

Supplementary material:

Discovery of a Novel β -xylosidase with Xylanase Activity and Its Application in the Production of Xylitol from Corncob Xylan

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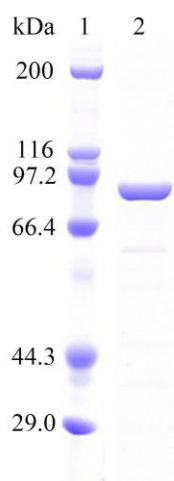


Figure S1. Analysis of the purified XYL4 by SDS-PAGE. Lane 1, molecular mass marker; lane 2, purified protein of XYL4.

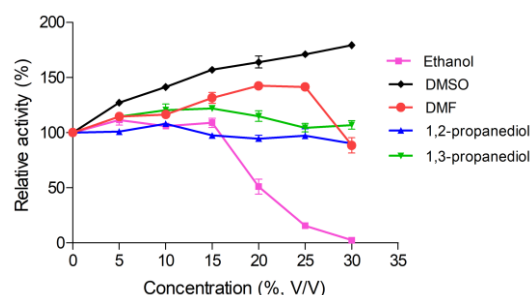
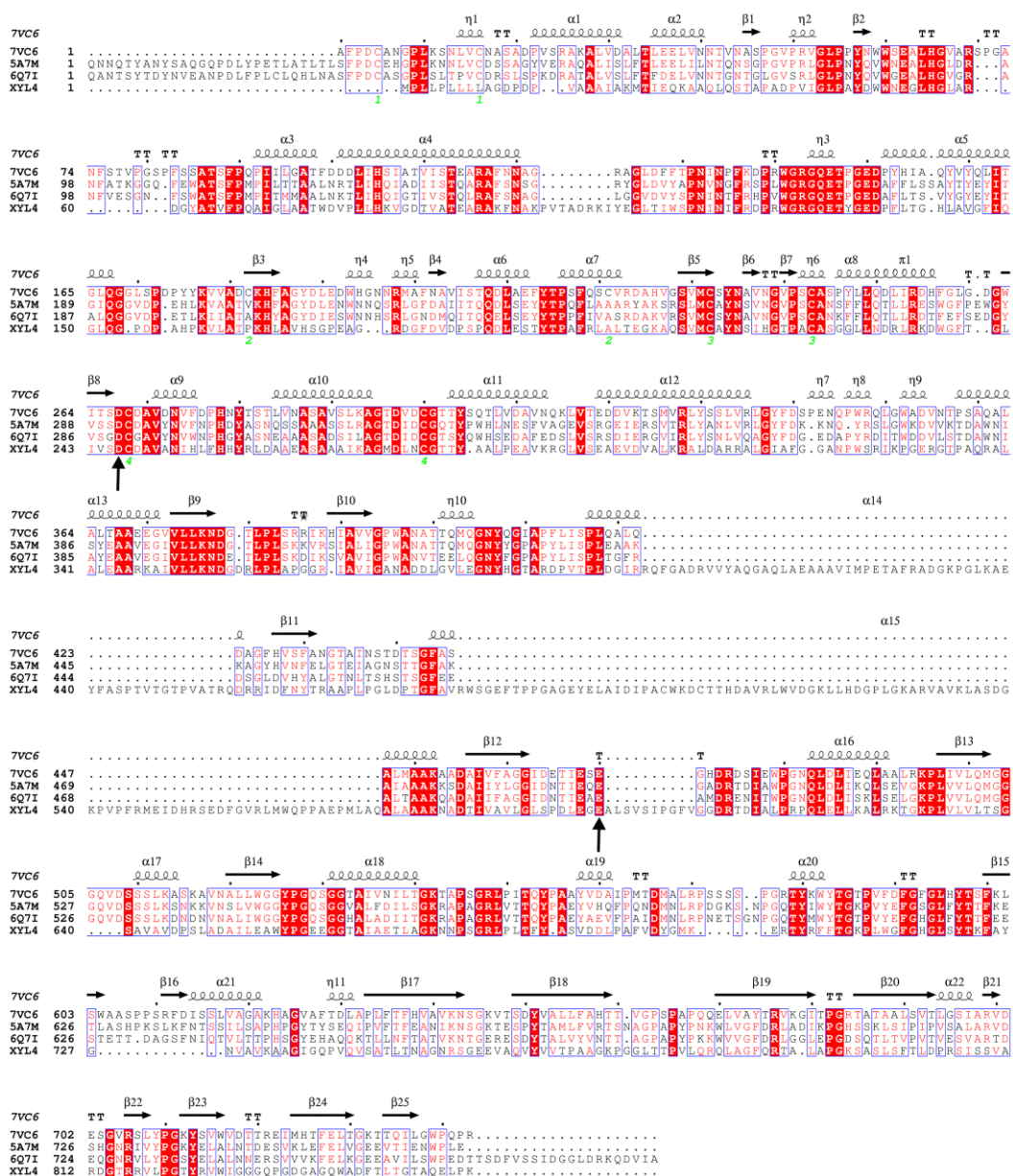
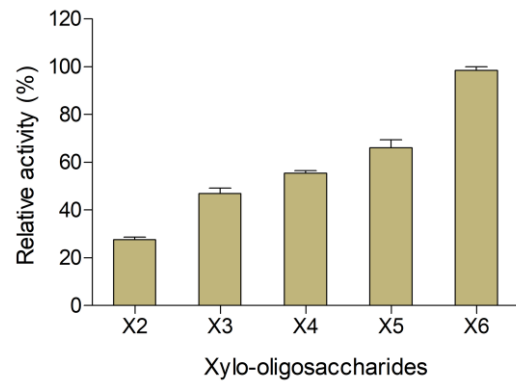


Figure S2. The effect of organic solvents on the activity of XYL4.



were shadowed in red. The predicted active site residues (nucleophile and general acid/base residue) were marked by arrowheads.

Table S1. The effect of carbohydrates, metal ions and chemical solvents on the activity of XYL4.

Effectors	Relative enzyme activity (%)	
	5 mM	20 mM
Carbohydrates		
Glucose	103.44 ± 0.02	89.58 ± 0.01
Xylose	53.97 ± 0.01	27.84 ± 0.02
Fructose	114.46 ± 0.06	100.13 ± 0.02
Arabinose	93.68 ± 0.05	90.30 ± 0.03
Maltose	98.87 ± 0.06	92.40 ± 0.04
Galactose	102.13 ± 0.01	94.21 ± 0.05
Metal ions		
K ⁺	166.95 ± 1.33	172.26 ± 0.04
Ca ²⁺	132.89 ± 0.07	127.24 ± 0.04
Cd ²⁺	156.90 ± 1.04	15.81 ± 1.60
Co ²⁺	199.26 ± 0.74	45.34 ± 1.88
Fe ²⁺	128.05 ± 0.30	117.71 ± 0.74
Zn ²⁺	122.39 ± 0.57	122.7 ± 0.69
Mn ²⁺	104.44 ± 2.82	91.78 ± 0.51
Mg ²⁺	96.68 ± 0.43	98.89 ± 0.83
Cu ²⁺	94.75 ± 0.54	44.55 ± 0.67
Chemical solvents		
Imidazole	96.22 ± 1.50	85.09 ± 1.35
Urea	96.24 ± 1.12	94.67 ± 0.6
DTT	68.38 ± 1.1	64.92 ± 1.69
CTAB	147.14 ± 0.97	132.07 ± 0.18
EDTA	97.80 ± 0.98	90.47 ± 0.64
SDS	0.51 ± 0.02	0