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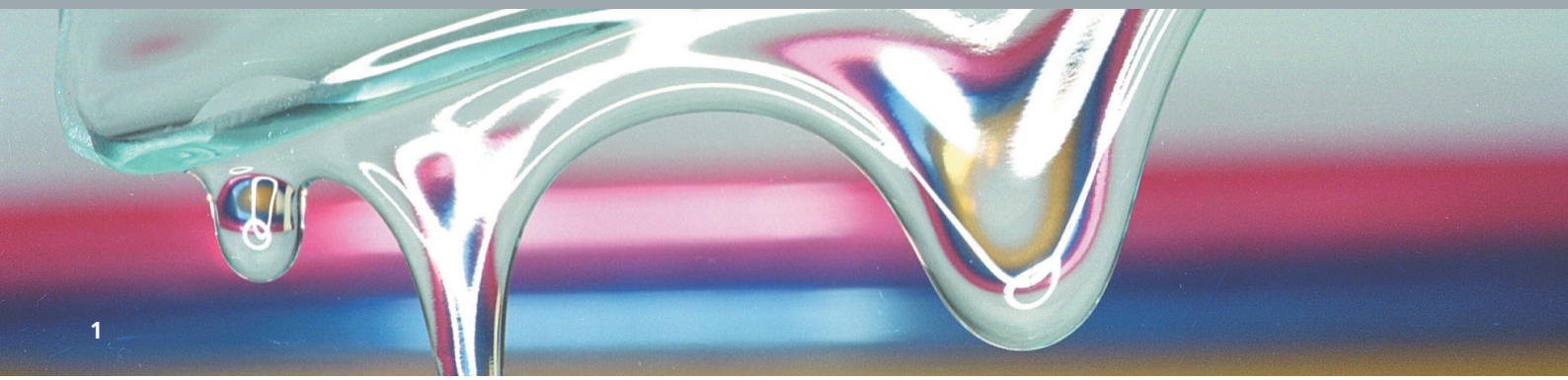

1 *Starch solution.*

ENZYMATIC MODIFICATION OF STARCH

Fraunhofer Institute for Applied Polymer Research IAP

Science Park Potsdam-Golm
Geiselbergstr. 69
14476 Potsdam-Golm

Contact

Dr. Sylvia Radosta
Phone +49 331 568-1608
sylvia.radosta@iap.fraunhofer.de

Dr. Waltraud Vorwerg
Phone +49 331 568-1609
waltraud.vorwerg@iap.fraunhofer.de

www.iap.fraunhofer.com

pioneers in polymers

A method for the preparative-scale production of amylose from starch was developed. Wrinlked pea starch was chosen as the starting material because the amylose content of this starch is especially high. The main steps of the process were the production of a molecularly dispersed starch solution by pressure cooking in the autoclave and by debranching the amylopectin with the industrial enzyme Promozym® by Novozymes. The evolving product contained amylose and the oligosaccharides of the branched amylopectin. The amylose was complexed with butanol and separated by centrifugation from the solution while the oligosaccharides remained in the solution. The butanol was eliminated by reflux boiling of the sediment in water. Afterwards the amylose was precipitated with ethanol and dried.

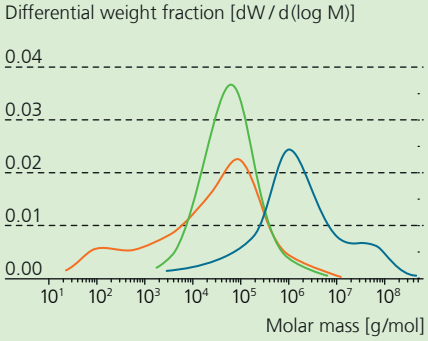

Abb. 1 Molar mass distributions of wrinkled pea starch after cooking in the autoclave, after enzymatic debranching and after complexing the amylose.

In Fig. 1 the molar mass distributions of the base starch, after debranching and of amylose after complex formation are presented.

W. Vorwerg, S. Radosta, E. Leibnitz: *Study of a preparative scale process for the production of amylose*, Carbohydrate Polymers 47, p. 181-189 (2002)