



Volume 104, 15 April 2014

ISSN 0144-8617

Editors

J.F. Kennedy

J.R. Mitchell

Associate Editors

R.A.A. Muzzarelli

M.A. Coimbra

K.J. Edgar

Carbohydrate Polymers

SCIENTIFIC AND TECHNOLOGICAL ASPECTS OF
INDUSTRIALLY IMPORTANT POLYSACCHARIDES

Available online at www.sciencedirect.com

ScienceDirect



Vol. 104, 15 April 2014

CONTENTS

(Abstracted/indexed in: BIOSIS (Biological Abstracts); Chemical Abstracts; Current Contents/Agriculture, Biology, Environmental Sciences; Engineering Index; Food Science and Technology Abstracts; Polymer Contents; Process and Chemical Engineering; Science Citation Index; SciSearch; Theoretical Chemical Engineering). Also covered in the abstract and citation database SCOPUS®. Full text available on ScienceDirect®.

- 1 Structural changes and triacetin migration of starch acetate film contacting with distilled water as food simulant
J. ZHU, X. LI, C. HUANG, L. CHEN, L. LI (China)
- 8 Enhanced adsorption of methyl violet and congo red by using semi and full IPN of polymethacrylic acid and chitosan
J. MAITY, S.K. RAY (India)
- 17 Effect of N-pyridinium positions of quaternized chitosan on transfection efficiency in gene delivery system
W. SAJOMSANG, P. GONIL, U.R. RUKTANONCHAI, M. PETCHSANGSAI, P. OPANASOPIT, S. PUTTIPIPATKHACHORN (Thailand)
- 23 Determination of M/G ratio of propylene glycol alginate sodium sulfate by HPLC with pre-column derivatization
J. WU, X. ZHAO, L. REN, Y. XUE, C. LI, G. YU, H. GUAN (China)
- 29 Glucoxylan-mediated green synthesis of gold and silver nanoparticles and their phyto-toxicity study
F. IRAM, M.S. IQBAL, M.M. ATHAR, M.Z. SAEED, A. YASMEEN, R. AHMAD (Pakistan)
- 34 Monosaccharide composition of glycans based on Q-HSQC NMR
G.L. SASSAKI (Brazil), M. GUERRINI (Italy), R.V. SERRATO, A.P. SANTANA FILHO, J. CARLOTTO, F. SIMAS-TOSIN, T.R. CIPRIANI, M. IACOMINI (Brazil), G. TORRI (Italy), P.A.J. GORIN (Brazil)
- 42 Effects of β -cyclodextrin on selected properties of electrospun thermoplastic polyurethane nanofibres
E.P. AKÇAKOCA KUMBASAR, Ç. AKDUMAN, A. ÇAY (Turkey)
- 50 Characterization of a new biodegradable edible film made from salep glucomannan
A. KURT, T. KAHYAOGU (Turkey)
- 59 All-cellulose nanocomposite film made from bagasse cellulose nanofibers for food packaging application
M. GHADERI, M. MOUSAVI, H. YOUSEFI, M. LABBAFI (Iran)
- 66 Rheological and biochemical properties of *Solanum lycocarpum* starch
M.C.B. DI-MEDEIROS, A.M. PASCOAL, K.A. BATISTA, P.Z. BASSINELLO, L.M. LIÃO, M.I.G. LELES, K.F. FERNANDES (Brazil)
- 73 Preparation, optimization and application of affinity absorbent with a polysaccharide YCP as the ligand
R. DING, Y. ZHOU, X. ZHANG, R. ZHU, W.-B. YAO, X.-D. GAO (PR China)
- 80 Optimization of extraction process and antioxidant activity of polysaccharides from leaves of *Paris polyphylla*
S. SHEN, D. CHEN, X. LI, T. LI, M. YUAN, Y. ZHOU, C. DING (China)
- 87 Graft copolymers of natural fibers for green composites
V.K. THAKUR (USA), M.K. THAKUR, R.K. GUPTA (India)
- 94 The influence of the six constituent xanthan repeating units on the order-disorder transition of xanthan
M.M. KOOL, H. GRUPPEN (The Netherlands), G. SWORN (France), H.A. SCHOLS (The Netherlands)
- 101 Water-induced shape-memory poly(D, L-lactide)/microcrystalline cellulose composites
Y. LIU, Y. LI, H. CHEN, G. YANG, X. ZHENG, S. ZHOU (PR China)
- 109 Effect of γ -rays on carboxymethyl chitosan for use as antioxidant and preservative coating for peach fruit
A.M. ELBARBARY, T.B. MOSTAFA (Egypt)
- 118 Optimization on preparation conditions of *Rehmannia glutinosa* polysaccharide liposome and its immunological activity
Y. HUANG, C. WU, Z. LIU, Y. HU, C. SHI, Y. YU, X. ZHAO, C. LIU, J. LIU, Y. WU, D. WANG (PR China)
- 127 Characterization and rheological study of the galactomannan extracted from seeds of *Cassia grandis*
P.B.S. ALBUQUERQUE, W. BARROS Jr, G.R.C. SANTOS, M.T.S. CORREIA, P.A.S. MOURÃO (Brazil), J.A. TEIXEIRA (Portugal), M.G. CARNEIRO-DA-CUNHA (Brazil)
- 135 Functionalized celluloses and their nanoparticles: Morphology, thermal properties, and solubility studies
P.R. SHARMA, A.J. VARMA (India)
- 143 Reinforcement of all-cellulose nanocomposite films using native cellulose nanofibrils
J. ZHAO, X. HE, Y. WANG, W. ZHANG, X. ZHANG (China), X. ZHANG, Y. DENG (USA), C. LU (China)
- 151 Controlled release of diclofenac sodium through acrylamide grafted hydroxyethyl cellulose and sodium alginate
A.A. AL-KAHTANI (Yemen), B.S. SHERIGARA (India)

- 158 Study of osteogenic differentiation of human adipose-derived stem cells (HASCs) on bacterial cellulose
S. ZANG, Q. ZHUO, X. CHANG, G. QIU, Z. WU, G. YANG (China)
- 166 Solid dispersion of efavirenz in PVP K-30 by conventional solvent and kneading methods
L.D.S. ALVES, M.F. DE LA ROCA SOARES, C.T. DE ALBUQUERQUE, É.R. DA SILVA, A.C.C. VIEIRA, D.A.F. FONTES, C.B.M. FIGUEIRÊDO, J.L. SOARES SOBRINHO, P.J. ROLIM NETO (Brazil)
- 175 Konjac glucomannan, a promising polysaccharide for OCDDS
C. ZHANG, J.-D. CHEN, F.-Q. YANG (People's Republic of China)
- 182 The structural features of hemicelluloses dissolved out at different cooking stages of active oxygen cooking process
J. SHI, Q. YANG, L. LIN (China)
- 191 Enhancement of cell viability by fabrication of macroscopic 3D hydrogel scaffolds using an innovative cell-dispensing technique supplemented by preosteoblast-laden micro-beads
H. LEE, S. AHN, W. CHUN, G. KIM (South Korea)
- 199 Enhanced production of cellulose degrading CMCase by newly isolated strain of *Aspergillus versicolor*
S. QAISAR, R.R. ZOHRA, A. AMAN, S.A.U. QADER (Pakistan)
- 204 Isolation and characterization of extracellular polysaccharide Thelebolan produced by a newly isolated psychrophilic Antarctic fungus *Thelebolus*
S.K. MUKHOPADHYAY, S. CHATTERJEE, S.S. GAURI, S.S. DAS, A. MISHRA, M. PATRA, A.K. GHOSH, A.K. DAS, S.M. SINGH, S. DEY (India)
- 213 Complex microparticulate systems based on glycidyl methacrylate and xanthan
M.-A. LUNGAN, M. POPA (Romania), J. DESBRIERES (France), S. RACOVITA, S. VASILIU (Romania)
- 223 Physico-chemical properties and thermal stability of microcrystalline cellulose isolated from Alfa fibres
D. TRACHE (Algeria), A. DONNOT (France), K. KHIMECHE (Algeria), R. BENELMIR, N. BROSSE (France)
- 231 Chitosan-triphosphate nanoparticles for encapsulation of super-paramagnetic iron oxide as an MRI contrast agent
C. SANJAI, S. KOTHAN, P. GONIL, S. SAESOO, W. SAJOMSANG (Thailand)
- 238 Development of controlled release tablet by optimizing HPMC: Consideration of theoretical release and RSM
N.R. PANI, L.K. NATH (India)
- 246 *Pleurotus nebrodensis* polysaccharide induces apoptosis in human non-small cell lung cancer A549 cells
H. CUI, C. WANG, Y. WANG, Z. LI, Y. ZHANG, M. CHEN, F. LI (China)