



## Purification of oligosaccharides obtained from *Pinus pinaster* hemicelluloses by diafiltration

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Received 30 May 2010; Accepted 27 July 2010

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### ABSTRACT

The aim of this work was to assess the performance of diafiltration as a method for purification of oligosaccharides obtained by autohydrolysis of *Pinus pinaster* wood. *Pinus pinaster* wood hemicelluloses are mainly made up of galactoglucomannans, which were partially hydrolyzed in aqueous treatments (autohydrolysis) performed under suitable operational conditions (isothermal processing at 175°C for 24.5 min). The oligosaccharides present in autohydrolysis liquors obtained under optimal conditions were purified by diafiltration in a dead-end filtration device using a regenerated cellulose membrane (1 kDa MWCO). Continuous diafiltration resulted in increased weight percent of substituted oligosaccharides respect to the total non-volatile solutes (from 79.2% up to 94.7%), as well as in the selective removal of monosaccharides (the substituted oligosaccharides to monosaccharides ratio increased from 4.3 up to 17.8).

*Keywords:* Autohydrolysis; Biomass; Diafiltration; Galactomannans; *Pinus pinaster*

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