

Polish Chitin Society

**PROGRESS ON CHEMISTRY
AND APPLICATION
OF CHITIN AND ITS DERIVATIVES**

Volume XV

**Lodz, Poland
2010**

All rights reserved

Editor-in-Chief: Malgorzata M. Jaworska

Faculty of Chemical and Process Engineering,
Warsaw University of Technology,
ul. Warynskiego 1, 00-645 Warsaw, Poland
e-mail: jaworska@ichip.pw.edu.pl

International Editors:

R. Brzezinski; Faculty of Science, University of Sherbrooke, Canada
S. Minami; Department of Veterinary Surgery, Tottori University, Japan
H. Pospieszny; Institute of Plant Protection, Poland
G. A. F. Roberts; University of Nottingham, United Kingdom
S. Senel; Faculty of Pharmacy, Hacettepe University, Turkey
V. Varlamov; Russian Academy of Science, Russia

ISSN 1896-5644

©Copyright by the Polish Chitin Society

Printed by: Media-Press, Lodz, Poland

CONTENTS

Ivan Sorokoumov, Ivan Zagorskiy, Darya Zagorskaya, Vladimir Uryash, Nadezhda Kokurina, Vera Larina, Sergei Nemtsev - Physicochemical properties of chitin isolated from shell of industrial crabs of various species	5
Katarzyna Lewandowska - Thermal and atomic force microscopy (AFM) studies of microcrystalline chitosan/poly(vinyl alcohol) mixtures .	11
Dagmara Bajer, Halina Kaczmarek - Study of the influence OV UV radiation on biodegradable blends based on chitosan and starch	17
Magdalena Gierszewska-Drużyńska, Jadwiga Ostrowska-Czubenko - The effect of ionic crosslinking on thermal properties of hydrogel chitosan membranes	25
Jadwiga Ostrowska-Czubenko, Milena Pieróg - State of water in citrate crosslinked chitosan membrane	33
Denis V. Kurek, Sergey A. Lopatin, Vladimir E. Tikhonov, Valery P. Varlamov - New affinity sorbents for purification of recombinant proteins with the use of chitin-binding domain as an affinity tag	41
Paweł P. Sobiecki, Barbara Pabin-Szafko - New homogeneous blends of dibutylchitin and aliphatic polyesters	47
Anna Wojtasz-Pająk - Chitosan dichloroacetic acid salts	55
Zofia Modrzejewska, Roman Zarzycki, Jan Sielski - Synthesis of silver nanoparticles in a chitosan solution	63
Katarzyna Zielińska, Alexandre G. Chostenko, Stanisław Truszkowski - Adsorption of cadmium ions on chitosan membranes: Kinetics and equilibrium studies	73
Urszula Filipkowska, Joanna Rodziejcz, Renata Sobotka - Effect of ph value and adsorbent concentration on the effectiveness of adsorption onto chitin and chitosan	79
Simon Mazengarb, George A F Roberts, Frances A Wood - Studies on the Dyeing of Chitin and Chitosan with Pre-metallised Dyes at Neutral pH	87
Michał Tylman, Maria Mucha - Porous chitosan structures for medical applications	97
Iwona Michalak, Dariusz Traczyk, Maria Mucha - Kinetics of active substance release from flat biopolymer multilayer films	107
Jacek Balcerzak, Maria Mucha - Analysis of model drug release kinetics from complex matrices of polylactide-chitosan	117

Jan Meler - Influence of different kinds of chitosan on bioavailability of anti-inflammatory drugs	127
Katarzyna Małolepsza-Jarmołowska - The effect of selected polymers on the properties of thermosensitive hydrophilic gels containing lactic acid complexed with chitosan	135
Katarzyna Małolepsza-Jarmołowska - The effect of poloxamer 407 on the properties of hydrophilic gels containing lactic acid complexed with chitosan	143
Jan Ignacak, Jacek Zagajewski, Iwona Pałka, Maria Wiśniewska-Wrona, Antoni Niekraszewicz - The effect of chitosan on the synthesis of l-s-nitrosocysteine that participates in the regulation of the M2 pyruvate kinase isoenzyme activity associated with ehrlich ascites cells proliferation <i>in vitro</i>	149
Iwona Kardas, Wiesław Marcol, Antoni Niekraszewicz, Magdalena Kucharska, Danuta Ciechańska, Dariusz Wawro, Joanna Lewin-Kowalik, Adam Właszczuk - Utilization of biodegradable polymers for peripheral nerve reconstruction	159
Magdalena Kucharska, Danuta Ciechańska, Antoni Niekraszewicz, Maria Wiśniewska-Wrona, Iwona Kardas - Potential use of chitosan – based materiale in medicine	169
Katarzyna Struszczyk, Mirosława Szczęsna-Antczak, Emilia Pomianowska, Łukasz Stańczyk, Justyna Wojciechowska, Tadeusz Antczak - Process of continuous production of oligoaminosaccharides in a column reactor	179
Renata Miłtko, Grzegorz Bełżecki, Anna Kasperowicz, Tadeusz Michałowski - Isolation and purification of chitinolytic enzymes of rumen ciliates <i>Eudiplodinium maggii</i>	191
Malgorzata M. Jaworska - Kinetics of thermal deactivation of chitin deacetylase	199
Guide for Manuscript Preparation	207