



CONTENTS OF VOLUME 20

Number 1

A model of starch gelatinization linking differential scanning calorimetry and birefringence measurements	1
H. LIU & J. LELIEVRE (Canada)	
Biochemical significance of exogenous chitins and chitosans in animals and patients.	7
R. A. A. MUZZARELLI (Italy)	
Raw and extruded fibre from pea hulls. Part 1: Composition and physico-chemical properties	17
M.-C. RALET, G. DELLA VALLE & J.-F. THIBAUT (France)	
Raw and extruded fibre from pea hulls. Part 2: Structural study of the water-soluble polysaccharides	25
M.-C. RALET, L. SAULNIER & J.-F. THIBAUT (France)	
The isolation and characterization of a water extract of konjac flour gum	35
S. A. JACON, M. A. RAO, H. J. COOLEY & R. H. WALTER (USA)	
Design of D-glucose analogue of MDP/CM-curdan conjugate and its immunological enhancement activity	43
Y. OHYA, T. NISHIMOTO & T. OUCHI (Japan)	
Evolution of polymer mobility during ageing of gelatinized waxy maize starch: a magnetization transfer ¹ H NMR study	51
J. Y. WU & T. M. EADS (USA)	
Summaries of UK Patent Applications	61
News and Views	63
Bibliography	65
Book Reviews	75

Number 2

Review Paper	
Carbohydrate polymers in desert reclamation: the potential of microalgal biofertilizers	77
T. J. PAINTER (Norway)	
Studies on the simultaneous determination of acidic and neutral sugars of plant cell wall materials by HPLC of their methyl glycosides after combined methanolysis and enzymic prehydrolysis	87
B. QUEMENER, M. LAHAYE & J.-F. THIBAUT (France)	
Alkali-modification of carrageenans: mechanism and kinetics in the kappa/iota-, mu/nu- and lambda-series	95
M. CIANCIA (Argentina), M. D. NOSEDA (Brazil), M. C. MATULEWICZ & A. S. CEREZO (Argentina)	
Preparation and characteristic properties of 5-methyl pyrrolidinone chitosan	99
R. A. A. MUZZARELLI, P. ILARI & M. TOMASETTI (Italy)	
The effect of fructose and water on the glass transition of amylopectin	107
M. T. KALICHEVSKY & J. M. V. BLANSHARD (UK)	

Isolation and chemical characterization of water-soluble mixed-linked β -glucans and arabinoxylans in oat milling fractions E. WESTERLUND, R. ANDERSSON & P. ÅMAN (Sweden)	115
Comparison of the properties of dextran and hydroxyethyl starch substituted with benzene tetracarboxylate in terms of their use in blood transfusion M. L. HUGUET, F. PROUCHAYRET, M. GRANDGEORGE, & E. DELLACHERIE (France)	125
Effect of oxidative browning of apple pulp on the chemical and enzymatic extraction of cell wall polysaccharides C. E. MISSANG, P. MASSIOT, A. BARON & J. F. DRILLEAU (France)	131
Site specific binding of calcium ions to anionic chitin derivatives Y. URAKI, T. FUJII, T. MATSUOKA, Y. MIURA & S. TOKURA (Japan)	139
News and Views	145
Bibliography	147
Book Reviews	157

Number 3

Degradation of arabinans by arabinanases from <i>Aspergillus aculeatus</i> and <i>Aspergillus niger</i> . G. BELDMAN, M. J. F. SEARLE-VAN LEEUWEN, G. A. DE RUITER, H. A. SILIHA & A. G. J. VORAGEN (The Netherlands)	159
Variability in starch extracted from taro S. N. MOORTHY, P. K. THANKAMMA PILLAI & M. UNNIKRISHNAN (India)	169
Effects of pH and DMSO content on the thermal and rheological properties of high methoxyl pectin–water gels M. WATASE & K. NISHINARI (Japan)	175
Conformational changes of hyaluronates with partial palmitoylation and the adsorption structures on the surface of oil droplets Y. KAWAGUCHI, K. MATSUKAWA & Y. ISHIGAMI (Japan)	183
How brittle are gels? C. G. OATES (Singapore), P. W. LUCAS (Hong Kong) & W. P. LEE (Singapore)	189
Enzymic and chemical degradation of some industrial pectins T. P. KRAVTCHENKO, M. PENCI, A. G. J. VORAGEN & W. PILNIK (The Netherlands)	195
Effect of cations on heat degradation of chelator-soluble carrot pectin T. SAJJAANANTAKUL, J. P. VAN BUREN & D. L. DOWNING (USA)	207
Water-soluble yellow mustard (<i>Sinapis alba</i> L.) polysaccharides: partial characterization, molecular size distribution and rheological properties W. CUI, N. A. M. ESKIN & C. G. BILIADERIS (Canada)	215
Bibliography on carbohydrate polymers	227
Book reviews	237

Number 4

Preparation and biodegradability of chitin derivatives having mercapto groups K. KURITA, H. YOSHINO, S.-I. NISHIMURA & S. ISHII (Japan)	239
A chemical approach to the quantitative determination of carboxymethyl cellulose in industrial samples E. H. M. MELO (Brazil) & J. F. KENNEDY (UK)	247

<i>Contents of Volume 20</i>	319
Rheology and fracture of mixed ι - and κ -carrageenan gels: Two-step gelation A. PARKER, G. BRIGAND, C. MINIOU, A. TRESPOEY & P. VALLEE (France)	253
A new approach for estimating the crosslink density of covalently crosslinked ionic polysaccharide gels S. T. MOE, A. ELGSAETER, G. SKJÅK-BRÆK & O. SMIDSRØD (Norway)	263
The role of the structure on the molecular size and conformation of (1–4) and (1–6) linked polysaccharide L. TAO & N. K. MATHESON (Australia)	269
Preparation of low-molecular-weight chitosan using phosphoric acid M. HASEGAWA, A. ISOGAI & F. ONABE (Japan)	279
A new chromatographic procedure for separation of typical λ -type molecular species from commercial λ -carrageenan T. YAMADA, A. OGAMO & Y. NAKAGAWA (Japan)	285
Thermal properties of polysaccharides at low moisture: 1—An endothermic melting process and water–carbohydrate interactions I. A. M. APPELQVIST, D. COOKE, M. J. GIDLEY & S. J. LANE (UK)	291
Bibliography on carbohydrate polymers	301
Book reviews	315