Table S1. Analysis of variance (ANOVA) of the cellulose (determined as glucan) in the solid phase of the hydrothermal pretreatment.

VS	df	Cellulose			
		SS	MS	F	*p*-value
Model	9	290.77	32.31	10.32	0.01
Lineal	3	263.45	87.82	28.05	0.00
T	1	224.53	224.53	71.72	0.00
t	1	22.75	22.75	7.27	0.03
S	1	16.16	16.16	5.16	0.04
Quadratic	3	3.70	1.23	0.39	0.76
TxT	1	0.66	0.66	0.21	0.67
txt	1	0.34	0.34	0.11	0.76
SxS	1	3.08	3.08	0.98	0.37
Interaction	3	23.62	7.87	2.51	0.17
T x t	1	1.46	1.46	0.47	0.53
T x S	1	21.39	21.39	6.83	0.04
t x S	1	0.77	0.77	0.25	0.64
Error	5	15.65	3.13		
Total	14	306.42			

VS = variation source; df = degrees of freedom; SS = sum of squares; MS = mean square; T = reaction temperature (°C); t = retention time (min); S = particle size (mm).

Table S2. Correlation between the experimental variables of the process.

	$[\log(R_o)]$	T	t	S	P	HTR	pH	G	H	L	EC	η_T
$[\log(R_o)]$	1.00											
T	0.91	1.00										
t	0.41	0.00	1.00									
S	-0.19	0.00	0.00	1.00								
P	0.32	0.98	0.00	0.00	1.00							
HTR	-0.38	0.50	0.21	0.58	-0.59	1.00						
pH	-0.92	-0.47	-0.75	0.16	-0.40	0.27	1.00					
G	0.56	0.86	0.30	-0.19	0.86	-0.46	-0.56	1.00				
H	-0.66	-0.84	-0.43	-0.15	-0.84	0.33	0.65	-0.84	1.00			
L	0.75	0.62	0.60	-0.11	0.57	10.1	-0.78	0.75	-0.71	1.00		
EC	0.97	0.89	0.41	-0.17	0.42	-0.34	-0.88	0.65	-0.72	0.80	1.00	
η_T	-0.12	-0.34	0.46	-0.39	0.47	-0.49	0.06	0.40	-0.36	-0.14	-0.61	1.00
DS	0.50	0.41	0.42	-0.13	0.33	-0.44	0.41	-0.57	0.41	0.44	0.22	0.23

$[\log(R_o)]$ = severity factor; T = reaction temperature (°C); t = retention time (min); S = particle size (mm); P = pressure (MPa); HTR = heating rate (°C/min); G = glucose (g/L); H = hemicellulose (g/L); L = Lignin (g/L); EC = energy consumed (MJ/g); η_T = energy productivity (g_{sugars}/MJ); DS = dissolution (%).

Table S3. Analysis of variance (ANOVA) for glucose release during enzymatic hydrolysis

VS	df	SS	MS	F	*p*-value
Time	3	29.11	9.70	91.81	0.00
CEZ	1	0.40	0.39	3.74	0.07
Time x CEZ	3	1.55	0.52	7.97	0.00
Error	16	11.51	0.72		
Total	23	31.51			

VS = variation source; df = degrees of freedom; SS = sum of squares; MS = mean square; CEZ = enzyme load (FPU/g glucan).