



**Supplementary Figure S1.** FT-IR spectra of the hemicellulose obtained from corn cobs. The arrows indicate the characteristic wavenumbers of this polymer.

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1  MKAAVKSLLVLSIYAANVLSAQAASLEHLNNLFHTRQADASNSTDSSSVN 50
51  WNISSSDNSALATPLAGTFYRGGPALADANSPFHPVTGNGGWEWAVVKA 100
101 RSVVGQLTLEEKVNLTAGITGGRCEGTLGRVDRFGIPELCFQDGPAGFRA 150
151 SDFVTVFPAGVTTATWNRDLIYKRAALGAEFVAKGVNVHLGPVTGGPL 200
201 GRSPFQGRNWEGFGPDPYLHGEAAYTVSGTQSAGVISTAKHFLAYEQET 250
251 YRQLYAASDPFTLNPNNTELTYSANLDDRTLHELYLWPFMNAVRAGTGA 300
301 LVCVNRVNSTQGCESSKLLNEILKDELDYQGFVVTDWSAAFNTSNTYNG 350
351 GSDVVMPGGMTGGYKNLVGSDLVRALNAGEVKIERINDGITRLLTQWYL 400
401 RGQDKGYPTVSYKDGYQNTIFNGTVNEHRDVQDHRKIVKEIGEEAVTL 450
451 IYNKRSNKAGPQGNTDFGLGLPLAKKARVAVFGSDAGPNPYGANACQDWI 500
501 GLGSQLCPANATSNGTQAVGWGSGAFFPYLIDPLAGISEVAKENRGAVL 550
551 HNLNDVGDDKNQMYVKQAGLADASLVFVQARSGEDSDRHSLRLDADGDE 600
601 LIKLVASQSNNTIVMHTVGPVLMGDWFDHPNITALVLPHLPGQESGSL 650
651 ARVLGDVNPSGKMPYSMLSDEDAKRYPKIVGSPASDPQVDFYDGLYIDY 700
701 RAWDKMGLKPLIPFGHGISYTNYSYSNLHIQKAGDNCYAPSAFSGSFKSD 750
751 KQPGGPGSLFQYLVEVSADVQNVGAMAGDEVAQLYVGYPEAANAPIKQLR 800
801 GFDKVQGLEPGAASKQATFKLAKRDFSVWDVVKQKFEVDGEYKIWVGKS 850
851 SRMSDLTLKGSVTMQNGMVVGMS 874

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**Supplementary Figure S2.** Predicted theoretical amino acid sequence of  $\beta$ -xylosidase SRBX1 from *S. reilianum*. The signal peptide is underlined, and an arrow indicates the cleavage site. The motive of the glycosyl hydrolases family 3 is indicated in bold letters. The glycosylation sites are highlighted in black. The sequences of the peptides obtained from the sequencing are highlighted in gray.