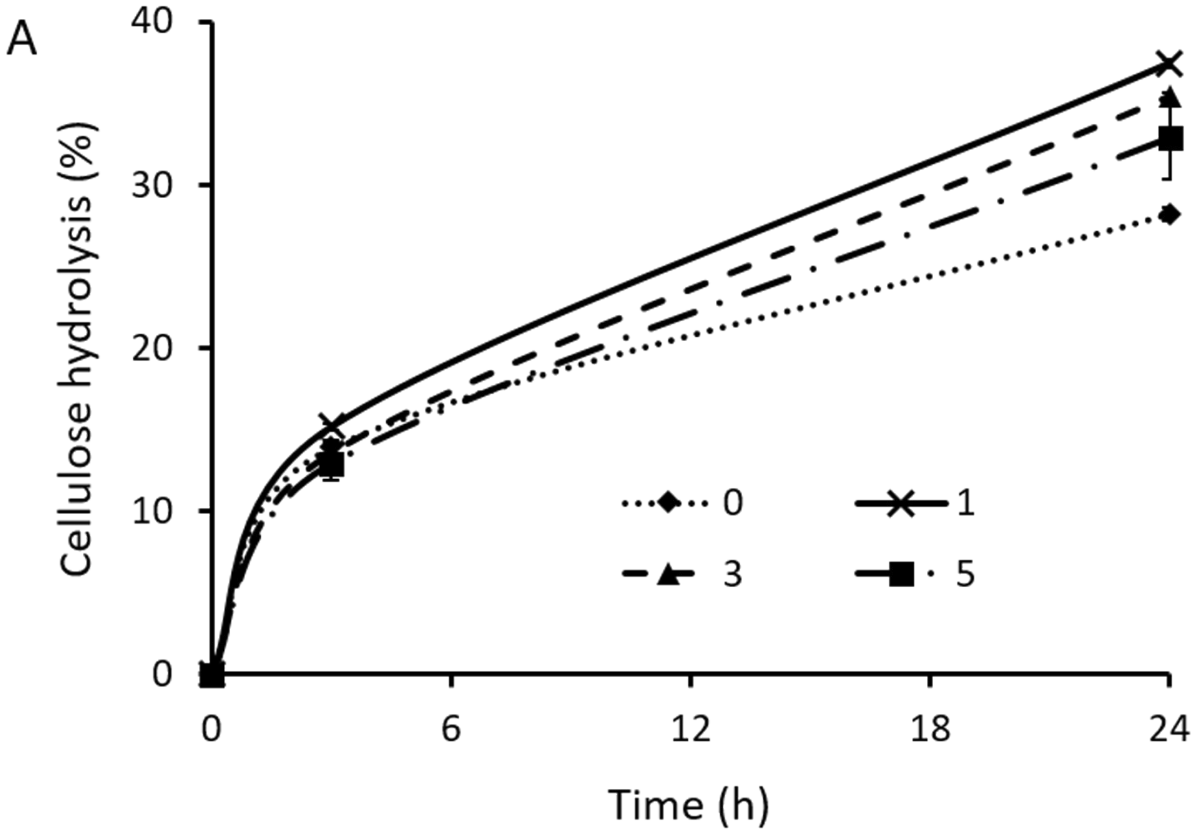
Electronic Supplementary Material (ESI) for Green Chemistry.

Supplementary Information

Table S1. The crystallinity index (CrI) of various cellulosic substrates measured by X-Ray Diffraction (XRD) analysis

	CrI (%)
CNC	83.4 ± 2.9
Avicel	66.1 ± 1.6
DSP	59.0 ± 1.9
PASC	43.2 ± 0.8
Cellulose II	45.2 ± 2.1
Cellulose III	53.1 ± 0.7

CNC: cellulose nanocrystalline; DSP: dissolving pulp; PASC: phosphoric acid swollen cellulose; and mercerized (cellulose II, cellulose III) cellulosic substrates


A
Cellulose hydrolysis (%)
40
30
20
10
0
0
6
12
18
24
Time (h)
0
1
3
5

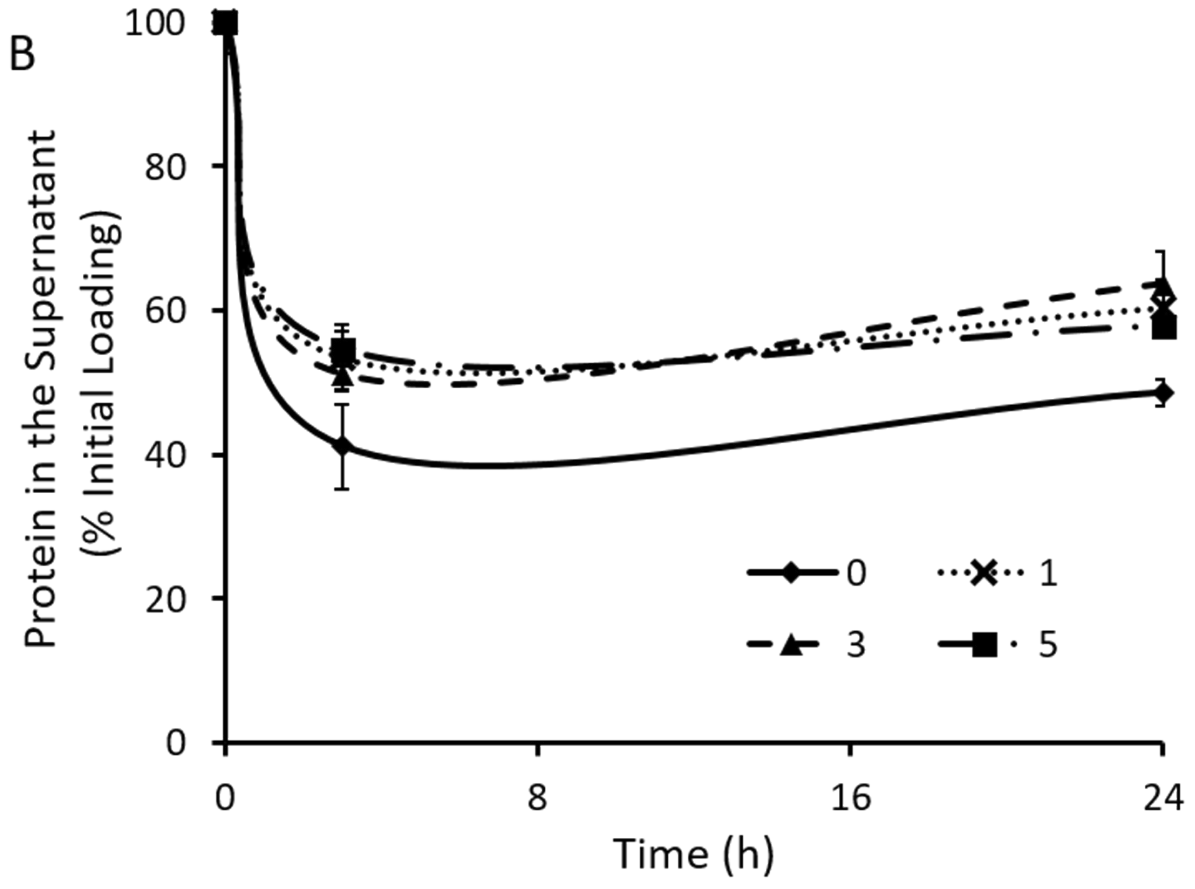

B
Protein in the Supernatant
(% Initial Loading)
100
80
60
40
20
0
0
8
16
24
Time (h)
0
1
3
5

Fig S1. The cellulose hydrolysis (A) and protein adsorption (B) during time course of hydrolysis of Avicel substrate with the "cellulase mixture" (13 mg/g glucan of Celluclast and 5 mg/g glucan of Novozyme 188) with and without supplementation of various amount AA9. AA9 loadings: 0 (♦), 1 (×), 3 (▲), and 5 (■) mg/g glucan.

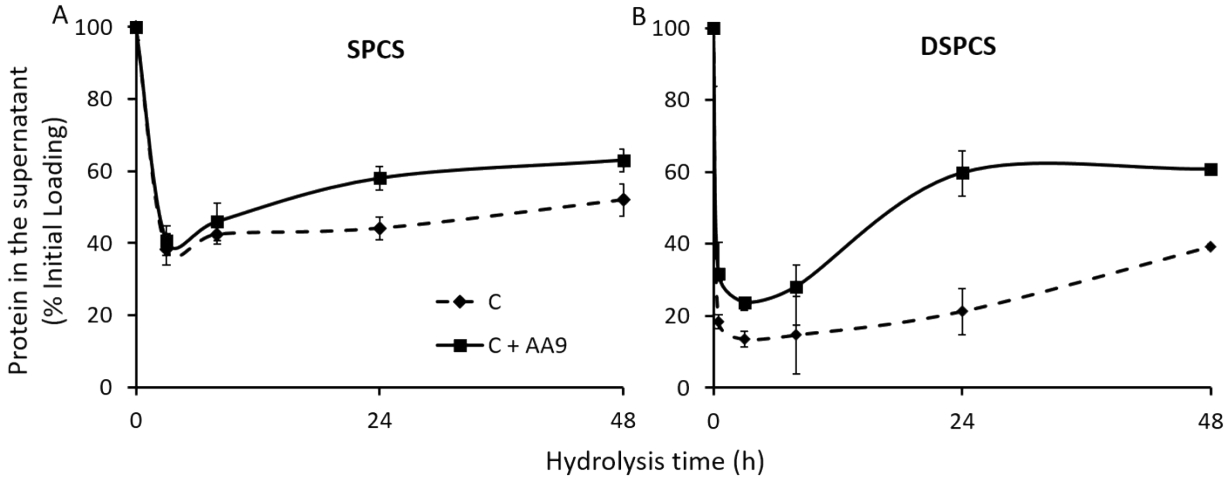


Fig S2. The adsorption/desorption profile of "the cellulase mixture/protein" during time course of hydrolysis of steam pretreated corn stover (SPCS) (A) and delignified SPCS (DSPCS) (B) of the "cellulase mixture" (13 mg/g glucan of Celluclast and 5 mg/g glucan of Novozyme 188) with (solid lines) and without (dashed lines) supplementation of 1mg AA9/g glucan.

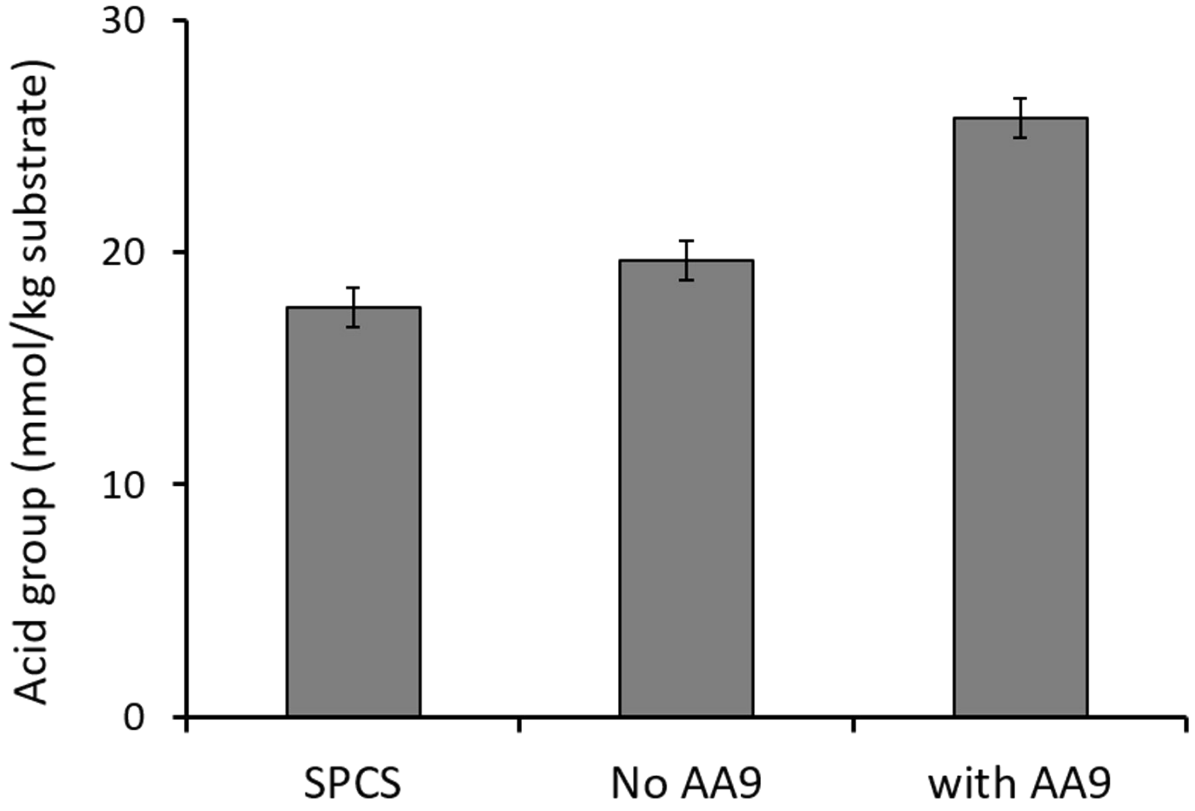


Fig S3. The acid group content of the steam pretreated corn stover (SPCS) and their hydrolysis residues after 24h enzymatic hydrolysis by the "cellulase mixture" (13 mg/g glucan of Celluclast and 5 mg/g glucan of Novozyme 188) with and without supplementation of 1mg AA9/g glucan.