

BIBLIOGRAPHY ON CARBOHYDRATE POLYMERS

1 Books, Reviews and Symposia

Rinaudo A//Ctr Rech Macromolec Vegetales (CNRS), BP 68, 38402 St Martin d'Heres Cedex, France

CARBOHYD POLYM 1988, 9 (3) 159

The centre de recherches sur les macromolecules vegetales (CERMAV)

von Treiber E//Address not available

HOLZFORSCHUNG 1988, 42 (5) 346

30. Rundgesprach der Cellulosechemiker, Baden-Baden Cellulose und Cellulosederivate in Losung (German) (Congress Report)

Ogawa K//Address not available

NIPPON NOGEIKAGAKU KAISHI 1988, 62 (8) 1225

Chain conformation of chitin and chitosan (Mini-Review) (Japanese, English Abstract)

Uragami T//Kansai Univ, Fac Engn, Suita, Osaka 564, Japan

NIPPON NOGEIKAGAKU KAISHI 1988, 62 (8) 1228

Functional membranes for separation of chitin and chitosan derivatives (Mini-Review) (Japanese, English Abstract)

Suzuki S//Tohoku Coll Pharm, Dept Hyg Chem 2, Sendai, Miyagi 983, Japan

NIPPON NOGEIKAGAKU KAISHI 1988, 62 (8) 1241

Immunopotentiating function of N-acetylchito-oligosaccharides and chito-oligosaccharides (Mini-Review) (Japanese, English Abstract)

Ohtakara A//Saga Univ, Dept Agr Chem, Saga 840, Japan

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Abstracts of the 17th Annual Meeting of the Society for Complex Carbohydrates, San Antonio, Tx, USA, November 3-5, 1988

Nakahara Y, Ogawa T//Inst Phys & Chem Res, Wako 35101, Japan

NIPPON NOGEIKAGAKU KAISHI 1988, 62 (8) 1259

Recent progress in complex glycans synthesis; plant cell wall oligogalacturonic acids (Mini-Review) (Japanese, English Abstract)

Cross B, Scher HB (Eds)

Pesticide Formulations. Innovations and Developments. ACA Symposium Series, Vol 371. Symp on Pesticide Formulations held at the 194th Meeting of the American Chemical Soc, New Orleans, La, August 30-September 4, 1987.

Amer Chemical Soc (Washington), 1988, 288 pp, \$64.95 Hardbound, Outside US & Canada \$77.95 ISBN: 0-8412-1483-2

Contains papers on: Mechanism of action of hydroxyethylcellulose as a structure agent for suspension concentrate formulations (Wedlock DJ); Formulation of living biological control agents with alginate (Connick WJ)

Nakajima T//Tohoku Univ, Fac Agr, Dept Agr Chem, Sendai, Miyagi 980, Japan

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Enzymatic analysis of polysaccharide structures (Mini-Review) (Japanese, English Abstract)

Richter G//Address not available

STARCH 1988, 40 (9) 360

Report on the exhibition of machines and devices during the starch convention 1988 at Detmold (German, English Abstract)

2 Cellulose

Diamond MP, DeCherney AH, Linsky CB, Cunningham T, Constantine B//Yale New Haven

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

Hosp, Dept Obstet & Gynecol, Div Reprod Endocrinol, 333 Cedar St, POB 3333, New Haven, Ct 06504, USA

INT J FERT 1988, 33 (5) 372

Adhesion re-formation in the rabbit uterine horn model: I. Reduction with carboxymethylcellulose

Kalman F, Borsas J*, Kemeny S, Rusznak I//

*Werderstr 57, Wohnung A1, D-5300 Bonn 2, W Germany

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Effect of the reaction conditions on the degree of substitution of carboxymethylcellulose

Koda S, Hasegawa S, Mikuriya M, Kawaizumi F, Nomura H//Nagoya Univ, Sch Engr, Dept Chem Engr, Chikusa ku, Nagoya 46401, Japan

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Niemela K, Sjostrom E//Helsinki Univ Technol, Wood Chem Lab, SF-02150 Espoo 15, Finland

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Identification of the products of hydrolysis of carboxymethylcellulose

Penha ED, Rosemberg JA, Dasilveira MM//Univ Estado Rio de Janeiro, Inst Quim, Dept Quim Technol, BR-20550, Rio de Janeiro, RJ, Brazil

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Cellulase production by Botrytis sp - A culture medium definition (Spanish, English Abstract)

Sami AJ, Akhtar MW*, Malik NN, Naz BA//*Univ Punjab, Inst Chem, Div Biochem, Lahore 1, Pakistan

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Production of free and substrate-bound cellulases of Cellulomonas falvirigena

Bochek AM, Silinskaya IG, Kalinina NA, Kallistov OV, Sidorovich AV, Petropavlovskii GA//Acad Sci USSR, Inst Macromolec Cpds, Leningrad, USSR

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Supermolecular structure of moderately concentrated solutions of cellulose in amine N-oxides

Cresswell MA, Attwell RW, Dempsey

MJ//Manchester Polytech, Fac Sci & Engr, Dept Biol Sci, Chester St, Manchester M1 5GD, Lancs, England

J MICROBIOL METH 1988, 8 (5) 299

Detection of cellulolytic actinomycetes using cellulose-azure

Filho FM, Goma G//Univ Estadual Campinas, Fac Engenharia Alimentos, BR-13100 Campinas, SP, Brazil

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Thermophilic degradation of cellulose by Clostridium thermocellum (Spanish, English Abstract)

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Frank R, Doring R//Gesell Biotechnol Forsch mbH, Mascheroder Weg 1, D-3300 Brunswick, W Germany

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Gonzalez FR, Marz-Figini M*, Figini RV//*Natl Univ La Plata, Fac Ciencias Exactas, Inst Nacl Invest Fis Teor & Aplicadas, Div Polymer, CC 16, RA-1900 La Plata, Argentina

MAKROMOL CHEM-MACROCHEM PHYS 1988, 189 (10) 2409

Rheological properties of semi-rigid polymers for the example of cellulose nitrate. 2. Influence of molecular weight distribution on the flow curves of semi-dilute solutions

Hebeish A, Bayazeed A, Higazy A//Natl Res Ctr, Div Text Res, Cairo, Egypt

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Grafting of flax polyester blend with acrylamide using ferrous cellulose thiocarbonate-persulphate redox system

Huttenrauch R, Fricke S, Zielke P//Otto Schott Str 15, DDR-6900 Jena, E Germany

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Mitrofanova AN, Nekrasov LI//MV Lomonosov State Univ, Dept Chem, Moscow 117234, USSR
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Mosini V, Grosso V//Univ Rome La Sapienza, Dipartimento Chim, Piazzale A Moro 5, I-00185 Rome, Italy

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Petropavlovskii GA, Kotel'nikova NE, Solodkova TK//Address not available

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Rao KVR, Devi KP, Buri P//Univ Geneva, Sch Pharm, 30 Quai Ernest Ansermet, CH-1211

Geneva 4, Switzerland

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Salama AA, Youssef SK, Osiris WG, Hashad AM//Al Azhar Univ, Fac Sci, Dept Phys, Cairo, Egypt

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Laivins GV, Sixou P//Parc Valrose Univ Nice, Phys Matiere Condensee Lab, F-06034 Nice, France

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Rosell K-G//British Columbia Res Council, Div Ind Chem, 3650 Westbrook Mall, Vancouver, BC, Canada V6S 2L2

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Steele ADM, Andrews V//Moorfields Eye Hosp, City Rd, London EC1V 2PD, England

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Methylcellulose for endothelial cell protection

3 Lignin

Bottcher UF, Trojanowski J, Huttermann A*//Univ Gottingen, Inst Forstbot, Busgenweg 2, D-3400 Gottingen, W Germany

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Brezny R, Micko MM, Paszner L//Slovak Acad Sci, Inst Chem, CS-84238 Bratislava, Czechoslovakia

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Dournel P, Randrianalimanana E, Deffieux A, Fontamille M//Univ Bordeaux 1, Ecole Natl Super Chim & Phys Bordeaux, F-33405 Talence, France

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Duran N, Mansilla H, Leite LCC, Faljoni-Alario A//Univ Estadual Campinas, Inst Quim Biol Chem Lab, Caixa Postal 1170, BR-13100 Campinas, SP, Brazil

J INORG BIOCHEM 1988, 34 (2) 105

Peroxidase-hydrogen peroxide system acting on lignin(1)

Janshekar H, Flechter A*//Swiss Fed Inst Technol, Dept Biotechnol, CH-8093 Zurich, Switzerland

J BIOTECHNOL 1988, 8 (2) 97

Cultivation of *Phanerochaete chrysosporium* and production of lignin peroxidases in submerged stirred tank reactors

Linko S//Helsinki Univ Technol, Biotechnol & Food Engr Lab, SF-02150 Espoo 15, Finland

J BIOTECHNOL 1988, 8 (2) 163

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Otjen L, Blanchette RA*, Leatham GF//Univ Minnesota, Dept Plant Pathol, St Paul, Mn 55108, USA

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Ralph J, Ede RM//Univ Wisconsin, USDA, Dairy Forage Res Ctr, 1925 Linden Dr W, Madison, WI 53706, USA

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Rowe JB, Crosbie GB//Dept Agr, Baron Hay Court, S Perth, WA 6151, Australia

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von Unger S, Lundquist K, Stomber R//Chalmers Univ Technol, Dept Organ Chem, S-41296 Gothenburg, Sweden

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Vuori A, Niemela M//Helsinki Univ Technol, Dept Chem Engr, SF-02150 Espoo 15, Finland

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Yang J-I, Pettersson B, Eriksson K-E//Svenska Traforsknings Inst, Box 5604, S-11486 Stockholm, Sweden

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Yoshihara K, Umezawa T, Higuchi T, Nishiyama M//Govt Ind Res Inst, 2-3-3 Hananomiya Cho, Takamatsu, Kagawa 761, Japan

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4 Polysaccharides

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Ibsen P, Moller S, Heron I//State Serum Inst, Dept Vaccine, Artager Blvd 80, DK-2300 Copenhagen S, Denmark

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Kondo S, Hisatsune K*//Josai Univ, Sch Pharmaceut Sci, Dept Microbiol, Sakado, Saitama 35002, Japan

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Weber-Frick C, Schmidt-Lorenz W*//Swiss Fed Inst Technol, Inst Technol, Inst Lebensmittelwissenschaft, Lebensmittel Mikrobiol Lab, CH-8092 Zurich, Switzerland

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Weintraub A, Lindberg AA*, Lipnias P, Nilsson B*//Karolinska Inst, Huddinge Hosp, Dept Clin Bacteriol, S-14186 Huddinge, Sweden

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Arad SM, Friedman OD, Rotem A//Ben Gurion Univ Negev, Inst Appl Res, POB 1025, IL-84110 Beer Sheva, Israel

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Baker CJ, Rench MA, Edwards MS, Carpenter RJ, Hays BM, Kasper DL//Baylor Coll Med, Dept Pediat, 1 Baylor Plaza, Houston, Tx 77030, USA

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Bradley TD, Mitchell JR//Food Sci Labs, Fac Agr Sci, Univ Nottingham, Sutton Bonington, Nr Loughborough, Leics LE12 5RD, England
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10521 Stockholm, Sweden

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Keene L, Lindberg B, Schweda E, Gutafsson B, Holme T//Univ Stockholm, Dept Organ Chem, Arrhenius Lab, S-10691 Stockholm, Sweden

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Kukhta EP, Aleksandrova IV, Afanasev SP, Lyalchenko MA//MV Frunze State Univ, Simferopol, Ukraine, USSR

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Lam Z, Comisarow MB*, Dutton GGS//Univ British Columbia, Dept Chem, Vancouver, BC, Canada V6T 1Y6

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Lam Z, Dutton GGS, Comisarow MB, Weil DA, Bjarnason A//Univ British Columbia, Dept Chem, Vancouver, BC, Canada V6T 1Y6

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Masterton RG, Youngs ER, Wardle JCR, Croft KF, Jones DM//RAF, Inst Pathol & Trop Med, Aylesbury HP22 5PG, Bucks, England
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Ray TC, Callow JA*, Kennedy JF//Univ Birmingham, Sch Biol Sci, POB 363, Birmingham B15 2TT, W Midlands, England
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Shimizu N, Tomoda M*//Kyoritsu Coll Pharm, Minato Ku, Tokyo 105, Japan
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5 Starch

Andersson E, Hahnagerdal B*//Lund Univ, Ctr Chem, POB 124, S-22100 Lund, Sweden
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Bajwa U, Bains GS//Punjab Agr Univ, Dept Food Sci & Technol, Ludhiana 141004, Punjab, India
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Supplementation of glycerolysed oils and alpha-amylases in breadmaking. 1. Effect on rheological properties of dough

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India

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Pazlarova J, Tsaplina I//Czechoslovak Acad Sci, Inst Microbiol, CS-14220 Prague, Czechoslovakia
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Zawistowska U, Langstaff J, Bushuk W//ABI Biotechnol Inc, Winnipeg R3T 0P4, Manitoba, Canada

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Enevoldsen BS, Juliano BO//Carlsberg Res Lab, Dept Brewing Chem, Carlsberg Vej 10, DK-2500 Valby, Denmark

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Ratio of A chains to B chains in rice amylopectins

Marsh RDL, Blanshard JMV**//Dept Appl Biochem & Food Sci, Nottingham Univ Sch Agr, Sutton Bonington, Loughborough, Leics LE12 5RD, England

CARBOHYD POLYM 1988, 9 (4) 301

The application of polymer crystal growth theory to the kinetics of formation of the B-amylose polymorph in a 50% wheat-starch gel

Matheson NK, Welsh LA//Univ Sydney, Dept Agr Chem, Sydney, NSW 2006, Australia

CARBOHYD RES 1988, 180 (2) 301

Estimation and fraction of the essentially unbranched (amylose) and branched (amylopectin) components of starches with concanavalin A

Sanchez-Chaves M, Arranz F//Inst Plast &

Cauchó, Juan Cierva 3, E-28006 Madrid, Spain
MAKROMOL CHEM-MACROCHEM PHYS 1988, 189 (10) 2269

Synthesis and hydrolysis of esters from amylose and nicotinoyl chloride

Takeda K, Sasaki T//Okayama Univ, Bioresources Res Inst, Kurashiki 710, Japan

JPN J BREED 1988, 38 (3) 357

Temperature response of amylose content in rice varieties of Hokkaido

Artursson P, Ericsson JLE, Sjöholm I//Univ Uppsala, Ctr Biomed, Dept Pharmaceut, Box 580, S-75123 Uppsala, Sweden

INT J PHARM 1988, 46 (1-2) 149

Inflammatory response to polyacryl starch microparticles, role of arachidonic acid metabolites

Berry CS, l'Anson K, Miles MJ, Morris VJ, Russell PL**//Flour Milling & Baking Res Assoc, Rickmansworth WD3 5SH, Herts, England

J CEREAL SCI 1988, 8 (2) 203

Physical chemical characterisation of resistant starch from wheat

Bingham SA//MRC, Cambridge, England

AMER J CLIN NUTR 1988, 48 (3) SUPPL 762

Meat, starch and nonstarch polysaccharides and large bowel cancer

Biswas SK, Juliano BO//Bangladesh Rice Res Inst, Div Rice Technol, Joydebpur, Bangladesh

CEREAL CHEM 1988, 65 (5) 417

Laboratory parboiling procedures and properties of parboiled rice from varieties differing in starch properties

Buck JS, Walker CE//Univ Nebraska, Dept Food Sci & Technol, 134 Filley Hall, Lincoln, Ne 68583, USA

STARCH 1988, 40 (9) 353

Sugar and sucrose ester effects on maize and wheat starch gelatinization patterns by differential scanning calorimeter

Camargo C, Colonna P, Buleon A, Richard-Molard D//Univ Estadual Campinas, Fac Engr Alimentos, BR-13100 Campinas, SP, Brazil

J SCI FOOD AGR 1988, 45 (4) 273

Functional properties of sour cassava (*Manihot utilissima*) starch: Polvilho Azedo

Carrillo PJ, Gilbert SG, Daun H//Rutgers State Univ, Dept Food Sci, New Brunswick, NJ 08903, USA

J FOOD SCI 1988, 53 (4) 1199

Starch/solute interaction in water sorption as affected by pretreatment

Fanta N, Anich M, Mancilla M, Kettlun AM, Valenzuela MA, Traverso-Cori A//Univ Chile, Fac Ciencias Quim & Farmaceut, Dept Bioquim & Biol Molec, Casilla 233, Santiago 1, Chile

ARCH BIOL MED EXP 1988, 21 (1) 129

Starch adenine nucleotides and apyrase changes during potato tuber development

Gaines CS, Donelson JR, Finney PL//USDA ARS, Ohio Agr Res & Dev Ctr, Soft Wheat Qual Lab, Wooster, Oh 44691, USA

CEREAL CHEM 1988, 65 (5) 384

Effects of damaged starch, chlorine gas, flour particle size, and dough holding time and temperature on cookie dough handling properties and cookie size

Garcia E, Lajolo FM//Univ Sao Paulo, Fac Ciencias Farmaceut, Dept Alimentos & Nutr Exptl, Caixa Postal 30 786, BR-01051 Sao Paulo, Brazil

J FOOD SCI 1988, 53 (4) 1181

Starch transformation during banana ripening: The amylase and glucosidase behavior

Gey M, Becker U//Acads Sci GDR, Inst Biotechnol, Permoserstr 15, DDR-7050 Leipzig, E Germany

ACTA BIOTECHNOL 1988, 8 (4) 377

Characterization of biotechnological processes and products using high-performance liquid chromatography (HPLC). II. Analysis of potato starch hydrolysis products

Goossens J, Derez F, Bahr KH//Cerestar, Res & Dev, Havenstr 84, B-1800 Vilvoorde, Belgium

STARCH 1988, 40 (9) 327

Presence of starch/protein aggregates in the endosperm of corn

Henderson WE, Kinnersley AM//Enzyme Biosyst, 3350 Salt Creek Lane, Suite 103, Arlington Hts, Il 60005, USA

PLANT CELL TISSUE ORGAN CULT 1988, 15 (1) 17

Corn starch as an alternative gelling agent for plant tissue culture

Hoover R, Cloutier L, Dalton S, Sosulski FW//Univ Ottawa, Dept Biochem, Ottawa, Ontario, Canada K1N 6N5

STARCH 1988, 40 (9) 336

Lipid composition of field pea (*Pisum sativum* cv Trapper) seed and starch

Laluce C, Bertolini MC, Ernandes JR, Martini AV, Martini A//Univ Estadual Paulista, Dept Bioquim, Caixa Postal 174, BR-14800 Araraquara, SP, Brazil

APPL ENVIRON MICROBIOL 1988, 54 (10) 2447

New amylolytic yeast strains for starch and dextrin fermentation

Landry LG Smyth DA*//Gen Foods Corp, Ctr Tech, 555 S Broadway, Tarrytown, NY, 10591, USA

PLANT CELL TISSUE ORGAN CULT 1988, 15 (1) 23

Characterization of starch produced by suspension cell cultures of Indica rice (*Oryza sativa* L.)

Meredith P//DSIR, Ilam Res Ctr, Div Chem, Christchurch 4, New Zealand

STARCH 1988, 40 (9) 333

The development and properties of the tuber of the potato (*Solanum tuberosum*). Part I: Variability of tubers

Notzold H, Ludwig E, Sykoba S//Tech Univ Dresden, Sekt Chem, Wissensch Bereich Lebensmittelchem & Tech Biochem, Mommenstr 13, DDR-8027 Bresden, E Germany

NAHRUNG 1988, 32 (8) 737

Plastein gels from partial hydrolyzate of field-bean protein isolate. Part 2. Rheological properties of plastein gels by addition of starch (German) (English Abstract)

Rapaille A//Cerestar, Grp Ferruzzi, Res & Dev, Havenstr 84, B-1800 Vilvoorde, Belgium

STARCH 1988, 40 (9) 356

Applications of hydrogenated products

Richardson SJ//Univ Illinois, Div Foods & Nutr, 367 Bevier Hall, 905 S Goodwin Ave, Urbana, Il 61801, USA

J FOOD SCI 1988, 53 (4) 1175

Molecular mobilities of instant starch gels determined by oxygen-17 and carbon-13 nuclear magnetic resonance

Schraewer R//Siemens Aktiengesell, Unternehmensbereich KWU, Postfach 1240, D-8757 Karlstein, W Germany

STARCH 1988, 40 (9) 347

Start-up characteristics of anaerobic bioreactors for purification of high-charged starch waste water (German, English Abstract)

Weegels PL, Marseille JP, Hammer RJ//TNO, Inst Cereals Flour & Bread, POB 15, Wageningen, The Netherlands

STARCH 1988, 40 (9) 342

Small scale separation of wheat flour in starch and gluten

Weller CL, Paulsen MR, Steinberg MP//Clemson Univ, Dept Agr Engr, Clemson, SC 29634, USA

CEREAL CHEM 1988, 65 (5) 392

Correlation of starch recovery with assorted quality factors of four corn hybrids

Wilson RH, Belton PS//AFRC, Inst Food Res, Norwich Lab, Colney Lane, Norwich NR4 7UA, Norfolk, England

CARBOHYD RES 1988, 180 (2) 339

A Fourier-transform infrared study of wheat starch gels

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Tako M, Nakamura S//Univ Ryukyus, Dept Agr Chem, Nishihara, Okinawa 90301, Japan

CARBOHYD RES 1988, 180 (2) 277

Gelation mechanism of agarose

Ball A, Harding SE*, Mitchell JR//*Univ Nottingham, Dept Appl Biochem & Food Sci, Loughborough LE12 5RD, Leics, England

INT J BIOL MACROMOL 1988, 10 (5) 259

Combined low speed sedimentation equilibrium/gel permeation chromatography approach to molecular weight distribution analysis: application to a sodium alginate

Clarke AD, Sofos JN, Schmidt GR//Univ Missouri, Dept Food Sci & Nutr, Columbia, Mo 65211, USA

J FOOD SCI 1988, 53 (5) 1266

Influence of varying pH and algin/calcium binders on selected physical and sensory characteristics of structured beef

Dominguez E, Nilsson M, Hahn-Hagerdal

B//Univ Lund, Ctr Chem, Dept Appl Microbiol, POB 124, S-22100 Lund, Sweden

ENZYME MICROB TECHNOL 1988, 10 (10) 606

Carbodiimide coupling of beta-galactosidase from *Aspergillus oryzae* to alginate

Knight LC, Maurer AH, Ammar IA, Siegel JA, Fisher RS, Malmud LS//Temple Univ Hosp, Nucl Med Sect, 3401 N Broad St, Philadelphia, Pa 19140, USA

NUCL MED BIOL-INT J RAD 1988, 15 (5) 563

Use of ¹¹¹In-labeled alginate to study the pH dependence of alginic acid anti-esophageal reflux barrier

Maxton DG, Miller JP, Whorwell PJ*, Butler JK//*Univ Hosp S Manchester, Nell Lane, Manchester M20 8LR, Lancs, England

BRIT J CLIN PRACT 1988, 42 (9) 368

A study of Algicon, an antacid-alginate preparation, in patients with reflux oesophagitis

Nishide E, Kinoshita Y, Anzai H, Uchida N//Nihon Univ, Coll Agr & Vet Med, Tokyo 154, Japan

NIPPON SUISAN GAKKAISHI 1988, 54 (9) 1619

Distribution of hot-water extractable material, water-soluble alginate and alkali-soluble alginate in different parts of *Undaria pinnatifida* (Japanese, English Abstract)

Suchkov VV, Grinberg VY, Muschiolik G, Schmandke H, Tolstoguzov VB//AN Nesmeyanov Organoelement Cpd Inst, Moscow 117813, USSR

NAHRUNG 1988, 32 (7) 661

Mechanical and functional properties of anisotropic gelatinous fibres obtained from the two-phase system of water-casein-sodium alginate

Nicklin S, Atkinson HAC, Miller K//British Ind Biol Res Assoc, Dept Immunotoxicol, Carshalton SM5 4DS, Surrey, England

FOOD ADDIT CONTAM 1988, 5 (4) 573

Adjuvant properties of polysaccharides: effect of iota-carrageenan, pectic acid, pectin, dextran and dextran sulphate on the humoral immune response in the rat

Seng//Univ Paris 06, Pathol Vegetale T53, 4 Pl Jussieu, F-75252 Paris 05, France

BIOFUTUR 1988, (71) 40

Chitin, chitosan and their derivatives: new perspectives for industry (French)

Tachibana M, Yaita A, Taniura H, Fukasawa K, Nagasue N, Nakamura T//Shimane Med Univ, Dept Surg 2, Izumo, Shimane 693, Japan
JPN J SURG 1988, 18 (5) 533

The use of chitin as a new absorbable suture material - an experimental study

Terbojevich M, Carraro C, Cosani A, Marsano E//Univ Padua, Dipartimento Chim Organ, Via Marzolo 1, I-35131 Padua, Italy
CARBOHYD RES 1988, 180 (1) 73
Solution studies of the chitin-lithium chloride-N,N-dimethylacetamide system

Arguelles-Monal W, Peniche-Covas C*//Univ Havana, Fac Chem, Havana 10400, Cuba
MAKROMOL CHEM-RAP COMM 1988, 9 (10) 693
Study of the interpolyelectrolyte reaction between chitosan and carboxymethylcellulose

Bartone FF, Adickes ED//Univ Nebraska, Med Ctr, Dept Surg, Div Urol Surg, Omaha, Ne 68105, USA
J UROL 1988, 140 (5) PT2, 1134
Chitosan: effects on wound healing in urogenital tissue: Preliminary report

Grant S, Blair HS, McKay G//Queens Univ Belfast, Div Chem Engr, David Keir Bldg, Stranmillis Rd, Belfast BT9 5AG, Antrim, North Ireland
POLYM COMMUN 1988, 29 (11) 342
Water-soluble derivatives of chitosan

Kobayashi T, Kaji Y, Takiguchi Y, Shimahara K, Sannan T//Seikei Univ, Fac Engr, Dept Ind Chem, Musashino, Tokyo 180, Japan
NIPPON NOGEIKAGAKU KAIDHI 1988, 62 (10) 1471
Distribution of chitosan in *Mucor* strains and some properties of the chitosan isolated

Kobayashi T, Takiguchi Y, Shimahara K, Sannan T//Seikei Univ, Fac Engr, Dept Ind Chem, Musashino, Tokyo 180, Japan
NIPPON NOGEIKAGAKU KAISHI 1988, 62 (10) 1463
Distribution of chitosan in *Absidia* strains and some properties of the chitosan isolated (Japanese)

Maghami GG, Roberts GAF*//Trent Polytech, Dept Phys Sci, Burton St, Nottingham NG1 4BU, England

MAKROMOL CHEM-MACROCHEM PHYS 1988, 189 (10) 2239
Studies on the adsorption of anionic dyes on chitosan

Miyazaki S, Yamaguchi H, Yokouchi C, Takada M, Hou W-M//Higashi Nippon Gakuen Univ, Fac Pharmaceut Sci, Ishikari, Hokkaido 06102, Japan
J PHARM PHARMACOL 1988, 40 (9) 642
Sustained release of indomethacin from chitosan granules in beagle dogs

Peniche-Covas C, Jimenez MS, Nunez A//Fac Chem, Univ Havana, Habana 4, Cuba
CARBOHYD POLYM 1988, 9 (4) 249
Characterization of silver-binding chitosan by thermal analysis and electron impact mass spectrometry

Rodriguez M-L, Jann B, Jann K*//Max Planck Inst Immunobiol, Stubeweg 51, D-7800 Freiburg, W Germany
EUR J BIOCHEM 1988, 177 (1) 117
Structure and serological characteristics of the capsular K4 antigen of *Escherichia coli* 05:K4:H4, a fructose-containing polysaccharide with a chondroitin backbone

Armstrong DW, He F-Y, Han SM//Univ Missouri, Dept Chem, Rolla, Mo 65401, USA
J CHROMATOGR 1988, 448 (3) 345
Planar chromatographic separation of enantiomers and diastereomers with cyclodextrin mobile phase additives

Blyshak LA, Rossi TM, Patonay G, Warner IM*//Emory Univ, Dept Chem, Atlanta, Ga 30322, USA
ANAL CHEM 1988, 60 (19) 2127
Cyclodextrin-modified solvent extraction for polynuclear aromatic hydrocarbons

Casy AF, Mercer AD//Univ Bath, Sch Pharm & Pharmacol, Bath BA2 7AY, England
MAGN RESON CHEM 1988, 26 (9) 765
Application of cyclodextrins to chiral analysis by ¹H NMR spectroscopy

Fenyvesi E//Chinoin Pharmaceut & Chem Works, Cyclodextrin Lab, Endrodi S 38-40,

Budapest, Hungary

J INCLUSION PHENOM 1988, 6 (5) 537

Cyclodextrin polymers in the pharmaceutical industry

Fujita K, Matsunaga A, Yamamura H, Imoto T//Fukuyama Univ, Fac Pharmaceut Sci, Higashimuro Cho, Fukuyama 72902, Japan

J ORG CHEM 1988, 53 (19) 4520

Complete sets of structurally determined $6^A, 6^X$ -unsymmetrically disubstituted beta-cyclodextrins: 6^A -S-phenyl- 6^X -O-(beta-naphthylsulfonfyl)- 6^A -thiol-beta-cyclodextrins and 6^A -S-(tert-butyl)- 6^X -O-(beta-naphthylsulfonfyl)- 6^A -thio-beta-cyclodextrins

Glomot F, Benkerrou L, Duchene D*, Poelman MC//Univ Paris 11, Fac Pharm, CNRS UA 1218, Pharm Galen & Biopharm Lab, Rue Jean Baptiste Clement, F-92296 Chateaufort, France

INT J PHARM 1988, 46 (1-2) 49

Improvement in availability and stability of a dermocorticoid by inclusion in beta-cyclodextrin

Guttman A, Paulus A, Cohen AS, Grinberg N, Karger BL//Northeastern Univ, Barnett Inst, 360 Huntington Ave, Boston, Ma 02115, USA

J CHROMATOGR 1988, 448 (1) 41

Use of complexing agents for selective separation in high-performance capillary electrophoresis. Chiral resolution via cyclodextrins incorporated with in polyacrylamide gel columns

Harata K, Uekama K, Imai T, Hirayama F, Otagiri M//Res Inst Polymers & Text, 1-1-4 Yatabe Higashi, Tsukuba, Ibaraki 305, Japan

J INCLUSION PHENOM 1988, 6 (5) 443

Crystal structures of heptakis(2,3,6-tri-O-methyl)-beta-cyclodextrin complexes with (R)- and (S)-flurbiprofen

Hashimoto K, Shirai Y, Adachi S, Horie M//Kyoto Univ, Fac Engr, Dept Chem Engr, Sakyo ku, Kyoto 606, Japan

J CHROMATOGR 1988, 448 (2) 241

Effect of the content of divinylbenzene in ion-exchange resins on the chromatographic separation of alpha-cyclodextrin and glucose

Hu Y, Harada A, Takahashi S//Osaka Univ, Inst Sci & Ind Res, Ibaraki, Osaka 567, Japan

SYN COMMUN 1988, 18 (14) 1607

Cyclodextrin-H₂O₂: a new system for asymmetric epoxidation

Issaq HJ//NCI, Frederick Canc Res Facil, Frederick, Md 21701, USA

J LIQ CHROMATOGR 1988, 11 (9-10) 2131

The multimodal cyclodextrin bonded stationary phases for high performance liquid chromatography

Koehler JEH, Saenger W, van Gunsteren WF//Free Berlin, Inst Kristallog, Takustr 6, D-1000 Berlin 33, W Germany

J MOL BIOL 1988, 203 (1) 241

Conformational differences between alpha-cyclodextrin in aqueous solution and in crystalline form. A molecular dynamics study

Komiyama M, Sugiura I, Hirai H//Univ Tsukuba, Inst Mat Sci, Tsukuba, Ibaraki 305, Japan

J COORD CHEM 1988, 18 (1-3) 181

Guest-binding and catalytic properties of immobilized beta-cyclodextrins

Kotake Y, Janzen EG//Univ Guelph, Guelph Waterloo Ctr Grad Work Chem, Dept Chem & Biochem, Guelph, Ontario, Canada N1G 2W1

CHEM PHYS LETT 1988, 150 (3-4) 199

Detection of bimodal inclusion complexes of cyclodextrins using a deuterated spin adduct as a probe

Kuroda Y, Yamada M, Tabushi I//Kyoto Univ, Dept Synthet Chem, Sakyo ku, Kyoto 606, Japan

TETRAHEDRON LETT 1988, 29 (35) 4467

2,3,6,6-perdeutero-cyclodextrins: powerful new family of cyclodextrin for NMR spectroscopy

Makela M, Mattsson P, Pintamo-Kenttala K, Korpela T//Univ Turku, Dept Biochem, SF-20500 Turku 50, Finland

J CHROMATOGR 1988, 448 (3) 391

Cyclodextrin-ligand interaction as a simplified model of biospecific affinity chromatography

Matre A-M, Mousset G, Pouillen P//Univ Blaise Pascal Clermont 2, Electrochim Organ Lab, CNRS, UA 434, 24 Ave Landais, BP 45, F-63170 Aubiere, France

ELECTROCHIM ACTA 1988, 33 (10) 1459

Reduction electrochimique en presence de cyclodextrines. II. Influence de la complexation beta-CD/molecules electroactives sur leur adsorption et leur reduction en milieu aqueux (English Abstract)

Matre A-M, Mousset G, Pouillen P**/Univ Blaise Pascal Clermont 2, Electrochim Organ Lab, CNRS, UA 434, 24 Ave Landais, BP 45, F-63170 Aubiere, France

ELECTROCHIM ACTA 1988, 33 (10) 1465

Reduction electrochimique en presence de cyclodextrines. III. Etude d'alcoxyacetophenones en milieu DMF (English Abstract)

Matsui Y, Fujie M, Sakate H//Shimane Univ, Fac Agr, Matsue, Shimane 690, Japan

BULL CHEM SOC JPN 1988, 61 (10) 3409

¹H NMR study of the regioisomers of primary O-di- and trisubstituted alpha-cyclodextrins

Monzen H, Yoshida N, Fujimoto M//Hokkaido Univ, Fac Sci, Dept Chem 2, Sapporo, Hokkaido 060, Japan

J COORD CHEM 1988, 18 (1-3) PTB 177

Electrostatic effects on the inclusion process of sodium p-(3-t-butyl-4-hydroxyphenylazo)benzene sulfonate with modified cyclodextrin and its metal complex

Seeman JJ, Secor HV, Armstrong DW, Timmons KD, Ward TJ//Philip Morris USA Res Ctr, POB 26583, Richmond, Va 23261, USA

ANAL CHEM 1988 60 (19) 2120

Enantiomeric resolution and chiral recognition of racemic nicotine and nicotine analogues by beta-cyclodextrin complexation - structure-enantiomeric resolution relationships in host-guest interactions

Wernick DL, Savion Z, Levy J//Tel Aviv Univ, Raymond & Beverly Sackler Fac Exact Sci, Sch Chem, IL-69978 Tel Aviv, Israel

J INCLUSION PHENOM 1988, 6 (5) 483

Selective esterolysis of nitrophenyl acetates in crystalline alpha-cyclodextrin complexes

Yokochi E, Kohno S, Ohata K//Kyoto Pharmaceut Univ, Dept Pharmacol, Kyoto 607, Japan

FOLIA PHARMACOL JPN 1988, 92 (5) 297

Pharmacological studies on the clathrate compound of mobenzoxamine with beta-cyclodextrin. (I) Effects on the digestive system (Japanese, English Abstract)

Aramaki Y, Inaba A, Kikuchi S, Tsuchiya S*, Takagi H, Abe K, Kawakubo **/Tokyo Coll Pharm, 1432-1 Horinouchi, Hachioji, Tokyo 19203, Japan

INT J PHARM 1988, 46 (1-2) 103

Reduction of gentamicin-induced enzymuria by

dextran sulfate

Chen HS, Yong ZH, Chen MB//Third Mil Med Coll, Surg Res Inst, Chongqing, Peoples R China
BIOMATER ARTIF CELL ARTIF ORG 1988, 16 (1-3) 617

Treatment of ischemic cerebrovascular diseases - The comparative studies between fluorocarbon blood substitute (FCBS) and low molecular weight dextran (LMWD)

Franceschini G, Busnach G, Vaccarino V, Calabresi L, Gianfranceschi G, Sirtori CR//Univ Milan, Ctr E Grossi Paoletti, Inst Pharmacol Sci, Via A Del Sarto 21, I-20129 Milan, Italy

ATHEROSCLEROSIS 1988, 73 (2-3) 197

Apheretic treatment of severe familial hypercholesterolemia: comparison of dextran sulfate cellulose and double membrane filtration methods for low density lipoprotein removal

Inamura I, Araki T//Shimane Univ, Fac Sci, Dept Chem, Matsue, Shimane 690, Japan

POLYM J 1988, 20 (8) 703

Preparation and properties of the water-soluble chlorophyll-dextran complexes interaction between chlorophyll and dextran

Sabatie J, Choplin L, Doublier JL, Arul J, Paul F, Monsan P//Dept Chem Engn, Univ Laval, Quebec, Canada

CARBOHYD POLYM 1988, 9 (4) 287

Rheology of native dextrans in relation to their primary structure

Sacco D, Bonneaux F, Dellacherie E//Ecole Natl Super Ind Chim, Chim Phys Macromol Lab, CNRS, UA 494, 1 Rue Grandville, F-54042 Nancy, France

INT J BIOL MACROMOL 1988, 10 (5) 305

Interaction of haemoglobin with dextran sulphates and the oxygen-binding properties of the covalent conjugates

Jorgensen KG//Carlsberg Res Lab, Dept Biotechnol, Gamle Carlsberg Vej 10, DK-2500 Copenhagen, Denmark

CARLSBERG RES COMMUN 1988, 53 (5) 277

Quantification of high molecular weight (1-3)(1-4)-beta-D-glucan using calcofluor complex formation and flow injection analysis. I. Analytical principle and its standardization

Jorgensen KG, Aastrup S//Carlsberg Res Lab, Dept Biotechnol, Gamle Carlsberg Vej 10, DK-

2500 Copenhagen, Denmark

CARLSBERG RES COMMUN 1988, 53 (5) 287
Quantification of high molecular weight (1-3)(1-4)-beta-D-glucan using calcofluor complex formation and flow injection analysis. II. Determination of total beta-glucan content of barley and malt

Suzuki I, Hashimoto K, Yadomae T//Tokyo Coll Pharm, Horinouchi, Hachioji, Tokyo 19203, Japan

J PHARMACOBIO-DYNAM 1988, 11 (8) 527
The effects of a highly branched beta-1, 3-glucan, SSG, obtained from *Sclerotinia sclerotiorum* IFO 9395 on the growth of syngeneic tumors in mice

Thatte UM, Dahanukar SA//167 F Dr Ambedkar Rd, Bombay 40014, India

METH FIND EXP CLIN PHARMACOL 1988, 10 (10) 639

Comparative study of immunomodulating activity of indian medicinal plants, lithium carbonate and glucan

Wagner N, Esser KD, Kruger E//Tech Univ Berlin, D-1000 Berlin 65, W Germany

MONATSSCHR BRAUWISSEN 1988, 41 (10) 384

Analysis and importance of high molecular weight beta glucans in beer

Erzinkyan KL, Trapkov VA//Kupavna Drug Safety & Technol Res Inst, Kupavna, USSR

IZV AKAD NAUK SSSR SER BIOL 1988, (5) 655

Glucosaminoglucans: interactions with biomolecules and their functional roles (Russian, English Abstract)

Alonso JM, Boulenguer P, Wieruszkeski J-M, Leroy Y, Montreuil J, Fournet B*//Univ Lille 1, Chim Biol Lab, CNRS, UA 217, Pilote Minist Educ Natl Lab, F-59655 Villeneuve Dascq, France

EUR J BIOCHEM 1988, 177 (1) 187

Microheterogeneity and structures of neutral glycans present in quail ovomucoid

Blows JMH, Calder PC*, Geedes R, Wills PR//Univ Oxford, Dept Biochem, S Pk Rd, Oxford, OX1 3 QU, England

PLACENTA 1988, 9 (5) 493

The structure of placental glycogen

Pastinen O, Forsskahl B, Marklund M//Norrualla Rehab Ctr, SF-66600 Vora, Finland

SCAND J RHEUMATOL 1988, 17 (3) 197

Local glycosaminoglycan polysulphate injection therapy in osteoarthritis of the hand

Templeton DM//Univ Toronto, Dept Clin Biochem, 100 Coll St, Toronto, Ontario, Canada M5G 1L5

INORG CHIM ACTA-BIOINORG CHEM 1988, 153 (3) 165

Acceleration of ionic reactions by naturally occurring glycosaminoglycans

Bergqvist D et al//Malmo Gen Hosp, Dept Surg, S-21401 Malmo, Sweden

BRIT J SURG 1988, 75 (9) 888

Low molecular weight heparin given the evening before surgery compared with conventional low-dose heparin in prevention of thrombosis

Borstad E, Urdal K*, Handeland G, Abildgaard U//Aker Hosp, Dept Obstet & Gynecol, N-0514 Oslo, Norway

ACTA OBSTET GYNECOL SCAND 1988, 67 (2) 99

Comparison of low molecular weight heparin vs. unfractionated heparin in gynecological surgery

Chiapuzzo E, Orenco GB, Ottria G, Chiapuzzo A, Palazzini E, Fusillo M//Osped S Giacomo, Div Ortopedia Traumatol, I-15067 Novi Ligure, Italy

J INT MED RES 1988, 16 (5) 359

The use of low molecular weight heparins for post-surgical deep vein thrombosis prevention in orthopaedic patients

Dawes J//MRC, Scottish Natl Blood Transfus Serv, Blood Components Assay Grp, Edinburgh EH1 2QW, Midlothian, Scotland

ANAL BIOCHEM 1988, 174 (1) 177

Measurement of the affinities of heparins, naturally occurring glycosaminoglycans, and other sulfated polymers for antithrombin III and thrombin

Green ST, Christie PR, Kennedy DHM, Goldberg DJ//Ruchill Hosp, Clin Dept Infect Dis, Glasgow G20 9NB, Scotland

SCAND J INFEC DIS 1988, 20 (4) 457

Subcutaneous calcium heparin for anticoagulation of HIV/hepatitis B infected intravenous drug abusers

Linhardt RJ, Rice KG, Kim YS, Lohse DL, Wang HM, Loganathan D//Univ Iowa, Coll Pharm, Div Med & Nat Prod Chem, Iowa City, Ia 52242, USA

BIOCHEM J 1988, 254 (3) 781

Mapping and quantification of the major oligosaccharide components of heparin

Paille F, Boccaccini A, de Korwin JD, Schmidt C, Laprevote MC, Schmitt J, Royer RJ//CHR Nancy, Serv Med H, F-54037 Nancy, France

THERAPIE 1988, 43 (4) 322

Low molecular weight heparin associated thrombocytopenia after treatment by pentosan polysulfate

Park KD, Okano T, Nojiri C, Kim SW**//Univ Utah, Dept Pharmaceut, Salt Lake City, Ut 84112, USA

J BIOMED MATER RES 1988, 22 (11) 977

Heparin immobilization onto segmented polyurethaneurea surfaces - effect of hydrophilic spacers

Shulman AG//9201 Sunset Blvd, Los Angeles, Ca 90069, USA

N ENGL J MED 1988, 319 (17) 1154

Heparin for prevention of atherosclerosis

Theroux P et al//Montreal Heart Inst, 5000 E Belanger St, Montreal, Quebec, Canada H1T 1C8

N ENGL J MED 1988, 319 (17) 1105

Aspirin, heparin, or both to treat acute unstable angina

Valle I, Sola G, Origone A//Hosp Genova Sestri, Div Surg, Genova, Italy

CURR MED RES OPIN 1988, 11 (2) 80

Controlled clinical study of the efficacy of a new low molecular weight heparin administered subcutaneously to prevent post-operative deep venous thrombosis

Bothner H, Waaler T, Wik O//Nycomed AS, Nycovn 2, N-0401 Oslo 4, Norway

INT J BIOL MACROMOL 1988, 10 (5) 287

Limiting viscosity number and weight average molecular weight of hyaluronate samples produced by heat degradation

Leardini G, Perbellini A, Franceschini M, Mattara L//Osped Al Mare, Dept Rheumatol, Venezia Lido, Italy

CLIN THER 1988, 10 (5) 521

Intra-articular injections of hyaluronic acid in the treatment of painful shoulder

Eigner W-D, Abuja P, Beck RHF, Praznik W//Graz Univ, Inst Phys Chem, Heinrichstr 28, A-8010 Graz, Austria

CARBOHYD RES 1988, 180 (1) 87

Physicochemical characterization of inulin and sinistrin

Essien H, Hwang KJ**//Univ So Calif, Sch Pharm, Los Angeles, Ca 90089, USA

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