



Bibliography on Carbohydrate Polymers

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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.

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Miskiel FJ, Pazur JH//Penn State Univ, Dept Molec & Cell Biol, Paul M Althouse Lab, Univ Park, Pa 16802, USA

CARBOHYD POLYM 1991, 16 (1) 17

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Strano A, Pinto A, Galati D//c/o Spignoli G, Manetti & Roberts, Pharmacol Res Labs, via Baldanzese 177, Florence, Italy

DRUG EXP CLIN RES 1990, 16 (10) 543

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Anderson DR, Ginsberg JS*, Burrows R, Brilledwards P//McMaster Univ, Med Ctr, Dept Med, 1200 Main St W, Room 3W15, Hamilton, Ontario, Canada L8S 4L8

THROMB HAEMOST 1991, 65 (3) 248

Subcutaneous heparin therapy during pregnancy - A need for concern at the time of delivery

Duroux P//Chu Clamart, 157 rue Porte Trivaux, F-92141 Clamart, France

THROMB HAEMOST 1991, 65 (3) 251

A randomised trial of subcutaneous low molecular weight heparin (CY-216) compared with intravenous unfractionated heparin in the treatment of deep vein thrombosis

Freedman MD//Sanofi Pharmaceut Inc, 40 E 52nd St, New York, NY 10022, USA

J CLIN PHARMACOL 1991, 31 (4) 298

Low molecular weight heparins - An emerging new class of glycosaminoglycan antithrombotics

Grant D, Long WF, Moffat CF, Williamson FB*//Univ Aberdeen Marischal Coll, Dept Molec & Cell Biol, Aberdeen AB9 1AS, Scotland

BIOCHEM J 1991, 275 (APR) 193

Infrared spectroscopy of heparins suggests that the region 750-950cm⁻¹ is sensitive to changes in iduronate residue ring conformation

Grootenhuis PDJ, van Boeckel CAA//Akzo Pharma Div, Organon Sci Dev Grp, POB 20, 5340 BH Oss, The Netherlands

J AMER CHEM SOC 1991, 113 (7) 2743

Constructing a molecular model of the interaction between antithrombin-III and a potent heparin analogue

Harenberg J, Schlender M//Univ Heidelberg, Fak Klin Med Mannheim, Med Klin 1, Theodor Kutzer Ufer, W-6800 Mannheim, FRG

ARZTL LAB 1991, 37 (2) 39

Accuracy of anti-factor Xa-activity determination of unfractionated and low-molecular-weight heparin - A collaborative study in the Federal Republic of Germany and the former German Democratic Republic (German, English Abstract)

Hirsh J//Hamilton Civic Hosp, Res Ctr, Henderson Gen Div, 711 Concess St, Hamilton, Ontario, Canada L8V 1C3

AMER J SURG 1991, 161 (4) 512

Rationale for development of low-molecular-weight heparins and their clinical potential in the prevention of postoperative venous thrombosis

Holodny M, Kim S, Katzenstein D, Konrad M, Groves E, Merigan TC//Stanford Univ, Med Ctr, Ctr AIDS Res, Stanford, Ca 94305, USA

J CLIN MICROBIOL 1991, 29 (4) 676

Inhibition of human immunodeficiency virus gene amplification by heparin

Kessler CM//George Washington Univ, Med Ctr, Div Hematol Oncol, Washington, DC 20037, USA

CHEST 1991, 99 (4) SUPPL S97

The pharmacology of aspirin, heparin, coumarin, and thrombolytic agents - Implications for therapeutic use in cardiopulmonary disease

Kusche M, Hannesson HH, Lindahl U*//Swedish Univ Agr Sci, Ctr Biomed, Dept Vet Med Chem, S-75123 Uppsala, Sweden

BIOCHEM J 1991, 275 (APR) 151

Biosynthesis of heparin - Use of Escherichia coli K5 capsular polysaccharide as a model substrate in enzymic polymer-modification reactions

Levine MN, Hirsh J, Gent M, Turpie AG, Leclerc J, Powers PJ, Jay RM, Neemeh J//Ontario Canc Fdn, Hamilton Ctr, 711 Concess St, Hamilton, Ontario, Canada L8V 1C3

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Prevention of deep vein thrombosis after elective hip surgery - A randomized trial comparing low molecular weight heparin with standard unfractionated heparin

Lora S, Carenza M, Palma G, Pezzin G, Caliceti P, Battaglia P, Lora A//Ist Fotochim & Radiazioni Alta Energia, Sez Legnano, via Romea 4, Legnano, Italy

BIOMATERIALS 1991, 12 (3) 275

Biocompatible polyphosphazenes by radiation-induced graft copolymerization and heparinization

Olson ST, Bjork I//Henry Ford Hosp, Div Biochem Res, Educ & Res Bldg, Rm 3126, 2799 W Grand Blvd, Detroit, Mi 48202, USA

J BIOL CHEM 1991, 266 (10) 6353

Predominant contribution of surface approximation to the mechanism of heparin acceleration of the antithrombin-thrombin reaction - Elucidation from salt concentration effects

Scala PJ, Thiollot M, Midavaine M, Kher A, Funck-Brentano C, Jailon P*, Robert A, Valty J//Hop St Antoine, Unite Pharmacol Clin, 184 rue FBG St Antoine, F-75571 Paris 12, France

HAEMOSTASIS 1990, 20 (6) 368

Deep venous thrombosis and left ventricular thrombosis prophylaxis by low molecular weight heparin in acute myocardial infarction

Sinitsyn VV, Melitscaya LM, Mamontova AG, Kononov GA, Kukharchuk VV//USSR Cardiol Res Ctr, 3rd Cherepkovskaya Str 15A, Moscow 121552, USSR

BIOMATER ARTIF CELL ARTIF ORG 1990, 18 (5) 629

Heparin-sorbent for low density lipoproteins removal in hypercholesterolemia

Uchiyama H, Nagasawa K*//Kitasato Univ, Sch Pharmaceut Sch, 5-9-1 Shirokane, Minato ku, Tokyo 108, Japan

J BIOL CHEM 1991, 266 (11) 6756

Changes in the structure and biological property of N-O sulfate-transferred, N-resulfated heparin

van Besien K, Hoffman R, Golichowski A//Indiana Univ Hosp, Div Hematol Oncol, Indianapolis, In 46202, USA

THROMB RES 1991, 62 (1-2) 23

Pregnancy associated with lupus anticoagulant and heparin induced thrombocytopenia - Management with a low molecular weight heparinoid

Vlasuk GP, Ramjit D, Fujita T, Dunwiddie CT, Nutt EM, Smith DE, Shebushi RJ//Merck Sharp & Dohme Ltd, Dept Pharmacol, W Point, Pa 19486, USA

THROMB HAEMOST 1991, 65 (3) 257

Comparison of the in vivo anticoagulant properties of standard heparin and the highly selective factor-Xa inhibitors antistasin and tick anticoagulant peptide (TAP) in a rabbit model of venous thrombosis

Lapcik L, Bohdanecky M, Lapcik L, Bakos D//Slovak Tech Univ, Fac Chem Technol, Radlinskeho 9, CS-81237 Bratislava, Czechoslovakia

CHEM LISTY 1991, 85 (3) 281

Hyaluronic acid - Preparation, structure, properties, application (Czech, English Abstract)

Morimoto K, Yamaguchi H, Iwakura Y, Morisaka K, Ohashi Y, Nakai Y//Osaka Univ Pharmaceut Sci, Dept Pharmaceut Sci, 2-10-65 Kawai, Matsubara, Osaka 580, Japan

PHARMACEUT RES 1991, 8 (4) 471

Effects of viscous hyaluronate-sodium solutions on the nasal absorption of vasopressin and an analogue

Raitta C, Vesti E//Univ Helsinki, Dept Ophthalmol, Haartmaninkatu 4C, SF-00290 Helsinki 29, Finland
OPHTHALMIC SURG 1991, 22 (3) 145

The effect of sodium hyaluronate on the outcome of trabeculectomy

Scott JE, Cummings C, Brass A, Chen Y//Univ Manchester, Manchester M13 9PL, England
BIOCHEM J 1991, 274 (MAR) 699

Secondary and tertiary structures of hyaluronan in aqueous solution, investigated by rotary shadowing electron microscopy and computer simulation - Hyaluronan is a very efficient network-forming polymer

Cooper PD, Steele EJ//Australian Natl Univ, John Curtin Sch Med Res, Div Cell Biol, Canberra, ACT 2601, Australia
VACCINE 1991, 9 (5) 351

Algammulin, a new vaccine adjuvant comprising gamma inulin particles containing Alum - Preparation and in vitro properties

Drent WJ, Gottschal JC//State Univ Groningen, Dept Microbiol, Kerklaan 30, 9751 NN Haren, The Netherlands
FEMS MICROBIOL LETT 1991, 78 (2-3) 285

Fermentation of inulin by a new strain of *Clostridium thermoautotrophicum* isolated from dahlia tubers

Wholohan T, Yesberg NE, Cross RB//Univ Queensland, Dept Physiol & Pharmacol, St Lucia 4072, Australia
EXP PHYSIOL 1991, 76 (2) 289

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Rao M, Deshpande VV, Gaikwad S, Mishra C//Natl Chem Lab, Dept Biochem Sci, Poona 411008, Maharashtra, India
BIOTECHNOL APPL BIOCHEM 1991, 13 (2) 277

Laminarinase from *Penicillium funiculosum* and its role in release of beta-glucosidase

Seifert J, Mostecká H, Machková Z, Masek K, Kaneko Y, Chihara G//Czechoslovak Acad Sci, K02W, Albertov 4, CS-12800 Prague 2, Czechoslovakia

INT J IMMUNOPHARMACOL 1991, 13 (2-3) 281

The effect of lentinan on proliferative processes in parenchymal organs of rats. 1. The effect on pyrimidine and nucleic acid syntheses

Demertzis PG, Riganakos KA, Giannakakos PN, Kontominas MG*//*Univ Ioannina, Dept Chem, Ind & Food Chem Sect, GR-45110 Ioannina, Greece

J SCI FOOD AGR 1991, 54 (3) 421

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Endress HU, Omran H, Gierschner K//Herbstreith & Fox KG, Pektin Gabrik, Neuenburg, FRG

FOOD SCI TECHNOL-LEBENSMESS 1991, 24 (1) 80

Monitoring the course of enzymic degradation of pectic substances by automated fast ion chromatography (FIC)

Gomathy R, Vijayalekshmi NR, Kurup PA*//*Univ Kerala, Dept Biochem, Trivandrum 695581, India

J BIOSCI 1990, 15 (4) 297

Hypoglycemic action of the pectin present in the juice of the inflorescence stalk of plantain (*Musa sapientum*) - Mechanism of action

Harding SE, Berth G, Ball A, Mitchell JR, Garcia de la Torre J//Univ Nottingham, Dept Appl Biochem & Food Sci, Sutton Bonington LE12 5RD, England

CARBOHYD POLYM 1991, 16 (1) 1

The molecular weight distribution and conformation of citrus pectins in solution studied by hydrodynamics

Mafuleka MM, Ott DB*, Hosfield GL, Uebbersax MA*//Michigan State Univ, Dept Food Sci & Human Nutr, 139 Food Sci, E Lansing, MI 48824, USA

J FOOD PROCESS PRESERV 1991, 15 (1) 1

Dry bean (*Phaseolus vulgaris*) hardening and the consequences of pectin methylesterase activity in storage

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

AGR BIOL CHEM TOKYO 1991, 55 (3) 885

Pectic acid degrading enzymes from human feces

Shiota Y, Matsuura Y, Hatanaka C//Fukuyama City Coll Women, Dept Home Econ, Fukuyama, Hiroshima 720, Japan
J JPN SOC FOOD SCI TECHNOL 1991, 38 (2) 94

Effect of storage temperature on the properties of pectic polysaccharides in cotyledons of adzuki beans (*Vigna angularis*) (Japanese, English Abstract)

Izydorczyk M, Billiaderis CG, Bushuk W//Univ Manitoba, Dept Food Sci, Winnipeg, Manitoba, Canada R3T 2N2
CEREAL CHEM 1991, 68 (2) 139

Comparison of the structure and composition of water-soluble pentosans from different wheat varieties

Izydorczyk M, Billiaderis CG, Bushuk W//Univ Manitoba, Dept Food Sci, Winnipeg, Manitoba, Canada R3T 2N2
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Physical properties of water-soluble pentosans from different wheat varieties

Moresi M, Petruccioli M, Federici F//Univ Basilicata, IMTAF, via N Sauro 85, I-85100 Potenza, Italy

APPL MICROBIOL BIOTECHNOL 1991, 34 (6) 742

Modelling of cyclic fed-batch plus batch polygalacturonase production by *Aureobasidium pullulans* on raw orange peel

Pasculli R, Geraeds C, Voragen F, Pilnik W//via Rossi 146, I-70122 Bari, Italy

FOOD SCI TECHNOL-LEBENSMESS 1991, 24 (1) 63

Characterization of polygalacturonases from yeast and fungi

Cappel MJ, Kreuter J*//*Univ Frankfurt, Inst Pharmazeut Technol, Georg Voigt Str 16, W-6000 Frankfurt, FRG

INT J PHARM 1991, 69 (2) 143

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Suzuki Y, Hatagaki K, Oda H//Kyoto Prefectural Univ, Dept Agr Chem, Sakyo ku, Kyoto 606, Japan

APPL MICROBIOL BIOTECHNOL 1991, 34 (6) 707

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Wecker A, Onken U//Univ Dortmund, Lehrstuhl Tech Chem B, Postfach 500500, W-4600 Dortmund 50, FRG

BIOTECHNOL LETT 1991, 13 (3) 155

Influence of dissolved oxygen concentration and shear rate on the production of pullulan by *Aureobasidium pullulans*

Pretus HA, Ensley HE, McNamee RB, Jones EL, Browder IW, Williams DL*//*Tulane Univ, Sch Med, Dept Physiol, 1430 Tulane Ave,

New Orleans, La 70112, USA

J PHARMACOL EXP THER 1991, 257 (1) 500

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Grabski AC, Jeffries TW**/US Forest Serv, Inst Microbial & Biochem Technol, Forest Prod Lab, Madison, WI 53706, USA

APPL ENVIRON MICROBIOL 1991, 57 (4) 987

Production, purification, and characterization of beta-(1-4)-endoxylanase of *Streptomyces roseiscleroticus*

Mujer CV, Kretchman DW, Miller AR**/Ohio State Univ, Ohio Agr Res & Dev Ctr, Dept Hort, Wooster, OH 44691, USA

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Partial purification and properties of an endo-xylanase from cucumber seeds

Priem B, Dobberstein J, Emeis CC//Rhein Westfal TH Aachen, Lehrstuhl Biol 4, Worringer Weg, W-5100 Aachen, FRG

BIOTECHNOL LETT 1991, 13 (3) 149

Production of beta-1,4-xylanase in continuous culture by *Aureobasidium pullulans* CBS-58475

Ronen R, Zauberman G, Akerman M, Weksler A, Rot I, Fuchs Y**/Agr Res Org, Volcani Ctr Inst Technol & Storage Agr Prod, IL-50250 Bet Dagan, Israel

PLANT PHYSIOL 1991, 95 (3) 961

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Suzuki M, Yoshida K, Ashida K//Minist Agr Forestry & Fisheries, Natl Res Inst Fisheries Sci, 5-1 Kachidoki 5 chome, Chuo ku, Tokyo 104, Japan

AGR BIOL CHEM TOKYO 1991, 55 (3) 693

Purification and characterization of xylanase from the mid-gut gland of the apple snail (*Pomacea canaliculata*)

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Beech IB, Gaylarde CC, Smith JJ, Geesey GG//Lancashire Polytech, Dept Appl Biol, Preston PR1 2TQ, England

APPL MICROBIOL BIOTECHNOL 1991, 35 (1) 65

Extracellular polysaccharides from *Desulfovibrio desulfuricans* and *Pseudomonas fluorescens* in the presence of mild and stainless steel

Caro D, Matsuhira B, Urzua CC//Univ Santiago Chile, Fac Cuebca, Dept Quimica, Casilla 5659, Santiago 2, Chile

BOL SOC CHIL QUIM 1991, 36 (1) 17

The soluble polysaccharide from *Curdia rakovitzae* Hariot (Spanish, English Abstract)

Cryz SJ, Cross AS, Sadoff JC, Wegmann A, Que JU, Furer E//Swiss Serum & Vaccine Inst, POB 2707, CH-3001 Bern, Switzerland

J INFEC DIS 1991, 163 (5) 1040

Safety and immunogenicity of *Escherichia coli* O18 O-specific polysaccharide (O-PS)-toxin-A and O-PS-cholera toxin conjugate vaccines in humans

Egge H, Peterkatalinic J, Karas M, Stahl B//Univ Bonn, Inst Physiol Chem, W-5300 Bonn, FRG

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Feng SH, Rubinstein LJ, Stein KE//US FDA, Ctr Biol Evaluat & Res, Div Bacterial Prod, Bacterial Polysaccharide Lab, Bethesda, MD 20892, USA

J IMMUNOL METH 1991, 137 (2) 261

A simple method for coating native polysaccharides onto nitrocellulose

Garcia-Villalon D, Gil-Fernandez C//CSIC, Ctr Invest Biol, Velazquez 144, E-28006 Spain, Spain

ANTIVIR RES 1991, 15 (2) 139

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Haarstrick A, Rau U*, Wagner F//Tech Univ Braunschweig, Inst Biochem & Biotechnol, Konstantin Uhde Str 5, W-3300 Braunschweig, FRG

BIOPROCESS ENG 1991, 6 (4) 179

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Jaswal AS//New Brunswick Dept Agr, Plant Dis Res & Dev, POB 6000, Fredericton, NB, Canada E3B 5H1

AMER POTATO J 1991, 68 (3) 171

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Jones C, Currie F//Natl Inst Biol Stand & Controls, Div Chem, Blanche Lane, S Mimms EN6 3QG, England

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Kazuno C, Nishijima M, Miura H, Kamoi I//Tokyo Univ Agr & Technol, Dept Agr Chem, 1-1-1 Sakuragaoka, Setagaya ku, Tokyo 156, Japan

J JPN SOC FOOD SCI TECHNOL 1991, 38 (2) 107

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Kocharova NA, Carbanetz LD, Shashkov AS, Muras VA, Knirel YA//ND Zelinskii Organ Chem Inst, Moscow, USSR

BIOORG KHIM 1991, 17 (1) 107

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Lebenthal E, Lu RB//Hahnemann Univ, Dept Pediat, Broad & Vine St, Mail Stop 402, Philadelphia, Pa 19102, USA

J PEDIAT 1991, 118 (4) SUPPL PT2 S62

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Muraveva DA, Popova OI, Gasparyan KO//Pyatigorsk Pharmaceut Inst, Pyatigorsk, USSR

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Rainey FA, Janssen PH, Wild DJC, Morgan HW//Univ Waikato, Thermophile & Microbial Biochem & Biotechnol Unit, Private Bag 3105, Hamilton, New Zealand

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Tietz D, Aldroubi A, Schneerson R, Unser M, Chrambach A//NICHHD, Theoret & Phys Biol Lab, Bethesda, Md 20892, USA
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Toba T, Kotani T, Adachi S//Tohoku Univ, Fac Agr, Anim Prod Technol Lab, 1-1 Tsutsumidoriyamamachi, Aoba ku, Sendai 981, Japan

INT J FOOD MICROBIOL 1991, 12 (2-3) 167

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Usov AI, Blanco FF, Ivanova VS, Bedrina EN, Firsova SA, Sedakova LA, Funtikova NS//MM Shemyakin Bioorgan Chem Inst, Moscow 117312, USSR

BIOORG KHIM 1991, 17 (1) 121

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Anderson J, Smith BP*, Ulrich JT//Univ Calif Davis, Sch Vet Med, Dept Med, Davis, Ca 95616, USA

AMER J VET RES 1991, 52 (4) 596

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Bhat UR, Mayer H, Yokota A, Hollingsworth RI, Carlson RW*//Univ Georgia, Complex Carbohydrate Res Ctr, 220 Riverbend Rd, Athens, Ga 30605, USA

J BACTERIOL 1991, 173 (7) 2155

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Cox AD, Wilkinson SG*//Univ Hull, Sch Chem, Hull HU6 7RX, England

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Lvov VL, Yakovlev AP, Shashkov AS, Dmitriev BA//NF Gamaleya Epidemiol & Microbiol Res Inst, Moscow, USSR

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Antigenic polysaccharides of *Shigella* - The structure of the polysaccharide chain of *Shigella boydii*, type-11, lipopolysaccharide (Russian, English Abstract)

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EUR J BIOCHEM 1991, 197 (1) 93

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ri strain-16 lipopolysaccharide

9 STARCH

Haase NU, Kempf W//Bundesforsch Anstalt Getreide & Kartoffelverarbeitung, Inst Starke & Kartoffeltechnol, W-4920 Detmold, FRG

STARCH 1991, 43 (1) 2

Contribution to the biosynthesis of high-amylose pea starches (German, English Abstract)

Bayazeed A, Trauter J//Deutsch Inst Textil & Faserforsch Stuttgart, Inst Textil & Verfahrenstech, Korschstr 26, W-7306 Denkendorf, FRG

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Investigation on changes in physical and technological properties of water soluble sizing agents during the ultrafiltration process. 1. Ultrafiltration of hydroxypropyl starch

Rao KSMSR, Stewart R, Todd P*//Nat Inst Stand & Technol, 325 Broadway, Boulder, Co 80303, USA

SEPAR SCI TECHNOL 1991, 26 (2) 257

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Reineccius GA//Univ Minnesota, Dept Food Sci & Nutr, St Paul, Mn 55108, USA

FOOD TECHNOL 1991, 45 (3) 144

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Agboola SO, Akingbala JO, Oguntimein GB*//Univ Ibadan, Fac Technol, Dept Food Technol, Ibadan, Nigeria

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Agboola SO, Akingbala JO, Oguntimein GB*//Univ Ibadan, Dept Food Technol, Ibadan, Nigeria

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Akande OF, Deshpande AV, Bangudu AB//Ahmadu Bello Univ, Fac Pharmaceut Sci, Dept Pharmaceut & Pharm Microbiol, Zaria, Nigeria
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Appl RC//Knechtel Labs, 7341 Hamlin Ave, Skokie, Il 60076, USA

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Confectionery ingredients from starch

Arisaka M, Yoshii Y, Imai S//Food Res Inst, Shinei cho, Kamo, Niigata 95913, Japan

J JPN SOC FOOD SCI TECHNOL 1991, 38 (2) 86

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Autio K//Tech Res Ctr Finland, Food Res Lab, POB 203, SF-02150 Espoo, Finland

FOOD STRUCT 1990, 9 (4) 297

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Cerneau P, Michalet-Doreau B//INRA, CRVZ, Rech Nutr Herbivores Stn, Unite Valeur Alimentaire, F-63122 Ceyrat, France

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- Freeman TP, Shelton DR//N Dakota State Univ, North Crop Sci Lab, Fargo, ND 58105, USA
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- Goheen SM, Wool RP**//Univ Illinois, Dept Mat Sci & Engr, 1304 W Green St, Urbana, IL 61801, USA
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- Huber G//Wenger MFG Inc, 7124 Main St, Sabetha, Ks 66534, USA
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