Additional File 1, Supplementary Figures and Tables

Beri et al., Coculture with hemicellulose-fermenting microbes reverses inhibition of corn fiber solubilization by *Clostridium thermocellum* at elevated solids loadings

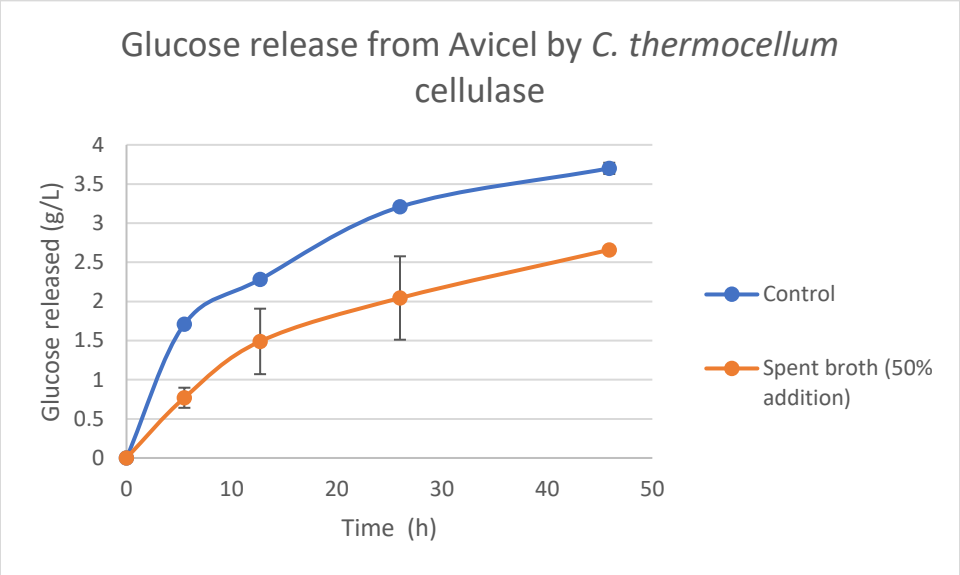

Figure S1- Timecourse of glucose release from Avicel for cellulase assay with the addition of spent broth- 20 mg (cellulase)/g (Avicel) was incubated with 6 g/L Avicel for 50 h. Regular samples were taken to measure the release of glucose by liquid QS.

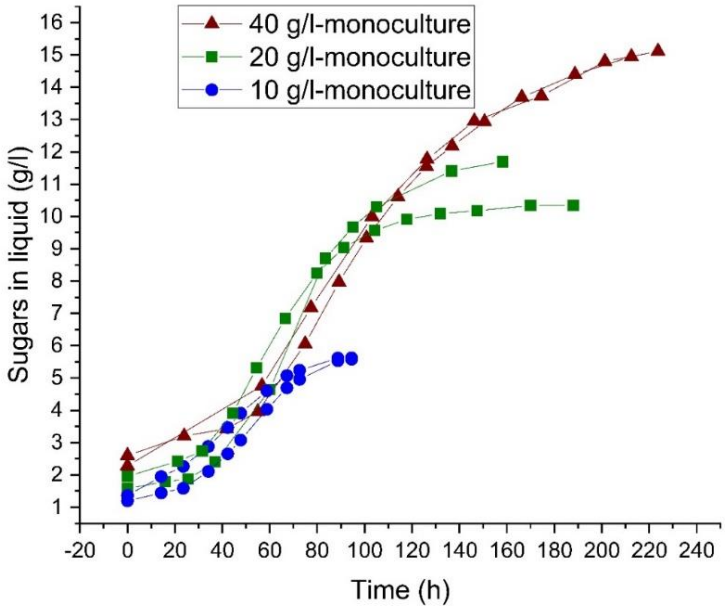

Figure S2- Total sugars in fermentation broth from *C. thermocellum* monoculture reactors on corn fiber, measured by liquid QS.

Monosaccharides	Disaccharides	Oligosaccharides	Polysaccharides
D-Xylose	Sucrose	XOS	Pullulan
Arabinose	Xylobiose	Xyloglucan	Inulin
Glucose	Mannobiose	Glucomannan	Arabinan
Fructose	Maltose	Galactomannan	Wheat AX
D-Galactose	Melibiose	Stachyose	
L-xylose		A^3X	
L-Rhamnose		A^2XX	
D-ribose		Xylotriose	
L-sorbose		Xylotetraose	

Table S1- List of carbohydrates tested for effect on growth rate of *C. thermocellum* on cellobiose. XOS- Xylooligosaccharides, AX- arabinoxylan, A^3X- 3^2-α-L-Arabinofuranosyl-xylobiose, A2XX- 2^3-α-L-Arabinofuranosyl-xylotriose

Sigma-Aldrich	D-Xylose, L-Xylose, Glucose, Fructose, D-galactose, Sucrose, Xylan from Birchwood
Megazyme	Mannobiose, Glucomannan (Konjac;Low Vis), A^3X- 3^2-α-L-Arabinofuranosyl-xylobiose, A2XX- 2^3-α-L-Arabinofuranosyl-xylotriose, Wheat Arabinoxylan (Wheat Flour; Insoluble), Xylotriose, Xylotetraose, Arabinan (Sugar Beet), Xylan from Beechwood
Carbosynth	L-Rhamnose monohydrate, L-Sorbose, Xylobiose, D-Maltose monohydrate, D-Melibiose monohydrate, Inulin, Xyloglucan, Pullulan, D-Galacto-D-mannan- from carob, Stachyose hydrate
TCI America	Xylan from corn core

Table S2- Sources of carbohydrates used in the study

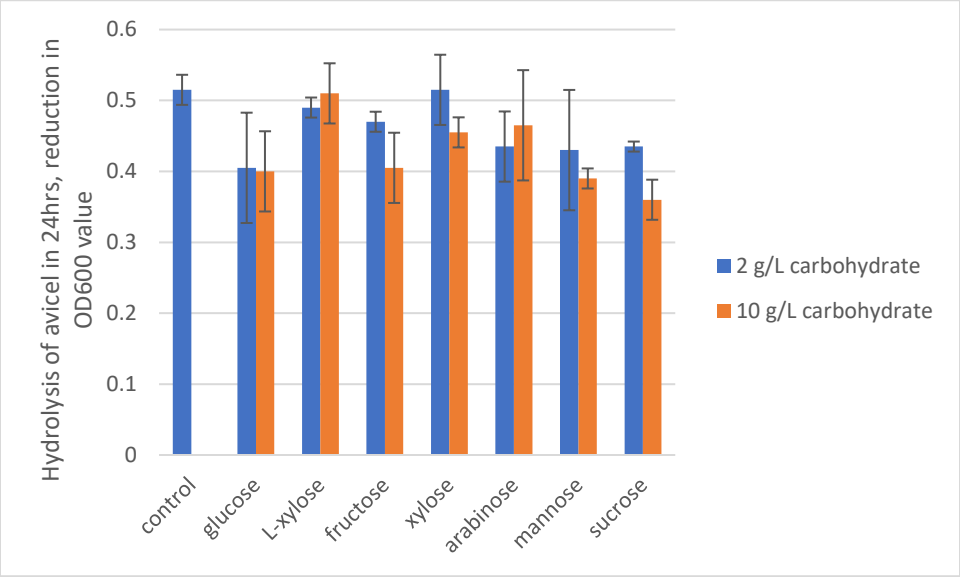

Figure S3- Effect of different monosaccharides on *C. thermocellum* cellulase activity - 1 g/L initial Avicel was incubated with 10 mg/g *C. thermocellum* cellulase enzyme and activity was estimated by measuring the decrease in OD_{600} after 24h. Carbohydrates were added at two different concentrations of 2 g/L and 10 g/L. The error bars show the SD for n=2.

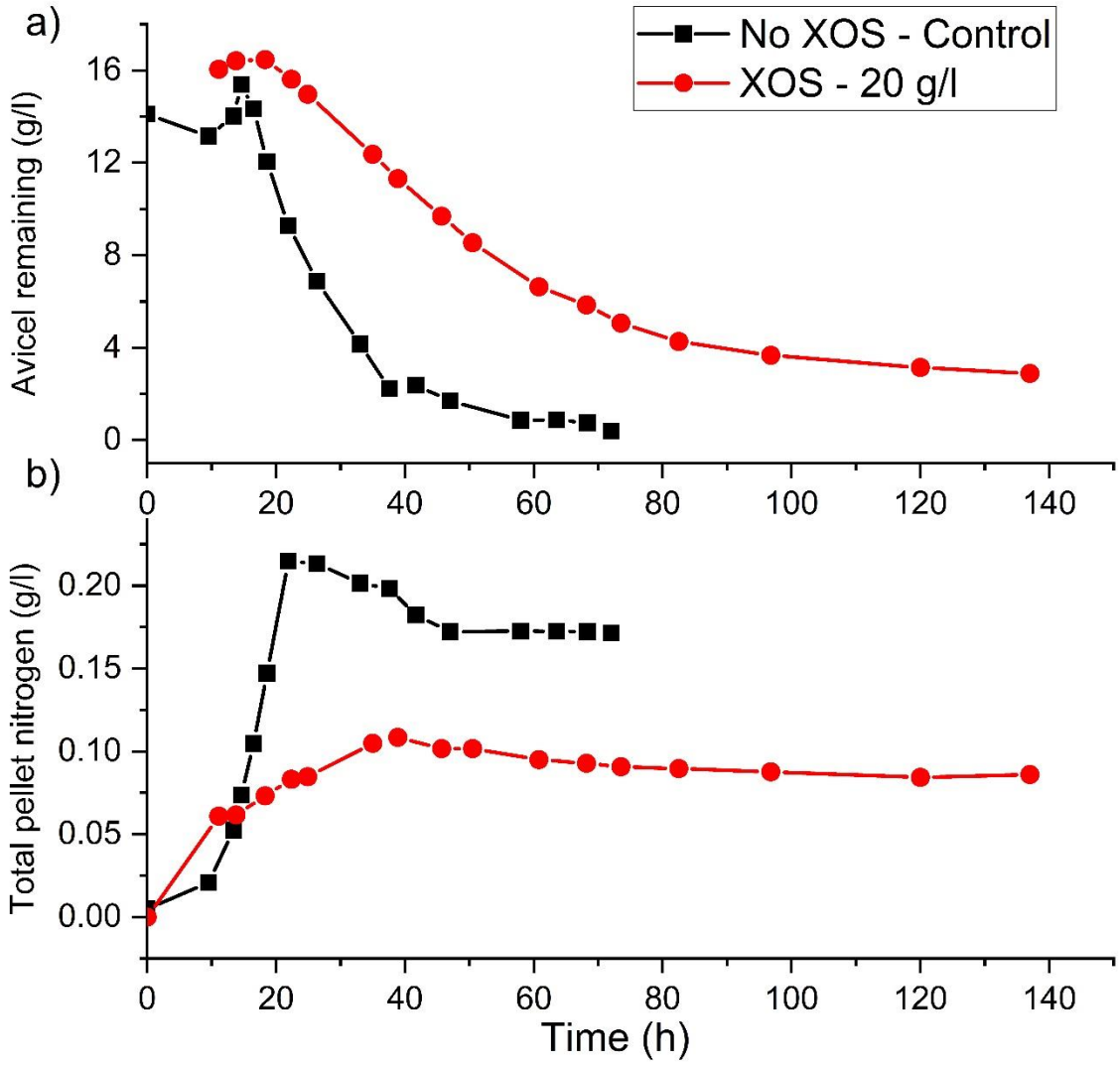

Figure S4- Effect of adding Xylooligosaccharides to *C. thermocellum* Avicel fermentations in bioreactors. Fermentation data from two pH controlled fermentors showing a) Avicel remaining and b) total pellet nitrogen for *C. thermocellum* growth on 20 g/l Avicel with and without the addition of 20 g/l XOS.

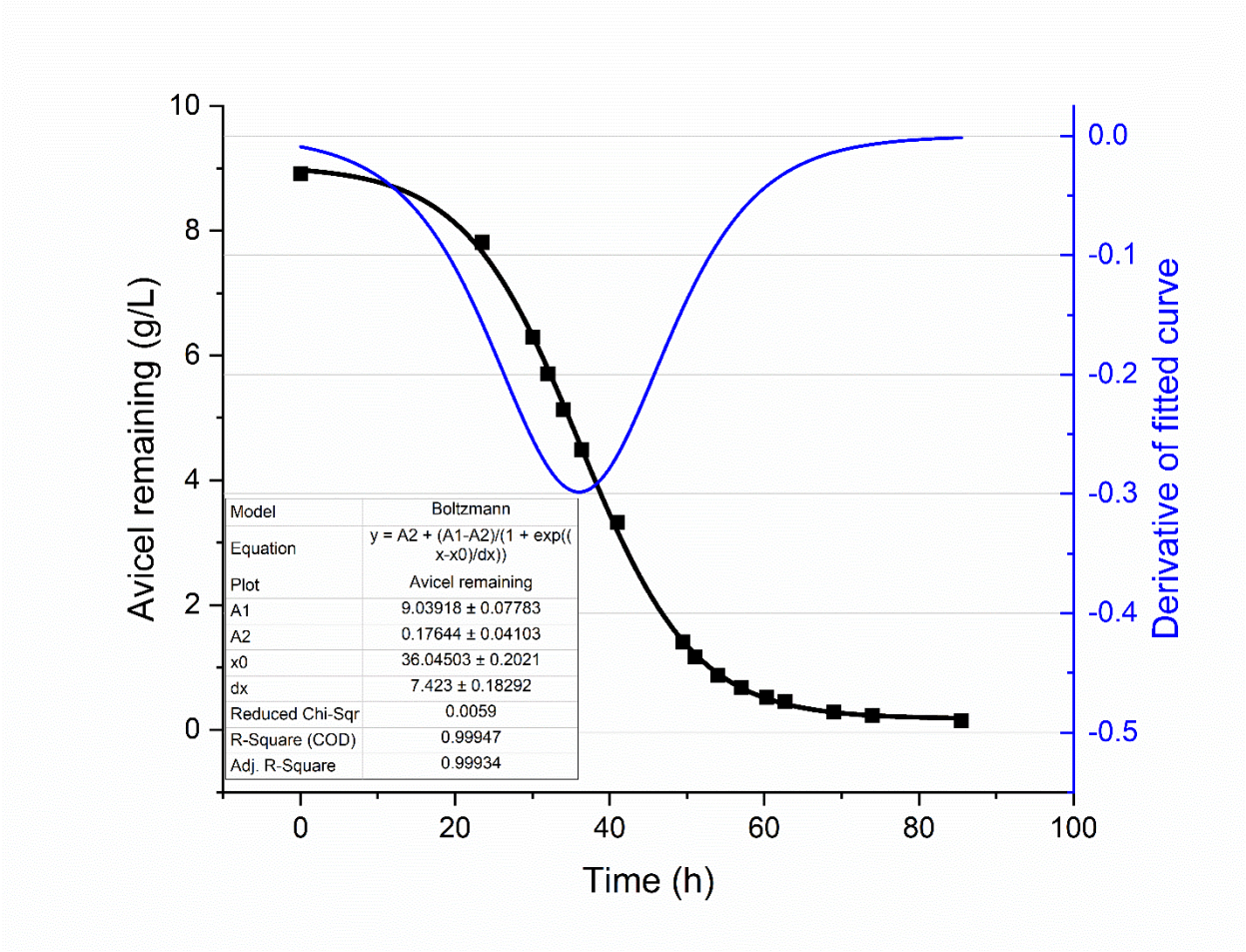

Figure S5- Curve fitting to measure the effect of various carbohydrates on the utilization of Avicel by *C. thermocellum*. Substrate utilization by *C. thermocellum* at 10 g/l Avicel loading was measured using a total carbon and nitrogen (TCN) analyzer. Curves were generated with Boltzmann Sigmoidal fitting and the derivative taken to calculate maximum rate of Avicel utilization. Figure 6 in the main text shows calculated rates with the addition of various carbohydrates at a 10 g/l concentration. The data for one of the control replicates is shown here, and the rest of the data are provided in Additional file 2.

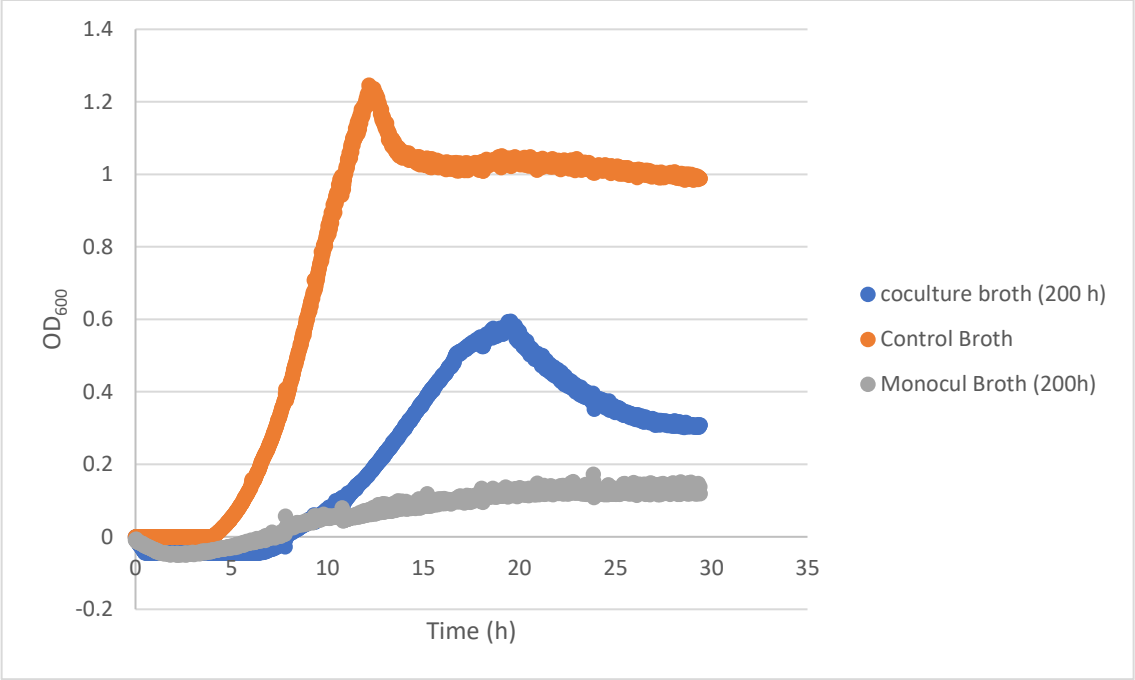

Figure S6- Effect of final spent broth from a corn fiber coculture fermentation on growth of *C. thermocellum* on cellobiose in a plate reader.