

Multivariable Analysis Reveals the Key Variables Related to Lignocellulosic Biomass Type and Pretreatment before Enzymolysis

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Table S1. The datasets during the different pretreatment processes and enzymolysis processes.

	Material	Method	Temperature (°C)	Solvent Contents (%)	ERSY (mg/g)
1	Poplar	Acid pretreatment	30	0.25	169.35 ± 3.51 **
2			30	1.00	160.18 ± 6.57
3			30	2.13	161.58 ± 5.01
4			105	0.25	153.05 ± 4.82
5			105	1.00	146.89 ± 4.88 *
6			105	2.13	129.5 ± 3.09 **
7			121	0.25	142.51 ± 7.14
8			121	1.00	131.6 ± 2.63 **
9			121	2.13	119.64 ± 4.69 **
10		Alkaline pretreatment	30	0.25	174.48 ± 14.60
11			30	0.50	181.5 ± 7.84 **
12			30	1.00	192.68 ± 2.09 **
13			105	0.25	161.85 ± 19.15
14			105	0.50	183.9 ± 25.16
15			105	1.00	233.71 ± 10.40 **
16			121	0.25	192.62 ± 14.76 *
17			121	0.50	185.56 ± 28.35
18			121	1.00	191.68 ± 25.02
19		Hot water pretreatment	30	1:10	170.27 ± 13.15
20			30	1:20	172.98 ± 0.16 **
21			30	1:30	173.71 ± 7.19 **
22			105	1:10	182.96 ± 4.31 **
23			105	1:20	158.23 ± 5.45
24			105	1:30	173.3 ± 7.84 **
25			121	1:10	182.55 ± 1.89 **
26			121	1:20	177.4 ± 6.93 **
27			121	1:30	193.65 ± 4.21 **
28		Unpretreatment	—	—	156.45 ± 1.3
29	Salix	Acid pretreatment	30	0.25	194.56 ± 4.83
30			30	1.00	195.27 ± 5.40
31			30	2.13	157.28 ± 4.44 **

32		105	0.25	153.25 ± 4.54 **
33		105	1.00	158.51 ± 8.65 *
34		105	2.13	162.58 ± 10.58 *
35		121	0.25	151.5 ± 7.13 **
36		121	1.00	151.49 ± 10.17 **
37		121	2.13	151.87 ± 5.40 **
38		30	0.25	171.72 ± 2.38 *
39		30	0.50	190.73 ± 5.71
40		30	1.00	204.96 ± 8.74 *
41		105	0.25	193.87 ± 9.60
42	Alkaline pretreatment	105	0.50	212.86 ± 2.09 **
43		105	1.00	241.24 ± 11.25 **
44		121	0.25	179.65 ± 14.73 *
45		121	0.50	182.89 ± 35.36
46		121	1.00	175.41 ± 13.89
47		30	1:10	260.36 ± 5.80 **
48		30	1:20	254.34 ± 2.07 **
49		30	1:30	260.77 ± 5.39 **
50	Hot water pretreatment	105	1:10	236.59 ± 17.72 **
51		105	1:20	227.65 ± 12.40 **
52		105	1:30	239.52 ± 18.69 **
53		121	1:10	236 ± 17.80 **
54		121	1:20	228.23 ± 16.85 *
55		121	1:30	239.03 ± 15.69 **
56	Unpretreatment	—		184.87 ± 4.99
57		30	0.25	327.60 ± 1.44
58		30	1.00	321.85 ± 5.38
59		30	2.13	334.92 ± 3.42
60		105	0.25	387.62 ± 13.02 *
61	Acid pretreatment	105	1.00	277.59 ± 4.16 **
62		105	2.13	225.94 ± 10.81 **
63		121	0.25	299.59 ± 19.97
64		121	1.00	231.93 ± 6.12 **
65		121	2.13	197.62 ± 6.81 **
66		30	0.25	375.45 ± 1.47 *
67		30	0.50	464.26 ± 35.40 **
68		30	1.00	643.64 ± 3.22 **
69	Corn cob	105	0.25	453.16 ± 27.47 **
70	Alkaline pretreatment	105	0.50	549.78 ± 34.96 **
71		105	1.00	635.82 ± 22.25 **
72		121	0.25	464.41 ± 47.63 *
73		121	0.50	546.20 ± 14.12 **
74		121	1.00	610.04 ± 34.49 **
75		30	1:10	319.83 ± 17.25
76		30	1:20	309.33 ± 24.47
77		30	1:30	318.99 ± 3.43
78	Hot water pretreatment	105	1:10	291.36 ± 33.37
79		105	1:20	299.51 ± 12.82 *
80		105	1:30	275.81 ± 9.11 **
81		121	1:10	268.18 ± 41.60 *

82	121	1:20	278.36 ± 3.08 **
83	121	1:30	304.06 ± 6.58 *
84	Unpretreatment	—	342.23 ± 19.60

Note: Solvent contents referred to the acid content, alkaline content and the ratio of solid to liquid (S/L) for acid, alkaline and hot water pretreatment, respectively. The enzymolysis reducing sugar yield (ERSY) under each condition was tested compared with that of the unpretreated samples via Independent-Samples t-test at the 95% level; *, $P < 0.05$; **, $P < 0.01$.