
Contents

1 Introduction: Challenges and Opportunities in Building a Multinational, Interdisciplinary Research and Education Network on Polysaccharides	1
Julie Navard and Patrick Navard	
2 Etymology of Main Polysaccharide Names	13
Pierre Avenas	
3 Polysaccharides: Molecular and Supramolecular Structures. Terminology.	23
Thomas Heinze, Katrin Petzold-Welcke, and Jan E.G. van Dam	
4 Chemical Characterization of Polysaccharides	65
Axel Rußler, Anna Bogolitsyna, Gerhard Zuckerstätter, Antje Potthast, and Thomas Rosenau	
5 Preparation and Properties of Cellulose Solutions	91
Patrick Navard, Frank Wendler, Frank Meister, Maria Bercea, and Tatiana Budtova	
6 Cellulose Products from Solutions: Film, Fibres and Aerogels	153
Frank Wendler, Thomas Schulze, Danuta Ciechanska, Ewa Wesolowska, Dariusz Wawro, Frank Meister, Tatiana Budtova, and Falk Liebner	
7 Polysaccharide Fibres in Textiles	187
Lidija Fras Zemljic, Silvo Hribernik, Avinash P. Manian, Hale B. Öztürk, Zdenka Peršín, Majda Sfiligoj Smole, Karin Stana Kleinscheck, Thomas Bechtold, Barbora Široká, and Ján Široký	
8 Cellulose and Other Polysaccharides Surface Properties and Their Characterisation	215
Karin Stana-Kleinschek, Heike M.A. Ehmman, Stefan Spirk, Aleš Doliška, Hubert Fasl, Lidija Fras-Zemljíč, Rupert Kargl, Tamilselvan Mohan, Doris Breitwieser, and Volker Ribitsch	
9 Pulp Fibers for Papermaking and Cellulose Dissolution	253
Pedro Fardim, Tim Liebert, and Thomas Heinze	
10 Cellulose: Chemistry of Cellulose Derivatization	283
Thomas Heinze, Andreas Koschella, Tim Liebert, Valeria Harabagiu, and Sergio Coseri	

11 Chitin and Chitosan as Functional Biopolymers for Industrial Applications	329
Iwona Kardas, Marcin Henryk Struszczyk, Magdalena Kucharska, Lambertus A.M. van den Broek, Jan E.G. van Dam, and Danuta Ciechańska	
12 Polysaccharide-Acting Enzymes and Their Applications . . .	375
Anu Koivula, Sanni Voutilainen, Jaakko Pere, Kristiina Kruus, Anna Suurnäkki, Lambertus A.M. van den Broek, Robert Bakker, and Steef Lips	
Index	393



<http://www.springer.com/978-3-7091-0420-0>

The European Polysaccharide Network of Excellence
(EPNOE)

Research Initiatives and Results

Navard, P. (Ed.)

2012, XII, 401 p., Hardcover

ISBN: 978-3-7091-0420-0