

Accepted Manuscript

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PII: S0963-9969(18)30004-8
DOI: <https://doi.org/10.1016/j.foodres.2018.01.004>
Reference: FRIN 7292
To appear in: *Food Research International*
Received date: 6 October 2017
Revised date: 21 December 2017
Accepted date: 5 January 2018

Please cite this article as: Liangqing Zhang, Xianhai Zeng, Nan Fu, Xing Tang, Yong Sun, Lu Lin , Maltodextrin: A consummate carrier for spray-drying of xylooligosaccharides. The address for the corresponding author was captured as affiliation for all authors. Please check if appropriate. Frin(2017), <https://doi.org/10.1016/j.foodres.2018.01.004>

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Maltodextrin: A consummate carrier for spray-drying of xylooligosaccharides

Liangqing Zhang^a, Xianhai Zeng^{a, b, c*}, Nan Fu^d, Xing Tang^{a, b, c}, Yong Sun^{a, b, c}, Lu Lin^{a, b, c*}^a College of Energy, Xiamen University, Xiamen, 361102, China^b Xiamen Key Laboratory of High-valued Conversion Technology of Agricultural Biomass, 361102, China^c Fujian Engineering and Research Center of Clean and High-valued Technologies for Biomass, Xiamen University, Xiamen, 361102, China^d School of Chemical and Environmental Engineering, College of Chemistry, Chemical Engineering and Materials Science, Soochow University, Suzhou City, Jiangsu 215123, China

Abstract

The aim of this study was to evaluate the influence of spray-drying on the powder qualities and microstructures of prebiotic xylooligosaccharides (XOS). The relationships between glass transition temperature (T_g) and XOS retention, moisture content, drying yield as well as specific surface area under different inlet air temperatures and maltodextrin concentrations were investigated. Antioxidant activity retention, hygroscopicity, color attributes, X-ray diffraction (XRD), scanning electron microscopy (SEM) and Fourier transform infrared spectroscopy (FT-IR) of the spray-dried XOS product were also assessed. The results indicated that an increase in inlet air temperature decreased the moisture content, hence the T_g value was increased. Higher maltodextrin concentration increased the T_g

* Corresponding author at: College of Energy, Xiamen University, Xiamen 361102, PR China. Fax: +86 592 2880701.

E-mail addresses: xianhai.zeng@xmu.edu.cn (Xianhai Zeng), lulin@xmu.edu.cn (Lu Lin).

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