



Bibliography on Carbohydrate Polymers

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Murphy AP//US Bur Reclamat, Denver Fed Ctr, Denver, Co 80225, USA

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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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- Hatfield RD//USDA, ARS, Dairy Forage Res Ctr, 1925 Linden Dr W, Madison, WI 53706, USA

CARBOHYD RES 1991, 212 (JUN) 177

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Huber DJ//Univ Florida, Inst Food & Agr Sci, Dept Vegetable Crops, Gainesville, Fl 32611, USA

PHYTOCHEMISTRY 1991, 30 (8) 2523

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Javeri H, Toledo R, Wicker L//Univ Georgia, Dept Foods Sci & Technol, Athens, Ga 30602, USA

J FOOD SCI 1991, 56 (3) 739

Vacuum infusion of citrus pectinmethylesterase and calcium effects on firmness of peaches

Marcelin O, Saulnier L, Brillouet JM**/INRA, Inst Prod Vigne, Polymeres & Tech Phys Chim Lab, 2 Place Viala, F-34060 Montpellier, France

CARBOHYD RES 1991, 212 (JUN) 159

Extraction and characterisation of water-soluble pectic substances from guava (*Psidium guajava* L)

Schonfeld A, Benke U//Zent Inst Ernährung, Arthur Scheunert Allee 114-116, O-1505 Bergholz, FRG

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Schopplein E, Dietrich H//Forsch Anstalt Geisenheim Fachgebiet Wein Anal & Getranke Forsch, von Lade Str 1, W-6222 Geisenheim, FRG

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Characterization of polysaccharide degrading enzymes in a technical pectinase preparation (German, English Abstract)

Druzhinina TN, Streshinskaya GM, Goshadze MS, Shibaev VN, Naumova IB//ND Zelinskii Organ Chem Inst, Moscow, USSR

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Structural studies on the linkage unit between teichoic acid and peptidoglycan in cell wall of *Streptomyces chrysomallus* sp-2 and biosynthesis of its tetrasaccharide fragment (Russian, English Abstract)

Potekhina NV, Naumova IB*, Shashkov AS, Terekhova LP**/MV Lomonosov State Univ, Dept Microbiol, Antibot Lab, Moscow 119899, USSR

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Martinez MJ, Alconada MT, Guillen F, Vazquez C, Reyes F//CSIC, Dept Microbiol Apli, Ctr Invest Biol, Velazquez 144, E-28006 Madrid, Spain

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McKay AM//Dept Agr North Ireland, Div Food & Agr Microbiol Res, Belfast BT9 5PX, North Ireland

LETT APPL MICROBIOL 1991, 13 (2) 71

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Woo JT, Miura S, Murakawa S, Endo A**/Tokyo Noko Univ, Dept Appl Biol Sci, 3-5-8 Saiwan cho, Fuchu, Tokyo 183, Japan

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Bornschein M, Luders F//Humboldt Univ, Fachbereich Chem, Goethestr 54, O-112 Berlin, FRG

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Anai H, Sakaguchi Y, Emi Y, Kohnoe S, Machara Y*, Sugimachi K//Kyushu Univ, Fac Med, Dept Surg 2, Fukuoka 812, Japan

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Freitag R, Scheper T*, Spreinat A, Antranikian G**/Univ Hanover, Inst Tech Chem, Callinstr 3, W-3000 Hanover 1, FRG

APPL MICROBIOL BIOTECHNOL 1991, 35 (4) 471

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West TP, Reedhamer B//S Dakota State Univ, Dept Chem, Olson Biochem Labs, Brookings, SD 57007, USA

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Ability of *Aureobasidium pullulans* to synthesize pullulan upon selected sources of carbon and nitrogen

Jansson PE, Lindberg B, Ogunlesi M, Orebamjo T//Univ Stockholm, Arrhenius Lab, Dept Organ Chem, S-10691 Stockholm, Sweden

CARBOHYD RES 1991, 214 (2) 281

Structural studies of a rhamnogalacturonan from the stipules of *Mussaenda cercropoides*

Chai YL, Ott DB, Cash JN**/Michigan State Univ, Dept Food Sci & Human Nutr, 139 Food Sci Bldg, E Lansing, Mi 48824, USA

J FOOD PROCESS PRESERV 1991, 15 (3) 197

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Silvestri S, Gabrielson G//Univ Pittsburgh, Dept Pharmaceut Sci, 712 Salk Hall, Pittsburgh, Pa 15261, USA

INT J PHARM 1991, 73 (2) 163

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Christensen BE, Smidsrod O//Univ Trondheim, Nth, Norwegian Biopolymer Lab, Div Biotechnol, N-7034 Trondheim, Norway

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Aspinall GO, Capek P, Carpenter RC, Gowda DC, Szafrancik J//York Univ, Dept Chem, N York, Ontario, Canada M3J 1P3

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Bachmann SL, McCarthy AJ**/Univ Liverpool, Dept Genet & Microbiol, POB 147, Liverpool L69 3BX, England

APPL ENVIRON MICROBIOL 1991, 57 (8) 2121

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Pellerin P, Gosselin M, Lepoutre JP, Samain E, Debeire P**/INRA, Technol Alimentaire Stn, BP 39, F-59651 Villeneuve Dasq, France

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Simpson HD, Hauffler UR, Daniel RM*//Univ Waikato, Dept Biol Sci, Thermophile & Microbial Biochem & Biotechnol Unit, Dept Biol Sci, Hamilton, New Zealand

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Smith DC, Bhat KM, Wood TM*//Rowett Res Inst, Bucksburn AB2 9SB, Aberdeen, Scotland

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Xylan-hydrolysing enzymes from thermophilic and mesophilic fungi

7 POLYSACCHARIDES - OTHER

Annisson G//CSIRO, Div Human Nutr, Glenelg Lab, Majors Rd, Challoran Hill, SA 5158, Australia

J AGR FOOD CHEM 1991, 39 (7) 1252

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Beynon LM, Richards JC*, Perry MD//Natl Res Council Canada, Inst Biol Sci, Ottawa, Ontario, Canada K1A 0R6

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Dongowski G, Kruse HP, Petrzika M, Bock W//Zent Inst Ernährung, Arthur Scheunert Allee 114-116, O-1505 Bergholz, FRG

NAHRUNG 1991, 35 (5) 455

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Dusterhoft EM, Voragen AGJ*, Engels FM//Agr Univ Wageningen, Dept Food Sci, POB 8129, 6700 EV Wageningen, The Netherlands

J SCI FOOD AGR 1991, 55 (3) 411

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Jacques I, Dubray G*//INRA, Pathol Reprod Stn, F-37380 Nouzilly, France

VACCINE 1991, 9 (8) 559

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Rongved P, Klaveness J*//Hafslund Nycomed AS, Corp Res & Dev, POB 5010 Majorstua, N-0301 Oslo 3, Norway

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Selin MM//Biotekhnika Sci Ind Assoc, Moscow, USSR

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Tanaka NG, Sakamoto N, Korenaga H, Inoue K, Ogawa H, Osada Y//Daiichi Pharmaceut Co Ltd, Res Inst, Tokyo 134, Japan

INT J RADIAT BIOL 1991, 60 (1-2) 79

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Usmanov TI//Tashkent Cotton Cellulose Chem & Technol Res Inst, Tashkent, Uzbekistan, USSR

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Wang JZ, Mao XJ, Ito H, Shimura K//Mie Univ, Sch Med, Dept Pharmacol, Tsu, Mie 514, Japan

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Wenger JD, Pierce R, Deaver KA, Plikaytis BD, Facklam RR, Broome CV//Ctr Dis Control, Meningitis & Special Pathogens Branch, Bldg 1, Room 4413, C09, Atlanta, Ga 30333, USA

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Efficacy of *Haemophilus influenzae* type-B polysaccharide-diphtheria toxoid conjugate vaccine in United States children aged 18-59 months

Zamparo O, Comper WD*//Monash Univ, Dept Biochem, Clayton, Vic 3168, Australia

CARBOHYD RES 1991, 212 (JUN) 193

The hydrodynamic frictional coefficient of polysaccharides - Their role of the glycosidic linkage

8 LIPOPOLYSACCHARIDES

Karl DW, Magnusson JC, Carr PW, Flickinger MC*//Univ Minnesota, Dept Biochem, St Paul, Mn 55108, USA

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Ohno N, Tanida N, Yadomae T//Tokyo Coll Pharm, Immunopharmacol Microbial Prod Lab, 1432-1 Horinouchi, Hachioji, Tokyo 19203, Japan

CARBOHYD RES 1991, 214 (1) 115

Characterization of complex formation between lipopolysaccharide and lysozyme

Oxley D, Wilkinson SG//Univ Hull, Sch Chem, Hull HU6 7RX, England

CARBOHYD RES 1991, 212 (JUN) 187

Structure of the O21 antigen from *Serratia marcescens*

Oxley D, Wilkinson SG//Univ Hull, Sch Chem, Hull HU6 7RX, England

CARBOHYD RES 1991, 212 (JUN) 213

Structure of a mannan isolated from the lipopolysaccharide of the reference strain (S3255) for a new serogroup of *Serratia marcescens*

Vinogradov EV, Kaca W, Rozalski A, Shashkov AS, Cedzynski M, Knirel YA*, Kochetkov NK//^{*}ND Zelinskii Organ Chem Inst, Leninsky Prospekt 47, Moscow USSR

EUR J BIOCHEM 1991, 200 (1) 195

Structural and immunochemical studies of O-specific polysaccharide of *Proteus vulgaris* 5/43 belonging to OX19 group (O-variants)

Vinogradov EV, Shashkov AS, Knirel YA*, Zdorovenko GM, Solyanik LP, Gvozdyak RI//^{*}ND Zelinskii Organ Chem Inst, Moscow, USSR

CARBOHYD RES 1991, 212 (JUN) 295

Somatic antigens of pseudomonads - Structure of the O-specific polysaccharide chain of *Pseudomonas syringae* pv *Syringae* (Cerasi) 435 lipopolysaccharide

Shashkov AS, Vinogradov EV, Daeva ED, Knirel YA*, Zdorovenko GM, Gubanov NY, Yakovleva LM, Zakharova IY//^{*}ND Zelinskii Organ Chem Inst, Moscow, USSR

CARBOHYD RES 1991, 212 (JUN) 301

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CARBOHYD RES 1991, 212 (JUN) 313

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CARBOHYD RES 1991, 214 (2) 289

Structure of the O-antigen of *Francisella tularensis* strain-15

9 STARCH

Bertoft E//Abo Akad Univ, Dept Biochem & Pharm, Porthansgatan 3, SF-20500 Turku 50, Finland

CARBOHYD RES 1991, 212 (JUN) 229

Investigation of the fine structure of alpha-dextrins derived from amylopectin and their relation to the structure of waxy-maize starch

Bertoft E//Abo Akad Univ, Dept Biochem & Pharm, Porthansgatan 3, SF-20500 Turku 50, Finland

CARBOHYD RES 1991, 212 (JUN) 245

Chains of intermediate lengths in waxy-maize amylopectin

Dais P, Marchessault RH*//^{*}McGill Univ, Dept Chem, 3420 Univ St, Montreal, Quebec, Canada H3A 2A7

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

STARCH 1991, 43 (7) 262

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Alvarez VB, Smith DM*, Flegler S//^{*}Michigan State Univ, Dept Food Sci & Human Nutr, 106 Food Sci Bldg, E Lansing, MI 48824, USA

FOOD STRUCT 1991, 10 (2) 153

Effect of extruder die temperature on texture and microstructure of restructured mechanically deboned chicken and corn starch

Chopin T, Hanisak MD, Koehn FE//Univ New Brunswick, Div Sci, Marine & Estuarine Res Grp, POB 5050, St John, NB, Canada E2L 4L5

BOT MAR 1991, 34 (4) 369

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Ciesla K, Gwardys E, Zoltowski T//Inst Nucl Chem Technol, Dept Struct Res, Dorodna 16, PL-03195 Warsaw, Poland

STARCH 1991, 43 (7) 251

Changes of relative crystallinity of potato starch under gamma irradiation

Deboer ED//Amer Maize Prod Co, 1100 Indianapolis Blvd, Hammond, IN 46320, USA

CEREAL FOOD WORLD 1991, 36 (8) 631

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De Floor I, De Geest C, Schellekens M, Martens A, Delcour JA//Katholieke Univ Leuven, Toegepaste Organ Scheikunde Lab, Kardinaal Mercierlaan 92, B-3001 Heverlee, Belgium

CEREAL CHEM 1991, 68 (4) 323

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Dormann K//Bischof Klein GmbH & Co, Postfach 1160, W-4540 Engerich, FRG

ZUCKERINDUSTRIE 1991, 116 (7) 620

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Hansen LM, Hosney RC, Faubion JM//Kansas State Univ Agr & Appl Sci, Dept Grain Sci & Ind, Manhattan, KS 66506, USA

CEREAL CHEM 1991, 68 (4) 347

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Hebeish A, Refai R, Ragheb A, Abdelthalouth I//Tech Univ Budapest, Dept Biochem & Food Technol, PF 91, H-1502 Budapest, Hungary

STARCH 1991, 43 (7) 273

Factors affecting the technological properties of starch carbamate

Hoover R, Rorke SC, Martin AM//Mem Univ Newfoundland, Dept Biochem, St Johns, Newfoundland, Canada A1B 3X9

J FOOD BIOCHEM 1991, 15 (2) 117

Isolation and characterization of lima bean (*Phaseolus lunatus*) starch

Khalil MI, Farag S, Hebeish A//Nat'l Res Ctr, Textile Res, Cairo, Egypt

STARCH 1991, 43 (7) 254

Preparation and characterization of cation exchange starches contain-

ing carboxyl groups

Maroulis ZB, Shah KK, Saravacos GD//Rutgers State Univ, Dept Food Sci, New Brunswick, NJ 08903, USA
J FOOD SCI 1991, 56 (3) 773

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Marousis SN, Karathanos VT*, Saravacos GD//Rutgers State Univ, Dept Food Sci, New Brunswick, NJ 08903, USA
J FOOD PROCESS PRESERV 1991, 15 (3) 183

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Mok C, Dick JW//N Dakota State Univ, Dept Cereal Sci & Food Technol, Fargo, ND 58105, USA
CEREAL CHEM 1991, 68 (4) 405

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Mok C, Dick JW//N Dakota State Univ, Dept Cereal Sci & Food Technol, Fargo, ND 58105, USA
CEREAL CHEM 1991, 68 (4) 409

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Pfeffer E, Beckmann-Toussaint J, Henrich-Freise B, Jansen HD//Univ Bonn, Inst Tierernahrung, W-5300 Bonn 1, FRG
AQUACULTURE 1991, 96 (3-4) 293

Effect of extrusion on efficiency of utilization of maize starch by rainbow trout (*Oncorhynchus mykiss*)

Rongved P, Lindberg B, Klaveness J*//Hafslund Nycomed AS, Corp Res & Dev, POB 5010 Majorstua, N-0301 Oslo 3, Norway
CARBOHYD RES 1991, 214 (2) 325

Cross-linked, degradable starch microspheres as carriers of paramagnetic contrast agents for magnetic resonance imaging - Synthesis, degradation, and relaxation properties

Tuan YH, Phillips RD//Univ Georgia, Dept Food Sci & Technol, Agr Exptl Stn, Griffin, Ga 30223, USA
CEREAL CHEM 1991, 68 (4) 413

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Yiu SH, Weisz J, Wood PJ//Address not available
CEREAL CHEM 1991, 68 (4) 372

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Zhuge Q, Persaud JN, Posner ES, Deyoe CW, Seib PA, Chung DS//Kansas State Univ Agr & Appl Sci, Dept Grain Sci & Ind, Manhattan, Ks 66506, USA
CEREAL CHEM 1991, 68 (4) 336

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10 STARCH-DEGRADING ENZYMES

Candussio A, Schmid G, Bock A*//Univ Munich, Lehrstuhl Mikrobiol, Maria Ward Str 1A, W-8000 Munich 19, FRG
EUR J BIOCHEM 1991, 199 (3) 637

Comparative study of the structure function relationship of wild-type and structurally modified maltopentaose-producing amylase

Cheng C, Udaka S*//Nagoya Univ, Fac Agr, Dept Food Sci & Technol, Nagoya, Aichi 464, Japan
AGR BIOL CHEM TOKYO 1991, 55 (7) 1817

Efficient production of taka-amylase-A by *Trichoderma viride*

El-Hawary FI//El Mansoura Univ, Fac Agr, Dept Agr Bot, Mansoura, Egypt

ACTA ALIMENT 1991, 20 (2) 85

Purification and characterization of alpha-amylase produced by a thermophilic isolate of *Bacillus coagulans*

Heese O, Hansen G, Hohne WE, Korner D//Humboldt Univ, Inst Biochem, O-1040 Berlin, FRG

BIOMED BIOCHIM ACTA 1991, 50 (3) 225

Purification and characterization of a thermostable alpha-amylase from *Thermoactinomyces vulgaris* (German, English Abstract)

Horn CH, Dupreez JC*, Kilian SG//Univ Orange Free State, Dept Microbiol & Biochem, Bloemfontein 9300, South Africa

SYST APPL MICROBIOL 1991, 14 (3) 299

Selective isolation of amylase derepressed mutants of *Schwanniomyces occidentalis*

Iwata K, Hiromi K, Ohnishi M*//Kyoto Univ, Coll Agr, Dept Food Sci & Technol, Kyoto 606, Japan

STARCH 1991, 43 (7) 280

Spectrophotometry on the change in conformation of bacterial alpha-amylase, characterized with 6M urea

Monet R, Gibault B//INRA, Ctr Rech Bordeaux, Arboriculture Fruitiere Stn, F-33140 Pont de la Maye, France

AGRONOMIE 1991, 11 (5) 353

Alpha-amylase polymorphism in peach - A genetic study (French, English Abstract)

Ogawa K, Murata T, Usui T*//Shizuoka Univ, Fac Agr, Dept Appl Biol Chem, Oya, Shizuoka 422, Japan

CARBOHYD RES 1991, 212 (JUN) 289

Maltotetraose-forming amylase-mediated, P-nitrophenyl alpha-maltopentaoside and beta-maltopentaoside formation in an aqueous-organic solvent system - A substrate for human amylase in serum

Ramesh MV, Lonsane BK*//Cent Food Technol Res Inst, Fermentat Technol & Bioengn Discipline, Mysore 570013, Karnataka, India

APPL MICROBIOL BIOTECHNOL 1991, 35 (5) 591

Ability of a solid state fermentation technique to significantly minimize catabolic repression of alpha-amylase production by *Bacillus licheniformis*-M27

Svegmark K, Hermansson AM//Swedish Inst Food Res, POB 5401, S-40229 Gothenberg, Sweden

FOOD STRUCT 1991, 10 (2) 117

Distribution of amylose and amylopectin in potato starch pastes - Effects of heating and shearing

Tada S, Gomi K*, Kitamoto K, Kumagai C, Tamura G, Hara S//Natl Res Inst Brewing, 2-6-30 Takinogawa, Kita ku, Tokyo 114, Japan

AGR BIOL CHEM TOKYO 1991, 55 (7) 1939

Identification of the promoter region of the taka-amylase-A gene required for starch induction

Takasaki Y, Shinohara H, Tsuruhisa M, Hayashi S, Imada K//Miyazaki Univ, Fac Engn, Dept Ind Chem, 1-1 Nishigakuen kibanadai, Miyazaki 88921, Japan

AGR BIOL CHEM TOKYO 1991, 55 (7) 1715

Studies of enzymatic production of oligosaccharides. 7. Maltotetraose-producing amylase from *Bacillus* sp MG-4

Warner DA, Grove MJ, Knutson CA//USDA ARS, Natl Ctr Agr Utilizat Res, Seed Biosynth Res Unit, 1815 N Univ St, Peoria, IL 61604, USA

CEREAL CHEM 1991, 68 (4) 383

Isolation and characterization of alpha-amylases from endosperm of germinating maize

Ali S, Hossain Z//Univ Dhaka, Dept Biochem, Dhaka 1000, Bangladesh

J APPL BACTERIOL 1991, 71 (2) 144

Characteristics of glucoamylase from *Aspergillus terreus*

Ghosh A, Chatterjee B, Das A*//Bose Inst, Dept Microbiol, 93-1 Apc Rd, Calcutta 700009, W Bengal, India

BIOTECHNOL LETT 1991, 13 (7) 515

Production of glucoamylase by 2-deoxy-D-glucose resistant mutant of *Aspergillus terreus*. 4.

Ghosh A, Chatterjee B, Das A*//Bose Inst, Dept Microbiol, 93-1 Apc Rd, Calcutta 700009, W Bengal, India

J APPL BACTERIOL 1991, 71 (2) 162

Purification and characterization of glucoamylase of *Aspergillus terreus* NA-170 mutant

Kuek C//Univ Western Sydney, Sch Business & Technol, POB 555, Campbelltown, NSW 2560, Australia

APPL MICROBIOL BIOTECHNOL 1991, 35 (4) 466

Production of glucoamylase using *Aspergillus phoenicus* immobilized in calcium alginate beads

Ohnishi H, Sakai H, Ohta T//Univ Tokyo, Dept Agr Chem, Bunkyo ku, Tokyo 113, Japan

AGR BIOL CHEM TOKYO 1991, 55 (7) 1901

Purification and some properties of a glucoamylase from *Clostridium* sp G0005

Rastall RA, Adlard MW, Bucke C//Polytech Cent London, Sch Biol & Hlth Sci, 115 New Cavendish St, London W1M 8JS, England

BIOTECHNOL LETT 1991, 13 (7) 501

Synthesis of hetero-oligosaccharides by glucoamylase in reverse

Specka U, Mayer F, Antranikian G*//Techn Univ Hamburg, Arbeitsbereich Biotechnol 1, Denickestr 15, W-2100 Hamburg 90, FRG

APPL ENVIRON MICROBIOL 1991, 57 (8) 2317

Purification and properties of a thermoactive glucoamylase from *Clostridium thermosaccharolyticum*

Wawrzyniak B, Krauze J*//Acad Econ, Inst Commod Sci, AL Niepodleglosci 10, PL-60967 Poznan, Poland

STARCH 1991, 43 (7) 283

Glucoamylase covalently bound to acrylic carriers