Accepted Manuscript

Title: Integrated biorefinery based on hydrothermal and alkaline treatments: Investigation of sorghum hemicelluloses

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PII: S0144-8617(14)00463-9

DOI: http://dx.doi.org/doi:10.1016/j.carbpol.2014.04.099

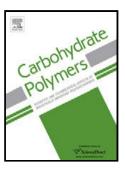
Reference: CARP 8860

To appear in:

Received date: 27-1-2014 Revised date: 19-4-2014 Accepted date: 25-4-2014

Please cite this article as: Sun, S.-L., Wen, J.-L., Ma, M.-G., Song, X.-L., & Sun, R.-C.,Integrated biorefinery based on hydrothermal and alkaline treatments: Investigation of sorghum hemicelluloses, <i>Carbohydrate Polymers</i> (2014), http://dx.doi.org/10.1016/j.carbpol.2014.04.099

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ACCEPTED MANUSCRIPT

1	Integrated biorefinery based on hydrothermal and alkaline
2	treatments: Investigation of sorghum hemicelluloses
3	
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7	
8	Highlights
9	An integrated process based on HTP and alkaline treatments was used to obtain
10	ASHs.
11	The ASH with the highest yield was obtained from HTP residue (130 °C, 1.0 h).
12	The M_w and M_n of the ASHs were decreased as the increasing HTP temperature.
13	ASHs had a more linear and homogeneous structure with the increasing HTP
14	temperature.
15	The isolated ASHs were assumed to be L-arabino-4-O-methyl-D-glucurono-D-xylan.
17	
18	ABSTRACT
19	An integrated process based on hydrothermal pretreatment (HTP) and alkaline
20	post-treatment was proposed to treat sweet sorghum stem. The structural features of
21	the alkali-soluble hemicelluloses (ASHs) obtained from the un-pretreated and
22	hydrothermally pretreated materials were comprehensively investigated by HPAEC,
23	GPC, NMR, FT-IR, and TGA techniques. The ASH with the highest yield (60.6%)
24	was obtained from the HTP residue performed at 130 °C for 1.0 h. All the results

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