolymerization of chitosan and substituted chitosans with the aid of a wheat germ lipase preparation
- Ohashi E, Karube I// Nippon Suisan Kaisha Ltd, Cent Res Lab, 559-6 Kitano, Hachioji, Tokyo 192, Japan
J Biotechnol 1995 **40** (1) 13
 Development of a thin membrane glucose sensor using β -type crystalline chitin for implantable biosensor
- Sezer AD, Akbuga J*// *Univ Marmara, Fac Pharm, Dept Pharmaceut Technol, Istanbul, Turkey
Int J Pharm 1995 **121** (1) 113
 Controlled release of piroxicam from chitosan beads
- Tseng H, Furuhashi K, Sakamoto M// Tokyo Inst Technol, Fac Engr, Dept Organ & Polymer Mat, Meguro ku, Tokyo 152, Japan
Carbohydr Res 1995 **270** (2) 149
 Bromination of regenerated chitin with *N*-bromosuccinimide and triphenylphosphine under homogeneous conditions in lithium bromide-*N,N*-dimethylacetamide
- Zhang M, Hirano S// Tottori Univ, Dept Agr Biochem & Biotechnol, Tottori 680, Japan
Carbohydr Polym 1995 **26** (3) 205
 Novel *N*-unsaturated fatty acyl and *N*-trimethylacetyl derivatives of chitosan
- Zhang YH, Zhang Y, He BL// Nankai Univ, Inst Polymer Chem, Tianjin 300071, Peoples Rep China
Chem J Chinese Univ-Chinese 1995 **16** (4) 643
 Studies on adsorption properties for bilirubin of novel crosslinked chitosan resins
- Zihnioglu F, Telefoncu A// Ege Univ, Fac Sci, Dept Biochem, Izmir 35100, Turkey
BBA-Gen Subjects 1995 **1244** (2-3) 291
 Diffusion characteristics of chitosan-entrapped microsomal UDP-glucuronyl transferase gel beads
- Pharmazie* 1995 **50** (4) 269
 Improvement of some pharmaceutical properties of drugs by cyclodextrin complexation. II. Colchicine
- Attoui F, Al-Omar A, Leray E, Parrot-Lopez H, Finance C, Bonaly R*// *Univ Nancy 1, Fac Sci Pharmaceut & Biol, GEVSM, BP 403, F-54001 Nancy, France
Biol Cell 1994 **82** (2-3) 161
 Recognition ability and cytotoxicity of some oligosaccharidyl substituted β -cyclodextrins
- Bahaddi Y, Galons H*, Rysanek N// *Fac Pharm, Chim Organ Lab, 4 Ave Observ, F-75270 Paris, France
Bull Soc Chim France 1995 **132** (3) 330
 Enantiomeric discrimination in solid-state cyclodextrin complexes
- Born M, Koch T, Ritter H// Berg Univ Gesamthsch Wuppertal, FB 9, Gausstr 20, D-42097 Wuppertal, Germany
Macromol Chem Physics 1995 **196** (5) 1761
 Side-chain polyrotaxanes. III. Synthesis, characterization and enzymatically catalyzed degradation of non-covalently anchored cyclodextrins in the side chains of poly(ether-ether-ketone)s
- Da Silva AMM, Amado AM, Ribeiro-Claro PJA, Empis J, Teixeira-Dias JJC*// *Univ Coimbra, Dept Quim, P-3049 Coimbra, Portugal
J Carbohydr Chem 1995 **14** (4-5) 677
 β -Cyclodextrin complexes of benzaldehyde, vanillin and cinnamaldehyde: A Raman spectroscopic study
- Druliner JD, Wasserman E// Du Pont Co Inc, Cent Sci & Engr Lab, Wilmington, DE 19880, USA
J Fluorine Chem 1995 **72** (1) 75
 Synthesis and characterization of cyclodextrin/perfluoroalkane inclusion compounds
- Easton CJ, Lincoln SF, Schliebs DM// Australian Natl Univ, Res Sch Chem, Canberra, ACT 0200, Australia
J Chem Soc Chem Commun 1995 (11) 1167
 High enantioselectivity in the reactions of (*R*)- and (*S*)-1-phenylethylamine with 6^A-deoxy-6^A-iodo- β -cyclodextrin
- Galle D, Tolksdorf M, Braun M*// *Univ Dusseldorf, Inst Organ Chem & Makromolekul Chem, D-40225 Dusseldorf, Germany
Tetrahedron Lett 1995 **36** (24) 4217
 Circular dichroism of *trans* and *cis* β -lactams and of their inclusion compounds in β -cyclodextrin
- Immel S, Brickmann J, Lichtenhaler FW*// *TH Darmstadt, Inst Organ Chem, Petersenstr 22, D-64287 Darmstadt, Germany
Liebigs Annalen 1995 (6) 929
 Molecular modeling of saccharides. VI. Small-ring cyclodextrins: Their geometries and hydrophobic topographies
- Janado M, Yano Y, Umura M, Kondo Y// Kyoto Women's Univ, Dept Food Sci, Higashiyama ku, Kyoto 605, Japan
J Solut Chem 1995 **24** (6) 587
 Differential interactions of cyclodextrins with hydrophobic derivatives of sepharose CL-4B
- Karupiah N, Sharma A*// *Cent Michigan Univ, Dept Chem, Dow 346, Mt Pleasant, MI 48859, USA
Biochem Biophys Res Commun 1995 **211** (1) 60
 Cyclodextrins as protein folding aids
- Maas B, Dietrich A, Beck T, Borner S, Mosandl A*// *Univ Frankfurt, Biozentrum, Inst Lebensmittelchem, Marie Curie Str 9, D-60439 Frankfurt, Germany
J Microcolumn Sep 1995 **7** (1) 65
 Di-*tert*-butyldimethylsilylated cyclodextrins as chiral stationary phases: Thermodynamic investigations
- Malik A, Yun H, Yi GL, Bradshaw JS, Rossiter BE, Markides KE, Lee ML// Univ Sth Florida, Dept Chem, Tampa, FL 33620, USA
J Microcolumn Sep 1995 **7** (2) 91
 Structural characteristics of pendant and copolymeric cyclodextrin polysiloxane stationary phases and their influence on chiral selectivity and resolution in capillary gas chromatography
- Matsue H, Yamaguchi I, Sekine T, Yoshihara K// Tohoku Univ, Fac Sci, Dept Chem, Aoba ku, Sendai, Miyagi 980, Japan
Radiochim Acta 1995 **68** (3) 163
 Energy dependence of 'molecular rocket reaction' in modified metallocene-cyclodextrin inclusion compound and comparison with those in other systems
- Mondik P, Sopkova A, Kralik P// Safarik Univ, Dept Inorgan Chem, Moyzesova 11, Kosice 04154, Slovakia
J Therm Anal 1995 **44** (4) 837
 Thermal stability of products prepared by the combination of cyclodextrins and zeolites
- Nakamura M, Ikeda T, Nakamura A, Ikeda H, Ueno A*, Toda F// *Tokyo Inst Technol, Fac Biosci & Biotechnol, Dept Bioengn, Midori ku, 4259 Nagatsuta

5 CYCLODEXTRINS

Ammar HO, El-Nahas SA// Natl Res Ctr, Dept Pharmaceut Sci, Cairo, Egypt

- cho, Yokohama, Kanagawa 226, Japan
Chem Lett 1995 (5) 343
 Remarkable molecular recognition of dansyl-modified cyclodextrin dimer
 Panini R, Vandelli MA, Forni F, Pradelli JM, Salvioli G*// *Univ Modena, Osped Estense, Viale Vittorio Veneto 9, I-41100 Modena, Italy
Pharmacol Res 1995 31 (3-4) 205
 Improvement of ursodeoxycholic acid bioavailability by 2-hydroxypropyl- β -cyclodextrin complexation in healthy volunteers
 Roussel C, Favrou A// Fac Sci & Tech St Jerome, ENSSPICAM, CNRS, URA 1410, F-13397 Marseille 20, France
J Chromatogr A 1995 704 (1) 67
 Cationic β -cyclodextrin: A new versatile chiral additive for separation of drug enantiomers by high-performance liquid chromatography
 Song LX, Meng QJ, You XZ// Nanjing Univ, Natl Key Lab Coordinat Chem, Nanjing 210093, Peoples Rep China
Syn Reactiv Inorg Metal-Org C 1995 25 (5) 671
 Preparation and properties of inclusion compounds of β -cyclodextrin with (η^5 -pyrrolyl) tricarbonylmanganese(I) and its analogues
 Spencer JN, De Garmo J, Paul IM, He Q, Ke XM, Wu ZQ, Yoder CH, Chen SY, Mihalick JE// Franklin & Marshall Coll, Dept Chem, Lancaster, Pa 17604, USA
J Solu Chem 1995 24 (6) 601
 Inclusion complexes of alcohols with α -cyclodextrin
 Van Dienst E, Snellink BHM, Von Piekartz I, Engbersen JFJ, Reinhoudt DN*// *Univ Twente, Organ Chem Lab, POB 217, 7500 AE Enschede, The Netherlands
J Chem Soc Chem Commun 1995 (11) 1151
 Water-soluble cyclodextrin-calix[4]arene host molecules with strongly enhanced binding properties
 Yen GC, Tsai LJ// Natl Chunghsing Univ, Dept Food Sci, 250 Kuokuang Rd, Taichung, Taiwan
J Food Sci 1995 60 (3) 561
 Cholesterol removal from a lard-water mixture with β -cyclodextrin
 Zhou EY, Bertrand GL, Armstrong DW*// *Univ Missouri, Dept Chem, Rolla, Mo 65401, USA
Separ Purif Method 1995 30 (11) 2259
 Effect of organic cosolvents on enantio-enrichments via cyclodextrin-based precipitations: An examination of production efficiency
- ## 6 LIGNIN
- Chivukula M, Spadaro JT, Renganthan V*// *Oregon Grad Inst Sci & Technol, Dept Chem Biochem & Molec Biol, POB 91000, Portland, Or 97291, USA
Biochemistry-USA 1995 34 (23) 7765
 Lignin peroxidase-catalyzed oxidation of sulfonated azo dyes generates novel sulfophenyl hydroperoxides
 Dong DJ, Fricke AL// Argonne Natl Lab, Div Chem Technol, 9700 Sth Cass Ave, Argonne, Il 60439, USA
Polymer 1995 36 (10) 2075
 Intrinsic viscosity and the molecular weight of Kraft lignin
 Feijoo G, Rothschild N, Dosoretz C, Lema JM*// *Univ Santiago de Compostela, Dept Chem Engn, E-15706 Santiago de Compostela, Spain
J Biotechnol 1995 40 (1) 21
 Effect of addition of extracellular culture fluid on ligninolytic enzyme formation in *Phanerochaete chrysosporium*
 Granata A, Argyropoulos DS*// *McGill Univ, Dept Chem, 3420 Univ St, Montreal, Quebec, Canada H3A 2A7
J Agr Food Chem 1995 43 (6) 1538
 2-Chloro-4,4,5,5-tetramethyl-3,2-dioxaphospholane, a reagent for the accurate determination of the uncondensed and condensed phenolic moieties in lignins
 Iimura Y, Katayama Y, Kawai S, Morohoshi N// Tokyo Univ Agr & Technol, Fac Agr, Wood Chem Lab, Fuchu, Tokyo 183, Japan
Biosci Biotechnol Biochem 1995 59 (5) 903
 Degradation and solubilization of C₁₃, C₁₄-side chain labeled synthetic lignin (dehydrogenative polymerizate) by laccase III of *Coriolus versicolor*
 Kaluskar VM, Kapadani BP, Penninckx MJ*// *IPB, Free Univ Brussels, Microbial Physiol & Ecol Unit, 642 rue Engeland, B-1000 Brussels, Belgium
World J Microbiol Biotechnol 1995 11 (3) 353
 Acid-precipitable polymeric lignin from hardwood lignocellulose: Production by a *Streptomyces* sp
 Khindaria A, Barr DP, Aust SD*// *Utah State Univ, Ctr Biotechnol, Logan, Ut 84322, USA
Biochemistry-USA 1995 34 (23) 7773
 Lignin peroxidases can also oxidize manganese
 Kuroda KI, Suzuki A, Kato M, Imai K// Univ Tsukuba Inst Agr & Forest Engn, Tennodai 1-1-1, Tsukuba, Ibaraki 305, Japan
J Anal Appl Pyrol 1995 34 (1) 1
 Analysis of rice (*Oryza sativa* L.) lignin by pyrolysis-gas chromatography
 Mathias AL, Rodrigues AE*// *Univ Oporto, Fac Engn, Separat & React Engn Lab, P-4099 Oporto, Portugal
Holzforchung 1995 49 (3) 273
 Production of vanillin by oxidation of pine Kraft lignins with oxygen
 Matsui T, Matsushita Y, Kaikake K, Kido H, Nakayama N// Miyazaki Univ, Fac Engn, Dept Mat Sci, Miyazaki 88921, Japan
Nippon Kagaku Kaishi 1995 (3) 220
 Properties of lignin and lignin-carbohydrate complex obtained from steam-exploded Sugi (*Cryptomeria japonica* D Don) wood: Acylation examination
 McKinney DE, Carson DM, Clifford DJ, Minard RD, Hatcher PG*// *Penn State Univ, Fuel Sci Program, University Pk, Pa 16802, USA
J Anal Appl Pyrol 1995 34 (1) 41
 Off-line thermochemolysis versus flash pyrolysis for the *in situ* methylation of lignin: Is pyrolysis necessary?
 Sayadi S, Odier E// Sfax BPW, Ctr Biotechnol, Sfax 3038, Tunisia
Acta Biotechnol 1995 15 (1) 57
 Degradation of synthetic lignin by the protoplasts of *Phanerochaete chrysosporium* in the presence of lignin peroxidase or manganese peroxidase
 Tarabanko VE, Fomova NA, Kuznetsov BN, Ivanchenko NM, Kudryashev AV// Russian Acad Sci Akademgorodok, Inst Chem Nat Organ Mat, Krasnoyarsk 660036, Russia
React Kinet Catal Lett 1995 55 (1) 161
 On the mechanism of vanillin formation in the catalytic oxidation of lignin with oxygen
 Terron MC, Fidalgo ML, Galletti GC, Gonzalez AE*// *CSIC, Ctr Invest Biol, Velazquez 144, E-28006 Madrid, Spain
J Anal Appl Pyrol 1995 33 61
 Pyrolysis-gas chromatography/mass spectrometry of milled wood lignin of two Chilean woods naturally decayed by *Ganoderma australe*, *Phlebia chrysocrea* and a brown-rot fungus
- ## 7 LIPOPOLYSACCHARIDES
- Al-Othman M, Al-Ssum RM// King Saud Univ, Coll Sci, Dept Bot & Microbiol, POB 2455, Riyadh 11451, Saudi Arabia
Arab Gulf J Sci Res 1995 13 (1) 163
 Correlation between gel electrophoretic profile of bacterial lipopolysaccharide and its toxicity
 Bystricky S, Szu SC, Gotoh MG, Kovac P// NICHHD, Dev & Molec Immun Lab, Bethesda, Md 20892, USA
Carbohydr Res 1995 270 (2) 115
 Circular dichroism of the O-specific polysaccharide of *Vibrio cholerae* O1 and some related derivatives
 Chart H, Cheasty T, Rowe B// Cent Publ Hlth Lab, Enteric Pathogens Lab, 61 Colindale Ave, London NW9 5HT, England
Lett Appl Microbiol 1995 20 (6) 369
 Differentiation of *Yersinia pestis* and *Y. pseudotuberculosis* by SDS-PAGE analysis of lipopolysaccharide
 Mallett CP, Hale TL, Kaminski RW, Larsen T, Orr N, Cohen D, Lowell GH// Walter Reed Army Med Ctr, Walter Reed Army Inst Res, Dept Enter Infect, Bldg 40, Rm 2057, Washington, DC 20307, USA
Infect Immun 1995 63 (6) 2382
 Intranasal or intragastric immunization with proteosome-*Shigella* lipopolysaccharide vaccines protects against lethal pneumonia in a murine model of *Shigella* infection
 Radziejewska-Lebrecht J, Shashkov AS, Vinogradov EV, Grosskurth H, Bartodziejska B, Rozalski A, Kaca W, Kononov LO, Chernyak AY, Mayer H, Kochetkov NK, Knirel YA*// *Russian Acad Sci, ND Zelinskii Organ Chem Inst, Leninsky pr 47 B-334, Moscow 117913, Russia
Eur J Biochem 1995 230 (2) 705
 Structure and epitope characterisation of the O-specific polysaccharide of *Proteus mirabilis* O28 containing amides of D-galacturonic acid with L-serine and L-lysine
 Sidorczyk Z, Swierczko A, Knirel YA, Vinogradov EV, Chernyak AY, Kononov LO, Cedzynski M, Rozalski A, Kaca W, Shashkov AS, Kochetkov NK// Univ Lodz, Inst Microbiol & Immunol, Banacha Str 12-16, PL-90237 Lodz, Poland
Eur J Biochem 1995 230 (2) 713
 Structure and epitope specificity of the O-specific polysaccharide of *Proteus pennseri* strain 12 (ATCC 33519) containing the amide of D-galacturonic acid with L-threonine
 Venisse A, Riviere M, Vercauteren J, Puzo G*// *CNRS, Lab Pharmacol & Toxicol Fondamentales, Dept 3, 118 Rte Narbonne, F-31062 Toulouse, France
J Biol Chem 1995 270 (25) 15012

Structural analysis of the mannan region of lipoarabinomannan from *Mycobacterium bovis* BCG - Heterogeneity in phosphorylation state

8 PECTIN

Blamey FPC, Dowling AJ// Univ Queensland, Dept Agr, Brisbane, Qld 4072, Australia

Plant Soil 1995 171 (1) 137

Antagonism between aluminium and calcium for sorption by calcium pectate

Cheng L, Kindel PK// *Michigan State Univ, Dept Biochem, East Lansing, MI 48824, USA

Anal Biochem 1995 228 (1) 109

Effect of cations on the elution of pectic polysaccharides from anion-exchange resins

Dalev PG, Simeonova LS// Univ Sofia, 8 Dragan Tzankov Blvd, BU-1421 Sofia, Bulgaria

J Sci Food Agr 1995 68 (2) 203

Emulsifying properties of protein pectin complexes and their use in oil-containing foodstuffs

David H, Bade P, David A*, Savy C, Demazy C, Van Cutsem P// *Univ Picardie, Biotechnol & Physiol Vegetales Lab, 33 rue St Leu, F-80039 Amiens, France

Protoplasma 1995 186 (3-4) 122

Pectins in walls of protoplast-derived cells imbedded in agarose and alginate beads

El-Nawawi SA, Heikal YA// Natl Res Ctr, Chem Engrn Dept, Dokki, Cairo, Egypt

Carbohydr Polym 1995 26 (3) 189

Factors affecting the production of low-ester pectin gels

Klavons JA, Bennett RD// USDA ARS, MWA, NCAUR, 1815 Nth Univ St, Peoria, IL 61604, USA

J Food Sci 1995 60 (3) 513

Preparation of alkyl esters of pectin and pectic acid

Leach G, Pyle L, Niranjana K*// *Univ Reading, Dept Food Sci & Technol, Whiteknights, POB 226, Reading RG6 2AP, England

Int J Food Sci Technol 1994 29 (6) 687

Effective diffusivity of total solids and pectic substances from apple tissue

Leitao MCA, Alarcão-Silva ML, Januario MIN, Azinheira HG// Inst Invest Cient Trop, Ctr Estudos Prod & Tecnol Agr, Apartado 3014, P-1301 Lisbon, Portugal

Carbohydr Polym 1995 26 (3) 165

Galacturonic acid in pectic substances of sunflower head residues: Quantitative determination by HPLC

Maiorano AE, Schmidell W, Ogaki Y// Inst Pesquisas Tecnol, Estado Sao Paulo SA, Div Quim, Agrupamento Biotecnol, Cidade Univ, BR-01064-970 Sao Paulo, Brazil

World J Microbiol Biotechnol 1995 11 (3) 355

Determination of the enzymatic activity of pectinases from different microorganisms

Matora AV, Korshunova VE, Shkodina OG, Zhemerichkin DA, Ptichkina NM, Morris ER*// *Saratov Agr Biotechnol Inst, Tulaiikov Str 7, Saratov 410020, Russia

Food Hydrocolloid 1995 9 (1) 43

The application of bacterial enzymes for extraction of pectin from pumpkin and sugar beet

Matsumoto T, Hirano M, Kiyohara H, Yamada H*// *Kitasato Inst, Oriental Med Res Ctr, Minato ku, Tokyo 108, Japan

Carbohydr Res 1995 270 (2) 221

Characterisation of the endo-polygalacturonase-resistant region of the pectin from *Bupleurum falcatum* L: A polysaccharide with an active function in clearance of immune complexes

Mikhailova RV, Sapunova LI, Lobanok AG// Byelarusian Acad Sci, Inst Microbiol, Zhodinskaya 2, Minsk 220141, Byelarus

World J Microbiol Biotechnol 1995 11 (3) 330

Three polygalacturonases constitutively synthesized by *Aspergillus alliaceus*

Nair SR, Rakshit SK, Panda T*// *Indian Inst Technol, Dept Chem Engrn, Div Biochem Engrn, Madras 600036, Tamil Nadu, India

Bioprocess Eng 1995 13 (1) 37

Effect of carbon sources on the synthesis of pectinase by *aspergilli*

Nakamura T, Hours RA, Sakai T*// *Univ Osaka Prefecture, Ctr Res & Dev Bioresources, Gakuen cho 1-2, Sakai, Osaka 593, Japan

J Food Sci 1995 60 (3) 468

Enzymatic maceration of vegetables with protopectinases

Ostatek-Boczynski Z, Kerven GL, Blamey FPC// Univ Queensland, Dept Agr, Brisbane, Qld 4072, Australia

Plant Soil 1995 171 (1) 41

Aluminium reactions with polygalacturonate and related organic ligands

Pedroza-Islas R, Aguilar-Esperanza E, Vernon-Carter EJ// Univ Iberoamer, DCNA, Mexico City, DF, Mexico

Rev Espan Cien Tecnol Aliment 1995 35 (2) 151

Extraction of pectin from tejocote (*Crataegus mexicana*) by acid hydrolysis and by ion exchange resins (Spanish, English Abstract)

Sakamoto T, Hours RA, Sakai T// Univ Osaka Prefecture, Coll Agr, Dept Appl Biol Chem, 1-1 Gakuen cho, Sakai, Osaka 593, Japan

Process Biochem 1995 30 (5) 403

Enzymic pectin extraction from protopectins using microbial protopectinases

Sonego L, Ben Aire R*, Raynal J, Pech JC// *Agr Res Org, Volcani Ctr, IL-50250 Bet Dagan, Israel

Postharvest Biol Technol 1995 5 (3) 187

Biochemical and physical evaluation of textural characteristics of nectarines exhibiting woolly breakdown: NMR imaging, X-ray computed tomography and pectin composition

Taylor MA, Rabe E, Jacobs G, Dodd MC// Unifruco Res Serv Pty Ltd, POB 505, Bellville 7535, Rep Sth Africa

Postharvest Biol Technol 1995 5 (4) 285

Effect of harvest maturity on pectic substances, internal conductivity, soluble solids and gel breakdown in cold stored songold plums

Toral S, Clotet R// Escola Super Agr Barcelona, Dept Ind Agroalimentaries Bioquim, Compte Urgell 187, E-08036 Barcelona, Spain

Rev Espan Cien Tecnol Aliment 1995 35 (2) 203

Influence of degree of methylation on enzymatic hydrolysis (polygalacturonase) of pectic acid and pectins (Spanish, English Abstract)

9 STARCH

Ind Aliment 1994 33 (331) 1117

Effect of the different productive processes on starch behaviour (Italian, English Abstract)

Alexander RJ// Starch Tech, Cedar Rapids, Ia, USA

Cereal Food World 1995 40 (5) 366

Fat replacers based on starch

Alexander RJ// Address as above.

Cereal Food World 1995 40 (6) 455

Resistant starch: New ingredient for the food industry

Arasaratnam V, Sritharan K, Balasubramaniam K// Univ Jaffna, Fac Med, Dept Biochem, Kouruvil, Sri Lanka

Starch 1995 47 (5) 182

Two-steps procedure for the purification of corn flour hydrolysate

Ascheri DPR, Vilela ER// ESAL, Caixa Postal 37, BR-37200-000 Lavras, MG, Brazil

Pesquisa Agr Brasil 1995 30 (2) 269

Cassava starch appraisal during fermentation and biscuit making processes

Bellon-Maurel V, Vallat C, Goffinet D// CEMAGREF, BP 5095, F-34033 Montpellier 01, France

Appl Spectrosc 1995 49 (5) 556

Quantitative analysis of individual sugars during starch hydrolysis by FT-IR/ATR spectrometry. I. Multivariate calibration study: Repeatability and reproducibility

Bellon-Maurel V, Vallat C, Goffinet D// Address as above.

Appl Spectrosc 1995 49 (5) 563

Quantitative analysis of individual sugars during starch hydrolysis by FT-IR/ATR spectrometry. II. Influence of external factors and wavelength parameters

Bello-Perez LA, Paredes-Lopez O*// *IPN-Ctr Invest & Estudios Avanzados, Dept Biotecnol & Bioquim, Apartado Postal 629, Irapuato 36500, Guanajuato, Mexico

Food Chem 1995 53 (3) 243

Starch and amylopectin: Effect of solutes on their calorimetric behavior

Campbell MR, Pollak LM, White PJ*// *Iowa State Univ Sci & Technol, Dept Food Sci & Human Nutr, Ames, Ia 50011, USA

Cereal Chem 1995 72 (3) 281

Genetic variation for starch thermal and functional properties among nonmutant maize inbreds

Chen J, Jane J*// *Iowa State Univ Sci & Technol, Dept Food Sci & Human Nutr, Ames, Ia 50011, USA

Cereal Chem 1995 72 (3) 265

Effectiveness of granular cold-water-soluble starch as a controlled-release matrix

Cunin C, Handschin S, Walther P, Escher F*// *ETH Zurich, Dept Food Sci, CH-8092 Zurich, Switzerland

Food Sci Technol-Lebensm Wiss 1995 28 (3) 323

Structural changes of starch during cooking of durum wheat pasta

Farag S// Natl Res Ctr, Div Text, Tahrir St, Cairo, Egypt

Starch 1995 **47** (5) 192

Synthesis and physicochemical studies of starch-sulphonated phenol formaldehyde cationic exchangers

Hoover R, Manuel H// Mem Univ Newfoundland, Dept Biochem, St Johns, Newfoundland, Canada A1B 3X9

Food Chem 1995 **53** (3) 275

A comparative study of the physicochemical properties of starches from two lentil cultivars

Hoover R// Mem Univ Newfoundland, Dept Biochem, St Johns, Newfoundland, Canada A1B 3X9

Food Rev Int 1995 **11** (2) 331

Starch retrogradation

Khalil MI, Farag S, El-Fattach SA// Natl Res Ctr, Div Textile Res, Cairo, Egypt

J Appl Polym Sci 1995 **57** (3) 335

Hydrolysis of poly(acrylamide)-starch graft copolymer

Laude M, Meuser F// Tech Univ Berlin, Inst Lebensmitteltechnol 2, Fachgebiet Getreidetechnol, Seestr 11, D-13353 Berlin, Germany

Starch 1995 **47** (5) 174

Investigation of the influence of primary wheat starch characteristics on the oxidizability with sodium hypochlorite (German, English Abstract)

Lehrfeld J, Baker FL// USDA ARS, Natl Ctr Agr Utilizat Res, Food Phys Chem Res Unit, 1815 Nth Univ St, Peoria, IL 61604, USA

J Appl Polym Sci 1995 **57** (3) 385

The synthesis and properties of a cation-exchange resin prepared by the pyrolysis of starch in the presence of phytic acid

Madhusudhan B, Tharanathan RN// Cent Food Technol Res Inst, Dept Biochem & Nutr, Mysore 570013, Karnataka, India

Starch 1995 **47** (5) 165

Legume and cereal starches: Why differences in digestibility? I. Isolation and composition of legume (greengram and Bengalgram) starches

Mokhoro CT, Jackson DS// *Univ Nebraska, Inst Agr & Nat Resources, Dept Food Sci & Technol, 256 Food Ind Bldg, Lincoln, Ne 68583, USA

J Food Sci 1995 **60** (2) 389

Starch related changes in stored soft sorghum porridge

Shieh MT, Barker PE// *Univ Aston, Dept Chem Engrg & Appl Chem, Aston Triangle, Birmingham B4 7ET, England

J Chem Technol Biotechnol 1995 **63** (2) 125

Saccharification of modified starch to maltose in a semi-continuous counter-current chromatographic reactor-separator (SCCR-S)

Svensson E, Eliasson AC// Lund Univ, Dept Food Technol, POB 124, S-22100 Lund, Sweden

Carbohydr Polym 1995 **26** (3) 171

Crystalline changes in native wheat and potato starches at intermediate water levels during gelatinization

Tako M, Hizukuri S// Univ Ryukyus, Dept Biosci & Biotechnol, Nishihara, Okinawa 90301, Japan

J Carbohydr Chem 1995 **14** (4-5) 613

Evidence for conformational transitions in amylose

Tomasik P, Wang YJ, Jane JL// Hugon Kollataj Acad Agr, Dept Chem & Phys, Mickiewicz Ave 24-28, PL-30059 Krakow, Poland

Starch 1995 **47** (5) 185

Complexes of starch with low-molecular saccharides

Verhoogt H, St Pierre N, Truchon FS, Ramsay BA*, Favis BD, Ramsay JA// *Ecole Polytech, Dept Chem Engrg, POB 6079, Stn Centreville, Montreal, Quebec, Canada H3C 3A7

Can J Microbiol 1995 **41** (Suppl 1) 323

Blends containing poly(hydroxybutyrate-co-12%-hydroxyvalerate) and thermoplastic starch

Wang SS, Zheng XO// Rutgers State Univ, Dept Chem & Biochem Engrg, POB 909, Piscataway, NJ 08855, USA

J Food Sci 1995 **60** (3) 520

Tribological shear conversion of starch

Yumoto I, Ikeda K// Hokkaido Natl Ind Res Inst, Toyohira ku, Tsukisamu Higashi, Sapporo, Hokkaido 062, Japan

Biotechnol Lett 1995 **17** (5) 543

Direct fermentation of starch to L-(+)-lactic acid using *Lactobacillus amylophilus*

Yuryev VP, Zasyupkin DV, Alexeev VV, Bogatyryev AN// Russian Acad Sci, Inst Food Substances, Lab Struct Format Food Syst, Vavilova Str 28, Moscow 117813, Russia

Carbohydr Polym 1995 **26** (3) 215

Expansion ratio of extrudates prepared from potato starch-soybean protein mixtures

Zamora MC// Marcelo T de Alvear 2202, 4th piso, RA-1122 Buenos Aires, DF, Argentina

J Texture Stud 1995 **26** (2) 217

Relationships between sensory viscosity and apparent viscosity of corn starch pastes

Zanoni B, Peri C, Bruno D// Univ Milan, DISTAM, Sez Tecnol Alimentari, Via Celoria 2, I-20133 Milan, Italy

Food Sci Technol-Lebensm Wiss 1995 **28** (3) 314

Modelling of starch gelatinization kinetics of bread crumb during baking

Zhao YP, Chang KC// Integrated Ingredients, POB 1738, Anthony, NM 88021, USA

J Food Sci 1995 **60** (2) 324

Sulfite and starch affect color and carotenoids of dehydrated carrots (*Daucus carota*) during storage

10 STARCH-DEGRADING ENZYMES

Arasaratnam V, Balasubramanian K// Univ Jaffna, Fac Med, Dept Biochem, Kokuvil, Sri Lanka

Process Biochem 1995 **30** (4) 299

Thermal stabilization of immobilized α -amylase by coupling with proline

Arica MY, Hasirci V*, Alaeddinoglu NG// *Middle East Tech Univ, Dept Sci Biol, Biotechnol Res Unit, Ankara 06531, Turkey

Biomaterials 1995 **16** (10) 761

Covalent immobilization of α -amylase onto pHEMA microspheres: Preparation and application to fixed bed reactor

Babu KR, Satyanarayana T// Univ Delhi, Dept Microbiol, Sth Campus, New Delhi 110021, India

Process Biochem 1995 **30** (4) 305

α -Amylase production by thermophilic *Bacillus coagulans* in solid state fermentation

Campos L, Felix CR// *Univ Brasilia, Dept Biol Celular, BR-70910-900 Brasilia, DF, Brazil

Appl Environ Microbiol 1995 **61** (6) 2436

Purification and characterization of a glucoamylase from *Humicola grisea*

El-Sayed H, Laszlo E// Tanta Univ, Fac Agr, Dept Food Sci, Kafr Al-Sheikh, Egypt

Acta Aliment 1994 **23** (1) 43

Condensation of glucose by the reversed hydrolysis reaction of glucoamylase. I. Effect of both D-glucose and starch concentrations, temperature, and enzyme concentration

El-Sayed H, Laszlo E// Address as above.

Acta Aliment 1994 **23** (1) 59

Condensation of glucose by the reversed hydrolysis reaction of glucoamylase. II. Effect of inhibition of glucose derivatives and pH

McTigue MA, Kelly CT*, Doyle EM, Fogarty WM// *Natl Univ Ireland, Univ Coll Dublin, Dept Ind Microbiol, Dublin 4, Rep Ireland

Enzyme Microb Technol 1995 **17** (6) 570

The alkaline amylase of the alkalophilic *Bacillus* sp IMD 370

Modderman JP, Foley HH// Keller & Heckman, 1001 G St NW, Washington, DC 20001, USA

Regul Toxicol Pharmacol 1995 **21** (3) 375

Safety evaluation of pullulanase enzyme preparation derived from *Bacillus licheniformis* containing the pullulanase gene from *B. deramificans*

Nandi S, Das G, Sen Mandi S// *Bose Inst, Seed Biol Lab, Calcutta 700009, West Bengal, India

Ann Bot 1995 **75** (5) 463

β -Amylase activity as an index for germination potential in rice

Pazlarova J// Inst Chem Technol, Dept Biochem & Microbiol, Technicka 3, CR-16628 Prague 6, Czech Republic

Biotechnol Lett 1995 **17** (5) 503

Activity and HPLC measured action pattern of *Bacillus amyloliquefaciens* α -amylase in water soluble organic solvents

Ray RR, Jana SC, Nanda G// *Bose Inst, Dept Microbiol, P-1-12, CIT Scheme VII-M, Calcutta 700054, West Bengal, India

J Basic Microb 1995 **35** (2) 113

β -Amylase production by immobilized cells of *Bacillus megaterium* B-6

Ren XZ, Li GZ, Wang HL*, Guan YL// *Shandong Univ, Sch Chem, Jinan 250100, Peoples Rep China

J Disper Sci Tech 1995 **16** (3-4) 263

Study on the activity and kinetic characteristics of glucoamylase in W/O microemulsion systems

Singh D, Dahiya JS, Nigam P// *Univ Ulster, Sch Biol & Chem Sci, Biotechnol Res Grp, Coleraine BT52 1SA, Londonderry, Northern Ireland

J Basic Microb 1995 **35** (2) 117

Simultaneous raw starch hydrolysis and ethanol fermentation by glucoamylase

from *Rhizoctonia solani* and *Saccharomyces cerevisiae*

Ueyama H, Chiba Y, Kobayashi M*// *Natl Food Res Inst, Tsukuba, Ibaraki 305, Japan

Biosci Biotechnol Biochem 1995 59 (5) 864

Comparison of *o*-phthalaldehyde modification of α -amylases from porcine pancreas and *Bacillus subtilis* with taka-amylase A

Varallyay E, Sasvari Z, Hoschke A, Asboth B// Inst Biochem & Prot Res, Szent Gyorgyi A U4, H-2100 Godollo, Hungary

Acta Aliment 1994 23 (1) 93

A potential protein engineering site in *Aspergillus niger* glucoamylase: Vicinity of disulphide bridge 449: 222

Velan M, Krishnan MRV*, Lakshmanan CM// *Anna Univ, Alagappa Coll Technol, Dept Chem Engn, Madras 600025, Tamil Nadu, India

Bioprocess Eng 1995 12 (6) 323

Conversion of mango kernel starch to glucose syrups by enzymatic hydrolysis

Yu SK, Ahmad T, Kenne L, Pedersen M// Danisco A/S, Biotechnol, Langebrogade 1, POB 17, DK-1001 Copenhagen, Denmark

BBA-Gen Subjects 1995 1244 (1) 1

α -1,4-Glucan lyase, a new class of starch/glycogen degrading enzyme. III. Substrate specificity mode of action, and cleavage mechanism

11 POLYSACCHARIDES - MICROBIAL

Britten M, Morin A*// *Agr Canada, Ctr Food Res & Dev, 3600 Casavant Blvd West, St Hyacinthe, Quebec, Canada J2S 8E3

Food Sci Technol-Lebensm Wiss 1995 28 (3) 264

Functional characterization of the exopolysaccharide from *Enterobacter agglomerans* grown on low-grade maple sap

Chumak NE, Stepnaya OA, Chermenskaya TS, Kulaev IS, Nesmeyanova MA// Russian Acad Sci, Inst Biochem & Physiol Microorganisms, pr Nauki 5, Pushchino 142292, Russia

Microbiology-Engl Tr 1995 64 (1) 44

Specific features of secretion of bacteriolytic enzymes and polysaccharide by bacteria of the family Pseudomonadaceae

Duru C, Gaudy D, Neye H, Rizk S, Jacob M, Puech A// Fac Pharm Montpellier, Pharm Galen Biopharm & Pharmacotech Lab, 15 Ave Charles Flahault, F-34060 Montpellier, France

Pharmazie 1995 50 (4) 272

A new tablet disintegrating agent, xanthan SM: Formulation and drug release studies

Edye LA, Wu SX, Clarke MA// Sugar Proc Res Inst Inc, 1100 Robert E Lee Blvd, New Orleans, La 70124, USA

J Carbohydr Chem 1995 14 (4-5) 623

The measurement of dextran in raw sugars using ^1H -NMR

Garozzo D, Impallomeni G*, Spina E, Sturiale L, Cesaro A, Cescutti P// *CNR, Ist Chim & Tecnol Mat Polimer, Viale A Doria 6, I-95125 Catania, Italy

Carbohydr Res 1995 270 (1) 97

Identification of *N*-acetylglucosamine and 4-*O*-[1-carboxyethyl]mannose in the exopolysaccharide from *Cyanospira capsulata*

Grinberg TA, Pirog TP, Pinchuk GE, Buklova VN, Malashenko YR// Ukrainian Acad Sci, Inst Microbiol & Virol, Kiev 252143, Ukraine

Microbiology-Engl Tr 1994 63 (6) 572

Change in composition and properties of exopolysaccharides synthesized by *Acinetobacter* sp during batch cultivation

Grossmann C, Tintinger R, Zhu J, Maurer G*// *Univ Kaiserslautern, Lehrstuhl Tech Thermodynam, D-67653 Kaiserslautern, Germany

Fluid Phase Equilibria 1995 106 (1-2) 111

Aqueous two phase systems of poly(ethylene glycol) and dextran: Experimental results and modeling of thermodynamic properties

Guner A// Hacettepe Univ, Fac Sci, Dept Chem, Ankara 06532, Turkey

J Appl Polym Sci 1995 56 (12) 1561

Effects of denaturing agents on the molecular association of dextran. I. Aqueous solutions

Gunning AP, Kirby AR, Morris VI, Wells B, Brooker BE// AFRC Inst Food Res, Norwich Lab, Norwich Res Pk, Norwich NR4 7UA, England

Polym Bull 1995 34 (5-6) 615

Imaging bacterial polysaccharides by AFM

Gutierrez A, Martinez MJ, Alendros G, Gonzalez-Vila FJ, Martinez AT// CSIC, Ctr Invest Biol, Velazquez 144, E-28006 Madrid, Spain

Sci Total Envir 1995 167 315

Hyphal-sheath polysaccharides in fungal deterioration

Hansen EW, Lund T// SINTEF Oslo, POB 124, N-0314 Oslo, Norway

J Phys Chem 1995 99 (24) 9811

Gelation of xanthan in the presence of trivalent chromic ions monitored by ^1H NMR spin-lattice relaxation. A kinetic study

Iozep AA, Ilina TY, Kuznetsova TE, Passet BV// St Petersburg Pharmaceut Chem Inst, St Petersburg, Russia

Russ J Appl Chem-Engl Tr 1994 67 (6 Pt 2) 900

Stability of dextran in chemical reactions and characteristics of separation of end products

Johansson A, Widmalm G*, Jansson PE, Wilkinson SG// *Univ Stockholm, Arrhenius Lab, Dept Organ Chem, S-10691 Stockholm, Sweden

Carbohydr Res 1995 270 (2) 191

Structure of an acidic microcapsular glycan from the reference strain (CDC 866-57) for *Serratia marcescens* serogroup O1

Kaji E, Matsui E, Kobayashi M, Zen S// Kitasato Univ, Sch Pharmaceut Sci, Minato ku, Tokyo 108, Japan

Bull Chem Soc Jpn 1995 68 (5) 1449

Expedient synthesis of an anomerically modified trisaccharide component of the capsular polysaccharide from *Streptococcus pneumoniae* type 19F

Kawaguchi K, Satomi K, Yokoyama M, Kadota H// Kureha Chem Ind Co Ltd, Food Sci Labs, Shinjuku ku, Tokyo 169, Japan

Fisheries Science 1995 61 (2) 257

Chemical characterization of an extracellular polysaccharide produced by a bacterium *Klebsiella* sp isolated from river water

Kesselhut JF, Bauer KH*// *Freiburger Mat Forschungszentrum, Stefan Meier Str 21, D-79104 Freiburg, Germany

Pharmazie 1995 50 (4) 263

Development and characterization of dextran fatty acid esters as excipients for colon-targeting dosage forms (German, English Abstract)

Kidambi SP, Sundin GW, Palmer DA, Chakrabarty AM, Bender CL*// *Oklahoma State Univ, Dept Plant Pathol, 110 Noble Res Ctr, Stillwater, Ok 74078, USA

Appl Environ Microbiol 1995 61 (6) 2172

Copper as a signal for alginate synthesis in *Pseudomonas syringae* pv *syringae*

Konnova SA, Skvortsov IM, Makarov OE, Ignatov VV// Russian Acad Sci, Inst Biochem & Physiol Plants & Microorganisms, Saratov, Russia

Microbiology-Engl Tr 1994 63 (6) 575

Properties of polysaccharide complexes produced by *Azospirillum brasilense* and polysaccharides isolated from them

Kurane R, Nohata Y// Minist Int Trade & Ind, Agcy Ind Sci & Technol, Natl Inst Biosci & Human Technol, 1-1 Higashi, Tsukuba, Ibaraki 305, Japan

Biosci Biotechnol Biochem 1995 59 (5) 908

Identification of constituent sugars of polysaccharide bioabsorbent from *Alcaligenes latus*

Lofas S// Pharmacia Biosensor AB, S-75182 Uppsala, Sweden

Pure Appl Chem 1995 67 (5) 829

Dextran modified self-assembled monolayer surfaces for use in biointeraction analysis with surface plasmon resonance

Lopes L, Andrade CT*, Milas M, Rinaudo M// *Fed Univ Rio de Janeiro, Inst Macromolec, POB 68525, BR-21945-970 Rio de Janeiro, Brazil

Polym Bull 1995 34 (5-6) 655

Influence of aggregates on the sedimentation properties of welan gum

Moritaka H, Nishinari K, Taki M, Fukuba H// Showa Women's Univ, Dept Home Econ, Setagaya ku, Tokyo 154, Japan

J Agr Food Chem 1995 43 (6) 1685

Effects of pH, potassium chloride, and sodium chloride on the thermal and rheological properties of gellan gum gels

Morris VJ, Tsiami A, Brownsey GJ// AFRC Inst Food Res, Norwich Res Pk, Colney, Norwich NR4 7UA, England

J Carbohydr Chem 1995 14 (4-5) 667

Work hardening effects in gellan gum gels

Mozzi F, De Giori GS, Oliver G, Font de Valdez G// Cerela Chacabuco 145, Tucuman, Argentina

Milchwissenschaft 1995 50 (4) 186

Exopolysaccharide production by *Lactobacillus casei*. I. Influence of salts

Nath D, Rao M*// *Natl Chem Lab, Div Biochem Sci, Poona 411008, Maharashtra, India

Biotechnol Lett 1995 17 (5) 557

Increase in stability of xylanase from an alkalophilic thermophilic *Bacillus* (NCIM 59)

Noguchi K, Tanimura H, Yamaue H*, Tsunoda T, Iwahashi M, Tani M, Mizobata S, Hotta T, Arai K, Tamai M, Terasawa H// *Wakayama Sch Med, Dept Surg Gastroenterol, 27 Shichibancho, Wakayama 640, Japan

Anticancer Res 1995 15 (2) 255

Polysaccharide preparation PSK augments the proliferation and cytotoxicity of tumor-infiltrating lymphocytes *in vitro*

Ohno N, Terui T, Chiba N, Kurachi K, Adachi Y, Yadomae T*// *Tokyo Univ Pharm & Life Sci, Sch Pharm, Immunopharmacol Microbial Prod Lab, 1432-1 Horinouchi, Hachioji, Tokyo 19203, Japan

Chem Pharm Bull Tokyo 1995 43 (6) 1057

Resistance of highly branched (1→3)- β -D-glucans to formolysis

Ooi T, Kikuchi D// Utsunomiya Univ, Fac Agr, Dept Bioprod Sci, Utsunomiya, Tochigi 321, Japan
World J Microbiol Biotechnol 1995 11 (3) 310

Purification and some properties of β -mannanase from *Bacillus* sp

Osadchaya AI, Kudryavtsev VA, Safronova LA// DK Zabolotny Microbiol & Virol Res Inst, ul Zabolotnogo 22, Kiev 252143, Ukraine
Microbiology-Engl Tr 1995 64 (1) 34

The role of amino acids in the enhancement of exopolysaccharide biosynthesis in submerged culture of *Bacillus subtilis*

Painter TJ// UNIT, Inst Biotechnol, N-7034 Trondheim-NTH, Norway
Carbohydr Polym 1995 26 (3) 231

Biofertilizers: Exceptional calcium binding affinity of a sheath proteoglycan from the blue-green soil alga *Nostoc calcicola*

Pettitt DJ, Wayne JEB, Nantz JJR, Shoemaker CF// Archer Daniels Midland Co, Decatur, IL 62525, USA
J Food Sci 1995 60 (3) 528

Rheological properties of solutions and emulsions stabilized with xanthan gum and propylene glycol alginate

Pirog TP, Grinberg TA, Buklova VN, Votselko SK, Malashenko YR// Ukrainian Acad Sci, DK Zabolotny Microbiol & Virol Res Inst, Kiev 252160, Ukraine
Microbiology-Engl Tr 1995 64 (1) 40

Production of exopolysaccharides by *Acinetobacter* sp. in batch culture with different potassium concentrations

Ruiz-Arribas A, Fernandez-Abalos JM, Sanchez P, Garda AL, Santamaria RI// *Univ Salamanca/CSIC, Dept Microbiol & Genet, Inst Microbiol Bioquim, Lab 214, Edificio Dept, E-37007 Salamanca, Spain
Appl Environ Microbiol 1995 61 (6) 2414

Overproduction, purification, and biochemical characterization of a xylanase (XylI) from *Streptomyces halstedii* JM8

Serrat JM, Caminal G, Godia F, Sola C, Lopez-Santin J// *Univ Autonoma Barcelona, Inst Engrn Bioquim, Unitat Engrn Quim, E-08193 Barcelona, Spain
Bioprocess Eng 1995 12 (6) 287

Production and purification of rhamnose from microbial polysaccharide produced by *Klebsiella* sp I-714

Sinha N, Sengupta S// *Indian Inst Chem Biol, Dept Appl Biochem, 4 Raja SC Mullick Rd, Calcutta 700032, West Bengal, India
World J Microbiol Biotechnol 1995 11 (3) 359

Simultaneous production of α -arabinofuranosidase and xylanase by *Termitomyces clypeatus*

Suda M, Ohno N, Adachi Y, Yadomae T// *Tokyo Univ Pharm & Life Sci, Immunopharmacol & Microbial Prod Lab, 1432-1 Horinouchi, Hachioji, Tokyo 19203, Japan
Biol Pharm Bull 1995 18 (5) 772

Modulation of the antitumor effect and tissue distribution of highly branched (1→3)- β -D-glucan SSG, by carrageenan

Suda M, Ohno N, Adachi Y, Yadomae T// *Address as above

Carbohydr Res 1995 270 (1) 107
Gel-to-sol transition of ^{13}C -labeled (1→3)- β -D-glucan, ^{13}C -SSG, assessed by ^{13}C nuclear magnetic resonance (^{13}C -NMR) spectroscopy

Taki H, Ohishi K, Okano A, Suga T, Akiyama Y, Yamashita A// Ajinomoto Co Inc, Cent Res Labs, Life Sci Labs, Totsuka ku, 214 Maeda cho, Yokohama 244, Kanagawa, Japan
Int J Immunother 1995 11 (1) 29

Antimetastatic effect of lentinan on liver metastasis of colon carcinoma (Colon26): Possible role of activated Kupffer cells

Tromp RH, Rennie AR, Jones RAL// Univ Cambridge, Cavendish Lab, Madingley Rd, Cambridge CB3 0HE, England
Macromolecules 1995 28 (12) 4129

Kinetics of the simultaneous phase separation and gelation in solutions of dextran and gelatin

Tuffal G, Albigot R, Monsarrat B, Ponthus C, Picard C, Riviere M, Puzo G// *CNRS, LPTF, 118 Rte Narbonne, F-31062 Toulouse, France
J Carbohydr Chem 1995 14 (4-5) 631

Purification and LSIMS analysis of methyl glucose polysaccharides from *Mycobacterium xenopi*, a slow growing mycobacterium

Wang HX, Liu WK, Ng TB, Ooi VEC*, Chang ST// *Chinese Univ Hong Kong, Dept Biol, Sha Tin, Hong Kong
Life Sci 1995 57 (3) 269

Immunomodulatory and antitumor activities of a polysaccharide-peptide complex from a mycelial culture of *Tricholoma* sp, a local edible mushroom

Yurlova NA, Kirii AI, Kudryashova OA// Inst Pharmaceut Chem, St Petersburg, Russia
Microbiology-Engl Tr 1994 63 (6) 582

The effect of the nutrient medium composition on synthesis of extracellular

polysaccharide by *Aureobasidium pullulans*

12 POLYSACCHARIDES - PLANT

Angsturm K, Weber JR, Segert A, Burger W, Weih M, Freyer D, Einhaupl KM, Dimagl U// Humboldt Univ Berlin, Fac Med Charite, Dept Neurol, Schumannstr 20-21, D-10098 Berlin, Germany

Neurosci Lett 1995 191 (1-2) 1

Fucoidin, a polysaccharide inhibiting leukocyte rolling, attenuates inflammatory responses in experimental pneumococcal meningitis in rats

Aoyama M, Seki K, Saito N// Hokkaido Forest Prod Res Inst, Nishikagura 1-10, Asahikawa, Hokkaido 07101, Japan

Holzforchung 1995 49 (3) 193

Solubilization of bamboo grass xylan by steaming treatment

Boschker HTS, Bertilsson SA, Dekkers EMI, Cappenberg TE// Netherlands Inst Ecol, Ctr Limnol, Rijksweg 6, 3631 AC Nieuwersluis, The Netherlands

Appl Environ Microbiol 1995 61 (6) 2186

An inhibitor-based method to measure initial decomposition of naturally occurring polysaccharides in sediments

Bulone D, San Biagio PL// CNR, IAlF, Via Archirafi 36, I-90123 Palermo, Italy

Biophys J 1995 68 (4) 1569

Mesoscopic gel at low agarose concentration in water: A dynamic light scattering study

Busto MD, Ortega N, Perez-Mateos M// *Univ Burgos, Fac Food Sci & Biotechnol, Dept Biochem Molec Biol & Physiol, Aptdo 231, E-09071 Burgos, Spain

Process Biochem 1995 30 (5) 421

Studies on microbial β -D-glucosidase immobilized in alginate gel beads

Cachon R, Catte M, Nomme R, Prevost H, Divies C// *Univ Bourgogne, ENS-BANA, Lab Microbiol, Esplanade Erasme, F-21000 Dijon, France

Process Biochem 1995 30 (6) 503

Kinetic behaviour of *Lactococcus lactis* spp. *lactis* bv. *diacetylactis* immobilized in calcium alginate gel beads

Cappai A, Petruzzio P, Ruii G, Congiu T, Dessy E, De Seta W, Cruz GS, Brotzu G// *Osped Brotzu, Dipt Sci Chirur, Via Peretti 2, I-09134 Cagliari, Italy

Int J Artif Organs 1995 18 (2) 96

Evaluation of new small barium alginate microcapsules

Dawkins NL, Nnanna IA// *Wayne State Univ, Dept Nutr & Food Sci, Rm 3009, Sci Hall, Detroit, MI 48202, USA

Food Hydrocolloid 1995 9 (1) 1

Studies on oat gum [(1→3, 1→4)- β -D-glucan]: Composition, molecular weight estimation and rheological properties

De Paula RCM, Rodrigues JF// *Univ Fed Ceara, Dept Quim Organ & Inorgan, CP 12.200, BR-60455-760 Fortaleza, Ceara, Brazil

Carbohydr Polym 1995 26 (3) 177

Composition and rheological properties of cashew tree gum, the exudate polysaccharide from *Anacardium occidentale* L

Edashige Y, Ishii T, Hiroi T, Fujii T// Forestry & Forest Prod Res Inst, POB 16, Ibaraki, Osaka 305, Japan

Holzforchung 1995 49 (3) 197

Structural analysis of polysaccharides of primary walls from xylem differentiating zones of *Cryptomeria japonica* D Don

Ho CP, Huffman DL*, Bradford DD, Egbert WR, Mikel WB, Jones WR// *Auburn Univ, Inst Food Technol, Auburn, AL 36849, USA

J Food Sci 1995 60 (2) 257

Storage stability of vacuum packaged frozen pork sausage containing soy protein concentrate, carrageenan or antioxidants

Hurtado-Ponce AQ// SE Asian Fisheries Dev Ctr, Dept Aquaculture, Liloilo 5021, Philippines

Bot Mar 1995 38 (3) 215

Carrageenan properties and proximate composition of three morphotypes of *Kappaphycus alvarezii* Doty (Gigartinales, Rhodophyta) grown at two depths

Johnson EM, Berk DA, Jain RK, Deen WM// *MIT, Dept Chem Engr, 66-509, Cambridge, MA 02139, USA

Biophys J 1995 68 (4) 1561

Diffusion and partitioning of proteins in charged agarose gels

Jurasek P, Varga S, Phillips GO// *Slovak Tech Univ, Fac Chem Technol, Radlinskeho 9, Bratislava 81237, Slovakia

Food Hydrocolloid 1995 9 (1) 17

Classification of natural gums. VII. Relationships between the series *Vulgares* (*Acacia senegal*) and *Gummiferae* (*A. seyal*)

Kageyama Y, Honda Y, Sugimura Y// *Kao Corp, Tochigi Res Labs, 2606 Akabane, Ichikai machi, Haga, Tochigi 32134, Japan

- Plant Cell Tissue Organ Cult* 1995 41 (1) 65
Plant regeneration from patchouli protoplasts encapsulated in alginate beads
Kung IM, Wang FF, Chang YC, Wang YJ// *Nat'l Yang Ming Univ, Inst Biomed Engr, Shih Pai, Taipei, Taiwan
Biomaterials 1995 16 (8) 649
Surface modifications of alginate/poly(L-lysine) microcapsular membranes with poly(ethylene glycol) and poly(vinyl alcohol)
Lanza RP, Ecker D, Kuhlreiter WM, Staruk JE, Marsh J, Chick WL// Biohybrid Technol Inc, Pk 9 W, 910 Boston Turnpike Rd, Shrewsbury, Ma 01545, USA
Transplantation 1995 59 (10) 1485
A simple method for transplanting discordant islets into rats using alginate gel spheres
Mikkelsen A, Elgsaeter A// Univ Trondheim, Dept Phys, Norwegian Biopolymer Lab, Sem Saelands Vei 9, N-7034 Trondheim, Norway
Biopolymers 1995 36 (1) 17
Density distribution of calcium-induced alginate gels. A numerical study
Morgan SM, Al-Shamkhani A, Gallant D, Schacht E, Woodley JF, Duncan R// *Univ London, Sch Pharm, 29-39 Brunswick Sq, London WC1N 1AX, England
Int J Pharm 1995 122 (1-2) 121
Alginates as drug carriers: Covalent attachment of alginates to therapeutic agents containing primary amine groups
Nishino T, Ura H, Nagumo T// Kitasato Univ, Sch Med, Dept Biosci, 1-15-1 Kitasato, Sagami-hara, Kanagawa 228, Japan
Bot Mar 1995 38 (3) 187
The relationship between the sulfate content and the antithrombin activity of an $\alpha(1\rightarrow3)$ -fucoidan purified from a commercial fucoidan fraction
Oomah BD, Kenaschuk EO, Cui WW, Mazza G// Agr & AgriFood Canada, Res Ctr, Morden, Manitoba, Canada R6M 1Y5
J Agr Food Chem 1995 43 (6) 1484
Variation in the composition of water-soluble polysaccharides in flaxseed
Perez RM, Sanchez J, Perez S, Vargas R// Inst Politecn Nacl, Escuela Super Ingn Quin & Ind Extractivas, Invest Prod Nat Lab, Mexico City 07050, DF, Mexico
J Sci Food Agr 1995 68 (1) 39
An analytical study of gums from *Leucaena glabrata* and *Spondia purpurea*
Pueyo E, Olano A, Polo MC// *CSIC, Inst Fermentac Ind, Juan Cierva 3, E-28006 Madrid, Spain
Rev Espan Cien Tecnol Aliment 1995 35 (2) 191
Neutral monosaccharides composition of the polysaccharides from musts, wines and Cava wines
Rakow AL, Belfiore LA// Colorado State Univ, Dept Chem & Bioresource Engr, Ft Collins, Co 80523, USA
J Appl Polym Sci 1995 57 (2) 139
Extrusion effects on the mechanical properties of agar
Saito K, Murata T, Mori T// Hokkaido Tokai Univ, Sci Engr, Dept Biosci & Technol, Sapporo, Hokkaido 005, Japan
Int J Food Sci Technol 1994 29 (6) 715
Encapsulation of carthamin and safflor yellow B in calcium alginate beads - Technical stabilization of the colours
Schafer SE, Stevens ES// SUNY Binghamton, Dept Chem, Binghamton, NY 13902, USA
Biopolymers 1995 36 (1) 103
A reexamination of the double-helix model for agarose gels using optical rotation
Vanni F// Address not available.
Ind Aliment 1994 34 (335) 289
Gels, condensers, stabilizers extracted from seaweed (Italian, English Abstract)
Yunovitz H, Gross KC// *USDA ARS, Hort Crops Qual Lab, Bldg 002, 10300 Baltimore Ave, Beltsville, Md 20705, USA
J Carbohydr Chem 1995 14 (4-5) 653
Deoxymannojirimycin inhibits *de novo* synthesis of complex N-glycans and delays tomato fruit ripening
Zhang LN, Yang LQ, Ding Q, Chen XF// Wuhan Univ, Dept Chem, Wuhan 430072, Peoples Rep China
Carbohydr Res 1995 270 (1) 1
Studies on molecular weights of polysaccharides of *Auricularia auricula-judae*
Chiral separations using heparin and dextran sulfate in capillary zone electrophoresis
Ahsan A, Jeske W, Hoppensteadt D, Lormeau JC, Wolf H, Fareed J// Loyola Univ, Med Ctr, Dept Pathol, 2160 Sth 1st Ave, Maywood, Il 60153, USA
J Pharm Sci 1995 84 (6) 724
Molecular profiling and weight determination of heparins and depolymerized heparins
Barisas L, Rosett TR, Gao Y, Schmidt SJ, Klein BP// Univ Illinois, Dept Food Sci, 274 Bevier Hall, 905 Sth Goodwin Ave, Urbana, Il 61801, USA
J Food Sci 1995 60 (3) 523
Enhanced sweetness in sweetener-NaCl-gum systems
De Luca C, Lansing M, Martini I, Crescenzi F, Shen GJ, O'Regan M, Wong CH// *Scripps Clin & Res Inst, Dept Chem, 10666 Nth Torrey Pines Rd, La Jolla, Ca 92037, USA
J Amer Chem Soc 1995 117 (21) 5869
Enzymatic synthesis of hyaluronic acid with regeneration of sugar nucleotides
Dickinson E, Goller MI, Wedlock DJ// Univ Leeds, Procter Dept Food Sci, Leeds LS2 9JT, England
J Colloid Interface Sci 1995 172 (1) 192
Osmotic pressure, creaming, and rheology of emulsions containing nonionic polysaccharide
Fareed J, Jeske W, Eschenfelder V, Iqbal O, Hoppensteadt D, Ahsan A// Loyola Univ, Med Ctr, Dept Pathol & Pharmacol, 2160 Sth First Ave, Maywood, Il 60153, USA
Semin Thromb Hemostasis 1995 21 (2) 212
Pharmacologic validation of the clinical effects of an optimized low-molecular-weight heparin reviparin
Hayashi K, Tsutsumi K, Nakajima F, Norisuye T*, Teramoto A// *Osaka Univ, Dept Macromolec Sci, Toyonaka, Osaka 560, Japan
Macromolecules 1995 28 (11) 3824
Chain-stiffness and excluded-volume effects in solutions of sodium hyaluronate at high ionic strength
Jeske W, Iqbal O, Gonnella S, Boveri G, Torri G, De Ambrosi L, Fareed J// Loyola Univ, Med Ctr, Dept Pathol, 2160 Sth First Ave, Maywood, Il 60153, USA
Semin Thromb Hemostasis 1995 21 (2) 201
Pharmacologic profile of a low-molecular-weight heparin depolymerized by γ -irradiation
Juhasz P, Biemann K// *MIT, Dept Chem, Cambridge, Ma 02139, USA
Carbohydr Res 1995 270 (2) 131
Utility of non-covalent complexes in the matrix-assisted laser desorption/ionization mass spectrometry of heparin-derived oligosaccharides
Kunou M, Ohtsuki T, Akaike T, Hatanaka K// *Tokyo Inst Technol, Dept Biomolec Engr, Midori ku, Yokohama, Kanagawa 227, Japan
J Carbohydr Chem 1995 14 (4-5) 659
Mollification of cytotoxicity of sulfated polysaccharides by fibroblast growth factors
Matsudomi N, Inoue Y, Nakashima H, Kato A, Kobayashi K// Yamaguchi Univ, Fac Agr, Dept Food Chem, Yamaguchi 753, Japan
J Food Sci 1995 60 (2) 265
Emulsion stabilization by Maillard-type covalent complex of plasma protein with galactomannan
Payan E, Jouzeau JY, Lapique F, Bordji K, Simon G, Gillet P, O'Regan M, Netter P// *Fac Med Vandoeuvre les Nancy, Pharmacol Lab, BP 184, F-54505 Vandoeuvre les Nancy, France
J Control Release 1995 34 (2) 145
In vitro drug release from HYC 141, a corticosteroid ester of high molecular weight hyaluronan
Rosenthal AJ// Oxford Brookes Univ, Sch Biol & Molec Sci, Gipsy Lane, Oxford OX3 0BP, England
J Sci Food Agr 1995 68 (1) 127
Application of aged egg in enabling increased substitution of sucrose by Litesse (polydextrose) in high-ratio cakes
Schulz W, Deuber HJ, Gunthner R, Ohrisch G, Eichhorn M// Klinikum Bamberg, Med Klin 3, Inst Nephrol & Osteol Bamberg, Buger Str 80, D-96049 Bamberg, Germany
Nieren Hochdruck 1995 24 (4) 187
Use of low-molecular-weight heparin (LMWH) in hemodialysis therapy: State of the art (German, English Abstract)
Seifert B, Groth T*, Herrmann K, Romaniuk P// *GKSS Forschungszentrum Geesthacht GmbH, Membranforsch Abt, Kantstr 55, D-14513 Teltow, Germany
J Biomater Sci-Polym Ed 1995 7 (3) 277
Immobilization of heparin on polylactide for application to degradable biomaterials in contact with blood

13 POLYSACCHARIDES - OTHER