

# Bibliography of carbohydrate polymers

(6 weeks journals. Search completed at 14th May 1997)

## 1 BOOKS, REVIEWS & SYMPOSIA

*Zuckerindustrie* 1997 122 (2) 126  
 Special section: Fourth International Workshop on Carbohydrates as Organic Raw Materials (Abstracts)

Aspden TJ, Mason JDT, Jones NS, Lowe J, Skaugrud O, Illum L\*// \*Univ Nottingham, Dept Pharmaceut Sci, Univ Pk, Nottingham NG7 2RD, England  
*J Pharm Sci* 1997 86 (4) 509

Chitosan as a nasal delivery system: The effect of chitosan solutions on *in vitro* and *in vivo* mucociliary transport rates in human turbinates and volunteers (Conference Report)

McAuliffe JC, Hindsgaul O// Univ Alberta, Dept Chem, Edmonton, Alberta, Canada T6G 2G2  
*Chem Ind-London* 1997 (5) 170

Carbohydrate drugs: An ongoing challenge

Muzzarelli RAA// Univ Ancona, Fac Med, I-60100 Ancona, Italy  
*Cell Mol Life Sci* 1997 53 (2) 131

Human enzymatic activities related to the therapeutic administration of chitin derivatives (Review)

Yoshinaga F, Tonouchi N, Watanabe K// Biopolymer Res Co Ltd, Takatsu ku, 3-2-1 Sakato, Kawasaki, Kanagawa 213, Japan  
*Biosci Biotechnol Biochem* 1997 61 (2) 219

Research progress in production of bacterial cellulose by aeration and agitation culture and its application as a new industrial material (Review)

## 2 CELLULOSE

Bochek AM, Petropavlovskii GA, Kallistov OV// Inst Macromol Cpds, St Petersburg 199004, Russia  
*Russ J Appl Chem-Eng Tr* 1996 69 (8) 1214

Supramolecular structure of methyl cellulose in water and dimethylacetamide in the states of solution and transition to gel

Bychkov VL, Vasilev MN// Moscow Phys Tech Inst, Inst per 9, Dolgoprudnyi 141700, Russia  
*High Energ Chem-Engl Tr* 1997 31 (2) 117

Study on the effect of electron-beam plasma on cellulose materials. II. Discussion

Catalan-Sakairi MA, Wang PC, Matsumura M\*// \*Univ Tsukuba, Inst Appl Biochem, 1-1-1 Tennodai, Tsukuba, Ibaraki 305, Japan  
*J Ferment Bioeng* 1997 83 (1) 102

High-rate seawater denitrification utilizing a macro-porous cellulose carrier

Cruz ML, Ferreira EI, Korolkovas A// USP, Dept Pharm, Sao Paulo, Brazil  
*Starch* 1997 49 (2) 66

Latentiation of chemotherapeutics agents. II. Synthesis of oxidized cellulose imine derivatives with antimalarials

De Ilarduya MCT, Martin C, Goni MM, Martinez-Oharriz MC// Univ Navarra, Dept Pharm & Pharmaceut Technol, E-31080 Pamplona, Spain  
*Drug Develop Ind Pharm* 1997 23 (4) 393

Oxazepam dissolution rate from hydroxypropylmethylcellulose matrices

Debeaufort F, Voilley A// Univ Bourgogne 1, Ecole Natl Super Biol Appl Nutr & Alimentat, F-21000 Dijon, France  
*J Agr Food Chem* 1997 45 (3) 685

Methylcellulose-based edible films and coatings. I. Mechanical and thermal properties as a function of plasticizer content

Delalonde M, Bataille B, Baylac G, Maurice J, Sabatier R// Univ Montpellier 1, Lab Pharm Galen Pharmaceutech & Biopharm, UPRES EA 695, F-34060 Montpellier 2, France  
*Int J Pharm* 1997 146 (2) 159

Definition of indices for the mechanical design of wet powders: Application to the study of a natural polymer, microcrystalline cellulose

Doner LW, Hicks KB// USDA/ARS, Eastern Reg Res Ctr, 600 East Mermaid Lane, Wyndmoor, Pa 19038, USA

*Cereal Chem* 1997 74 (2) 176  
 Isolation of hemicellulose from corn fiber by alkaline hydrogen peroxide extraction

Eberhardt A, Galensa R, Henning W// Univ Bonn, Inst Lebensmittelwissenschaft & Lebensmittelchem, Endericher Allee 11-13, D-53115 Bonn, Germany  
*Deut Lebensm-Rundsch* 1997 93 (3) 80

Detection of cellulose in sausages using a coupling of enzyme reactors to HPLC (German, English Abstract)

Eftremov AA, Pervyshina GG, Kuznetsov BN// Inst Nat Organ Resources Chem, Krasnoyarsk, Russia  
*Khim Prir Soedin* 1997 (1) 107

Thermocatalytic transforms of wood pulp and cellulose in the presence of HCl, HBr and H<sub>2</sub>SO<sub>4</sub> (Russian)

Favier V, Dendievel R, Canova G, Cavaille JY, Gilormini P// Univ Grenoble 1, CNRS, CERMAV, BP53, F-38041 Grenoble 9, France  
*Acta Mater* 1997 45 (4) 1557

Simulation and modeling of three-dimensional percolating structures: Case of a latex matrix reinforced by a network of cellulose fibers

Gert EV// Belarussian State Univ, Physicochem Problems Res Inst, 14 ul Leningradskaya, Minsk 220050, Byelorussia  
*Usp Khim* 1997 66 (1) 78

Labile products of interaction of cellulose with nitrogen oxide compounds

Ghannam MT, Esmail MN\*// \*Univ Saskatchewan, Dept Chem Engn, 110 Sci Pl, Saskatoon, Saskatchewan, Canada S7N 5C9  
*J Appl Polym Sci* 1997 64 (2) 289

Rheological properties of carboxymethyl cellulose

Jenkins LM, Donald AM// Univ Cambridge, Polymers & Colloids Grp, Madingley Rd, Cambridge CB3 0HE, England  
*Scanning* 1997 19 (2) 92

Use of the environmental scanning electron microscope for the observation of the swelling behaviour of cellulosic fibres

Kiekens F, Vermeire A, Samyn N, Demeester J, Remon JP\*// \*State Univ Ghent, Lab Biochem & Phys Pharm, Harelbekestr 72, B-9000 Ghent, Belgium  
*Int J Pharm* 1997 146 (2) 239

Optimisation of electrical conductance measurements for the quantification and prediction of phase separation in o/w-emulsions, containing hydroxypropylmethylcelluloses as emulsifying agents

Komar VV, Konopleva EV// Inst Gen & Inorgan Chem, Minsk, Byelorussia  
*Russ J Appl Chem-Eng Tr* 1996 69 (7) 1071

Optical sensitization of silver-containing complexes of carboxymethyl cellulose

Krasovskii AN, Plodisty AB, Polyakov DN// Inst Mot Picture & TV, St Petersburg, Russia  
*Russ J Appl Chem-Eng Tr* 1996 69 (7) 1048

IR study of distribution of primary and secondary functional groups in highly substituted cellulose acetates, acetomaleates, and acetophthalates

Loader NJ, Robertson I, Barker AC, Switzer VR, Waterhouse JS// Univ Cambridge, Dept Earth Sci, Free Sch Lane, Cambridge CB2 3RS, England  
*Chem Geol* 1997 136 (3-4) 313

An improved technique for the batch processing of small wholewood samples to  $\alpha$ -cellulose

Luneva NK, Vorobev VK, Petushok IA, Svinyakova AA, Komarov VS// Inst Gen & Inorgan Chem, Minsk, Byelorussia  
*Russ J Appl Chem-Eng Tr* 1996 69 (8) 1219

Thermal degradation of cellulose treated with polyphosphoric acid

Marsano E, Bianchi E, Boero F, Gastaldi G, Focher B// Univ Genoa, Dipt Chim & Chim Ind, Via Dodecaneso 31, I-16145 Genoa, Italy  
*Polym Advan Technol* 1997 8 (1) 17

Liquid crystalline polymer gels: Preparation and swelling behavior of cellulose-based networks

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.

Mirkamilov SM, Tillashaikhov MS, Sidikov AS// Tashkent Chem Technol Inst, Tashkent, Uzbekistan

*Khim Prir Soedin* 1996 (6) 928

Dependence of the permolecular structure of cellulose from cotton plants stems on its technological preparation (Russian)

Mosquera MJ, Cal S, Souto C, Concheiro A, Martinez-Pacheco R, Gomez Amoza JL// Univ Santiago Compostela, Fac Farm, Dept Farmacol Farm & Tecnol Farmaceut, E-15706 Santiago de Compostela, Spain

*Drug Develop Ind Pharm* 1997 23 (4) 403

Effects of storage humidity on the mechanical, microstructural, and drug release properties of hydroxypropylmethylcellulose-based hydrophilic matrix tablets

Myagkova NV, Rakhmonberdiv GR, Sagdieva ZG, Sidikov AS// Chem Technol Inst, Tashkent, Uzbekistan

*Khim Prir Soedin* 1997 (1) 97

Thermodynamic properties of solutions of water-soluble cellulose mixed ethers (Russian)

Pazukhina GA, Teploukhova MV// Forestry Engn Acad, St Petersburg, Russia

*Russ J Appl Chem-Eng Tr* 1996 69 (7) 1064

Changes in chemical composition and submicroscopic structure of cellulose fibers in the course of bleaching

Rakhmonberdiv GR, Sidikov AS, Yusupov RD, Arslanov SS// Chem Technol Inst, Tashkent, Uzbekistan

*Khim Prir Soedin* 1997 (1) 102

Kinetics of hydrolysis of cellulose mixed ethers (Russian)

Ramsden MJ, Blake FSR// Univ York, Dept Chem, York YO1 5DD, England

*Wood Sci Technol* 1997 31 (1) 45

A kinetic study of the acetylation of cellulose, hemicellulose and lignin components in wood

Sarikaya A, Ladisch MR\*// \*Purdue Univ, Renewable Resources Engr Lab, West Lafayette, IN 47907, USA

*Appl Biochem Biotech* 1997 62 (1) 71

An unstructured mathematical model for growth of *Pleurotus ostreatus* on lignocellulosic material in solid-state fermentation systems

Schmidt S, Padukone N// Natl Renewable Energy Lab, Alternat Fuels Div, 1617 Cole Blvd, Golden, CO 80401, USA

*J Ind Microbiol Biotechnol* 1996 18 (1) 10

Production of lactic acid from wastepaper as a cellulosic feedstock

Sjoholm E, Gustafsson K, Pettersson B, Colmsjo A// STFI, Swedish Pulp & Paper Res Inst, Box 5604, S-11486 Stockholm, Sweden

*Carbohydr Polym* 1997 32 (1) 57

Characterization of the cellulosic residues from lithium chloride/*N,N*-dimethylacetamide dissolution of softwood kraft pulp

Strlic M, Pihlar B// Univ Ljubljana, Dept Analyt Chem, Askerceva 5, SL-1000 Ljubljana, Slovenia

*Fresenius J Anal Chem* 1997 357 (6) 670

Determination of reducing carbonyl groups in cellulose in the solvent system LiCl/*N,N*-dimethylacetamide

Sultanov K, Turaev AS, Agzamkhodzhaev AA// Sadykov Bioorgan Chem Inst, Tashkent, Uzbekistan

*Khim Prir Soedin* 1996 (6) 921

Mechanism of radiolytic transformation of cellulose. III. Formation of volatile products (Russian)

Tapia C, Sapag-Hagar J, Carilao J, Velenzuela F, Basualto C// Univ Chile, Fac Ciencias Quim & Farmaceut, Lab Operac Unitarias, Casilla 233, Santiago 1, Chile

*Bol Soc Chil Quim* 1997 42 (1) 49

Determination of the substituents distribution and substitution degree in methylcellulose using quantitative thin layer chromatography (Spanish, English Abstract)

Warth H, Mulhaupt R\*, Schatzle J// \*Univ Freiburg, Freiburger Mat Forschungszentrum, Stefan Meier Str 21, D-79104 Freiburg, Germany

*J Appl Polym Sci* 1997 64 (2) 231

Thermoplastic cellulose acetate and cellulose acetate compounds prepared by reactive processing

### 3 CELLULOSE-DEGRADING ENZYMES

Gal L, Pages S, Gaudin C\*, Belaich A, Reverbel-Leroy C, Tardif C, Belaich JP// \*CNRS, Lab Bioenerget & Ingn Prot, IFR C1, 31 Chemin Joseph Aiguier, F-13402 Marseille 20, France

*Appl Environ Microbiol* 1997 63 (3) 903

Characterization of the cellulolytic complex (cellulosome) produced by *Clostridium cellulolyticum*

Hayashi K, Nimura Y, Miyaji T, Ohara N, Uchimura T, Suzuki H, Komagata K, Kozaki M// Wada Sugar Refining Co Ltd, Dept Dev, Edogawa ku, 3-15-28

Chuo, Tokyo 132, Japan

*Seibutsu-Kogaku Kaishi* 1997 75 (1) 9

Purification and properties of a low-temperature-active enzyme degrading both cellulose and xylan from *Acremonium alcalophilum* JCM 7366 (Japanese, English Abstract)

Kim DW, Jang YH, Jeong YK, Son KH// Chungbuk Natl Univ, Coll Nat Sci, Dept Chem, Cheongju 361763, South Korea

*Bull Kor Chem Soc* 1997 18 (3) 300

Effect of nonionic surfactant on the adsorption and kinetic mechanism for the hydrolysis of microcrystalline cellulose by endoglucanase I and exoglucanase II

Kim SW, Kang SW, Lee JS// Korea Univ, Dept Chem Engr, 1 Anam dong, Seoul 136701, South Korea

*Bioresource Technol* 1997 59 (1) 63

Cellulase and xylanase production by *Aspergillus niger* KKS in various bioreactors

Palmqvist E, Hahn-Hagerdal B\*, Szengyel Z, Zacchi G, Reczey K// \*Lund Univ, Dept Appl Microbiol, POB 124, S-22100 Lund, Sweden

*Enzyme Microb Technol* 1997 20 (4) 286

Simultaneous detoxification and enzyme production of hemicellulose hydrolysates obtained after steam pretreatment

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

*Bioresource Technol* 1997 59 (1) 21

Cellulase production by *Cellulomonas biazotea* cultured in media containing different cellulosic substrates

Siddiqui KS, Saqib AAN, Rashid MH, Rajoka MI// Natl Inst Biotechnol & Genet Engr, POB 577, Jhang Rd, Faisalabad, Pakistan

*Biotechnol Lett* 1997 19 (4) 325

Thermostabilization of carboxymethylcellulase from *Aspergillus niger* by carboxyl group modification

### 4 CHITIN/CHITOSAN

Bianchi E, Marsano E\*, Tacchino A// \*Univ Genova, Dipt Chim & Chim Ind, Genova, Italy

*Carbohydr Polym* 1997 32 (1) 23

Thermoreversible gels of chitin

Costain DJ, Kennedy R, Ciona C, McAlister VC, Lee TDG\*// \*Dalhousie Univ, Fac Med, Dept Surg, Halifax, Nova Scotia, Canada B3H 4H7

*Surgery* 1997 121 (3) 314

Prevention of postsurgical adhesions with *N,O*-carboxymethyl chitosan: Examination of the most efficacious preparation and the effect of *N,O*-carboxymethyl chitosan on postsurgical healing

D'Auria S, Pellino F, La Cara F, Barone R, Rossi M, Nucci R\*// \*Ist Biochim Prot & Enzimol, CNR, Via Marconi 10, I-80125 Naples, Italy

*Appl Biochem Biotech* 1996 61 (1-2) 157

Immobilization on chitosan of a thermophilic  $\beta$ -glycosidase expressed in *Saccharomyces cerevisiae*

Gandhirajan M, Swaminathan CS\*// \*Anna Univ, Coll Engr, Dept Chem, Madras 600025, India

*J Indian Chem Soc* 1997 74 (3) 257

Coagulation of oil field wastewater with chitosan

Henriksen I, Vagen SR, Sande SA, Smistad G, Karlsen J// Univ Oslo, Dept Pharmaceut, POB 1068 Blindern, N-0316 Oslo, Norway

*Int J Pharm* 1997 146 (2) 193

Interactions between liposomes and chitosan. II. Effect of selected parameters on aggregation and leakage

Kubota N// Oita Univ, Dept Appl Chem, Oita 87011, Japan

*J Appl Polym Sci* 1997 64 (4) 819

Permeability properties of chitosan-transition metal complex membranes

Matsumura S, Yokochi E, Winursito I, Toshima K// Keio Univ, Dept Appl Chem, Kohoku ku, 3-14-1 Hiyoshi, Yokohama, Kanagawa 223, Japan

*Chem Lett* 1997 (3) 215

Preparation of novel biodegradable polyampholyte: Partially dicarboxylated chitosan

Murata J, Ohya Y\*, Ouchi T// \*Kansai Univ, Dept Appl Chem, Suita, 564 Osaka, Japan

*Carbohydr Polym* 1997 32 (2) 105

Design of quaternary chitosan conjugate having antennary galactose residues as a gene delivery tool

Nudga LA, Petrova VA, Lebedeva MF, Petropavlovskii GA// Inst Macromol Cpds, St Petersburg 199004, Russia

*Russ J Appl Chem-Eng Tr* 1996 69 (7) 1058

Graft polymerization of vinyl acetate on chitosan in acid medium

Piron E, Accominotti M, Domard A\*// \*Univ Lyon 1, Etud Mat Plast & Biomat Lab, UMR CNRS 5627, 43 Blvd 11 Novembre 1918, F-69622 Villeur-

banne, France

*Langmuir* 1997 13 (6) 1653

Interaction between chitosan and uranyl ions. Role of physical and physico-chemical parameters on the kinetics of sorption

Tarimci N, Ermis D// Ankara Univ, Dept Pharmaceut Technol, TR-06100 Tandogan, Ankara, Turkey

*Int J Pharm* 1997 147 (1) 71

Sustained release characteristics and pharmacokinetic parameters of ketoprofen suppositories using chitosan

Tarsi R, Muzzarelli RAA, Guzman CA, Pruzzo C// Univ Ancona, Inst Microbiol, Via Ranieri Monte Dago, I-60131 Ancona, Italy

*J Dent Res* 1997 76 (2) 665

Inhibition of *Streptococcus mutans* adsorption to hydroxyapatite by low-molecular-weight chitosans

Tomihata K, Ikada Y\*\* \*Kyoto Univ, Biomed Engr Res Ctr, Sakyo ku, 53 Kawahara cho, Kyoto 606, Japan

*Biomaterials* 1997 18 (7) 567

*In vitro* and *in vivo* degradation of films of chitin and its deacylated derivatives

Usami Y, Minami S, Okamoto Y, Matsuhashi A, Shigemasa Y// Tottori Univ, Dept Vet Surg, 4-101 Koyama Minami, Tottori 680, Japan

*Carbohydr Polym* 1997 32 (2) 115

Influence of chain length of *N*-acetyl-D-glucosamine and D-glucosamine residues on direct and complement-mediated chemotactic activities for canine polymorphonuclear cells

Yao KD, Tu HL, Cheng F, Zhang JW, Liu J// Tianjin Univ, Res Inst Polymer Mat, Tianjin 300072, Peoples Rep China

*Angew Makromol Chem* 1997 245 63

pH-sensitivity of the swelling of a chitosan-pectin polyelectrolyte complex

## 5 CYCLODEXTRINS

Ahn HJ, Kim KM, Choi JS, Kim CK\*\* \*Seoul Natl Univ, Coll Pharm, San 56-1, Shinlim dong, Seoul 151742, South Korea

*Drug Develop Ind Pharm* 1997 23 (4) 397

Effects of cyclodextrin derivatives on bioavailability of ketoprofen

Ameiybor E, Stewart JT// Univ Georgia, Dept Med Chem, Athens, Ga 30602, USA

*J Liq Chromatogr Relat Technol* 1997 20 (6) 855

Enantiomeric HPLC separation of selected chiral drugs using native and derivatized  $\beta$ -cyclodextrins as chiral mobile phase additives

Bru R, Lopez-Nicolas JM, Nunez-Delgado E, Nortes-Ruiperez D, Sanchez-Ferrer A, Garcia-Carmona F\*\* \*Univ Murcia, Dept Bioquim & Biol Mol, Campus Espinardo, E-30001 Murcia, Spain

*Appl Biochem Biotech* 1996 61 (1-2) 189

Cyclodextrins as hosts for poorly water-soluble compounds in enzyme catalysis

Caron I, Elfakir C, Dreux M// Univ Orleans, Inst Chim Organ & Analyt, CNRS URA 499, BP 6759, F-45067 Orleans 2, France

*J Liq Chromatogr Relat Technol* 1997 20 (7) 1015

Advantages of evaporative light scattering detection for the purity control of commercial cyclodextrins

Cserhati T, Forgacs E// Hungarian Acad Sci, Cent Res Inst Chem, POB 17, H-1525 Budapest, Hungary

*Anal Biochem* 1997 246 (2) 205

Charge-transfer chromatographic study of the complex formation of some steroidal drugs with carboxymethyl- $\gamma$ -cyclodextrin

Easton CJ, Van Eyk SJ, Lincoln SF, May BL, Papageorgiou J, Williams ML// Australian Natl Univ, Res Sch Chem, Canberra, ACT 0200, Australia

*Aust J Chem* 1997 50 (1) 9

A versatile synthesis of linked cyclodextrins

Endo T, Nagase H, Ueda H\*, Kobayashi S, Nagai T// \*Hoshi Univ, Dept Phys Chem, Shinagawa ku, 4-41 Ebara 2 chome, Tokyo 142, Japan

*Chem Pharm Bull Tokyo* 1997 45 (3) 532

Isolation, purification, and characterization of cyclomaltoheptaose ( $\epsilon$ -cyclodextrin), cyclomaltoundecaose ( $\zeta$ -cyclodextrin), and cyclomaltridecaose ( $\theta$ -cyclodextrin)

Fodor M, Novak CS, Rakosa R, Tomor K, Pokol G, Gal S// Univ Hort & Food Sci, Dept Chem & Biochem, Villanyi ut 29-31, H-1114 Budapest, Hungary

*J Therm Anal* 1997 48 (3) 515

Solid and liquid state investigations of mandelic acid cyclodextrin complexes

Fragoso A, Cao R\*, D'Souza VI// \*Univ Havana, Bioorgan Chem Lab, Havana 10400, Cuba

*J Carbohydr Chem* 1997 16 (2) 171

Influence of positively-charged guests on the superoxide dismutase mimetic activity of copper(II)  $\beta$ -cyclodextrin dithiocarbamates

Grosenick H, Schurig V\*\* \*Univ Tubingen, Inst Organ Chem, Morgenstelle 18, D-72076 Tubingen, Germany

*J Chromatogr A* 1997 761 (1-2) 181

Enantioselective capillary gas chromatography and capillary supercritical fluid chromatography on an immobilized  $\gamma$ -cyclodextrin derivative

Hamasaki K, Usui S, Ikeda H, Ikeda T, Ueno A\*\* \*Tokyo Inst Technol, Dept Bioengn, Midori ku, 4259 Nagatsuta cho, Yokohama, Kanagawa 226, Japan

*Supramol Chem* 1997 8 (2) 125

Dansyl-modified cyclodextrins as fluorescent chemosensors for molecular recognition

Le Bras M, Bourbigot S, Le Tallec Y, Laureys J// Univ Sci & Tech Lille Flandres Artois, ENSCL, Lab Physiochim Solides, BP 108, F-59652 Villeneuve Dascq, France

*Polym Degrad Stabil* 1997 56 (1) 11

Synergy in intumescence: Application to  $\beta$ -cyclodextrin carbonisation agent intumescent additives for fire retardant polyethylene formulations

Matsui Y, Ono M, Tokunaga S// Shimane Univ, Fac Life & Environm Sci, Matsue, Shimane 690, Japan

*Bull Chem Soc Jpn* 1997 70 (3) 535

NMR spectroscopy of cyclodextrin-inorganic anion systems

Moyano JR, Arias MJ, Gines JM, Perez JI, Rabasco AM// Univ Seville, Dept Pharm & Pharmaceut Technol, E-41012 Seville, Spain

*Drug Develop Ind Pharm* 1997 23 (4) 379

Dissolution behavior of oxazepam in presence of cyclodextrins: Evaluation of oxazepam-DIMEB binary system

Nguyen TP, Turmine M, Lettelier P, Gosselet NM\*, Sebille B// \*Lab Phys Chim Biopolymeres, UMR27, 2-8 rue Henri Dunant, F-94320 Thiais, France

*Pharmazie* 1997 52 (3) 216

Potentiometric study of the dextromethorphan/ $\beta$ -cyclodextrin complex

Novak CS, Kata M, Antal L// Tech Univ Budapest, Inst Gen & Analyt Chem, Szent Gellert ter 4, H-1521 Budapest, Hungary

*J Therm Anal* 1997 48 (3) 503

Comprehensive studies of tolperisone.HCl-cyclodextrin complexes

Sanemasa I, Wu JS, Toda K// Kumamoto Univ, Dept Chem, Kurokami 2-39, Kumamoto 860, Japan

*Bull Chem Soc Jpn* 1997 70 (2) 365

Solubility product and solubility of cyclodextrin inclusion complex precipitates in an aqueous medium

Sanemasa I, Wu JS, Toda K// Kumamoto Univ, Dept Chem, Kurokami 2-39, Kumamoto 860, Japan

*Bull Chem Soc Jpn* 1997 70 (2) 371

Cyclodextrin precipitates with normal alcohols in an aqueous medium and their stability on being left standing in air

Sreenivasan K// Sree Chitra Tirunal Inst Med Sci & Technol, Biomed Technol Wing, Trivandrum 695012, Kerala, India

*J Indian Chem Soc* 1997 74 (3) 254

A filter paper based sensing element to detect  $\beta$ -cyclodextrin in aqueous and biological fluid

Yamagaki T, Ishizuka Y, Kawabata S, Nakanishi H\*\* \*Natl Inst Biosci & Human Technol, 1-1 Higashi, Tsukuba, Ibaraki 305, Japan

*Rapid Commun Mass Spectrom* 1997 11 (5) 527

Analysis of glycosidic linkages in saccharide compounds by post-source decay fragment methods in matrix-assisted laser desorption/ionization time-of-flight mass spectroscopy

Yim DK, Park YH, Park YH\*\* \*State Univ Campinas, Coll Food Engr, CP 6177, Campinas, Brazil

*Starch* 1997 49 (2) 75

Production of branched cyclodextrins by reverse reaction of microbial debranching enzymes

Zhang Y, Huang XZ// Xiamen Univ, Environm Sci Res Ctr, Xiamen 361005, Peoples Rep China

*Acta Chim Sin* 1997 55 (1) 69

Study on the formation of 2:2 inclusion complexes between  $\alpha$ -bromonaphthalene and  $\beta$ -cyclodextrin in aqueous solution by fluorimetry

## 6 LIGNIN

Dalimova GN// Uzbek Acad Sci, Inst Bot Chem, Tashkent, Uzbekistan

*Khim Prir Soedin* 1996 (6) 954

Alkali hydrolysis of natural lignin of cotton plant stems in the presence of demethylated lignin (Russian)

Ferraz A, Souza JA, Silva FT, Goncalves AR, Bruns RE, Cotrim AR\*, Wilkins RM// \*Engr Quim Lorena, Dept Biotecnol, CP 116, BR-12600-000 Lorena, SP, Brazil

*J Agr Food Chem* 1997 45 (3) 1001

Controlled release of 2,4-D from granule matrix formulations based on six lignins

Kondratcnok BM, Luksha VG, Stalyugin VV, Politova NK// Inst Biol, Komi

- Sci Ctr, Syktyvkar, Russia  
*Russ J Appl Chem-Eng Tr* 1996 **69** (7) 1055  
 Study of liquid products of carbonization of hydrolytic lignin by gas chromatography/mass spectrometry
- Sun R, Lawther JM, Banks WB// Univ Coll Nth Wales, Biocomposite Ctr, Bangor LL57 2UW, Wales  
*Ind Crops Products* 1997 **6** (1) 1  
 A tentative chemical structure of wheat straw lignin
- Vinzant TB, Ehrman CI, Adney WS, Thomas SR, Himmel ME// \*Nat'l Renewable Energy Lab, Alternat Fuels Div, Appl Biol Sci Sect, 1617 Cole Blvd, Golden, Co 80401, USA  
*Appl Biochem Biotech* 1997 **62** (1) 99  
 Simultaneous saccharification and fermentation of pretreated hardwoods: Effects of native lignin content

## 7 LIPOPOLYSACCHARIDES

- Arbatsky NP, Shashkov AS, Widmalm G\*, Knirel YA, Zych K, Sidorczyk Z// \*Univ Stockholm, Arrhenius Lab, Dept Organ Chem, S-10691 Stockholm, Sweden  
*Carbohydr Res* 1997 **298** (3) 229  
 Structure of the O-specific polysaccharide of *Proteus penneri* strain 25 containing N-(L-alanyl) and multiple O-acetyl groups in a tetrasaccharide repeating unit
- Cedzynski M, Knirel YA\*, Amano KI, Swierczko AS, Paramonov NA, Senchenkova SN, Kaca W// \*Zelinskii Organ Chem Inst, Leninskii pr 47, Moscow 117913, Russia  
*Biochemistry-Engl Tr* 1997 **62** (1) 15  
 Structural and serological studies of the O-antigen of the bacterium *Proteus vulgaris* OX2 (serogroup O2) used in the Weil-Felix test
- Datta AK, Basu S\*// \*Indian Assoc Cultivat Sci, Dept Biol Chem, Calcutta 700032, India  
*Biochem Arch* 1997 **13** (1) 29  
 Chemical characterisation of the lipopolysaccharide from enteropathogenic *Escherichia coli* O125
- Haseley SR, Holst O, Brade H// Ctr Med Biosci, Res Ctr Borstel, Div Biochem Microbiol, Parkallee 22, D-23845 Borstel, Germany  
*Eur J Biochem* 1997 **244** (3) 761  
 Structural and serological characterisation of the O-antigenic polysaccharide of the lipopolysaccharide from *Acinetobacter haemolyticus*, strain ATCC 17906
- Kondo S, Kawamata Y, Sano Y, Iguchi T, Hisatsune K// Josai Univ, Dept Microbiol, Sakado, Saitama 35002, Japan  
*Syst Appl Microbiol* 1997 **20** (1) 1  
 A chemical study of the sugar composition of the polysaccharide portion of lipopolysaccharides isolated from *Vibrio cholerae* non-O1 from O2 to O155
- Landersjö C, Weintraub A, Widmalm G\*// \*Univ Stockholm, Arrhenius Lab, Dept Organ Chem, S-10691 Stockholm, Sweden  
*Eur J Biochem* 1997 **244** (2) 449  
 Structural analysis of the O-antigenic polysaccharide from the enteropathogenic *Escherichia coli* O142
- Medgyes A, Farkas E, Liptak A\*, Pozsgay V// \*Lajos Kossuth Univ, Inst Biochem, H-4010 Debrecen, Hungary  
*Tetrahedron* 1997 **53** (12) 4159  
 Synthesis of the monosaccharide units of the O-specific polysaccharide of *Shigella sonnei*
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