

Table 1

EXPERIMENTAL DESIGN		
Run	Temperature (T) °C	NaOH/BS DM ratio (R) (% w/w)
1	50	2.5
2	50	5
3	50	7.5
4	75	2.5
5	75	5
6	75	7.5
7	100	2.5
8	100	5
9	100	7.5

Table 2

Component	(% dwb)
Extractives	10.2 ± 0.9
Cellulose	39.1 ± 0.7
Hemicellulose	25.7 ± 0.3
<i>Xylose</i>	23.8 ± 0.2
<i>Arabinose</i>	3.7 ± 0.05
<i>Galactose</i>	1.5 ± 0.02
Acetyl groups	1.8 ± 0.01
Acid-insoluble lignin (AIL)	15.2 ± 0.01
Ash	6.8 ± 0.2

Table 3

Experiment	Extrudate solid content (g solid/100g extrudate)	Extrudate composition (% w/w)			Hemicellulose sugars** in filtrate (g/l)	Enzymatic hydrolysis yield (EHY) (% of theoretical)	
		Cellulose	Xylan	AIL*		Glucose	Xylose
1	22.45	43.7 ± 0.2	26.8 ± 0.1	19.1 ± 0.1	1.4	31.2 ± 0.003	18.8 ± 0.02
2	18.80	46.5 ± 0.5	25.7 ± 0.4	15.0 ± 0.1	5.4	83.8 ± 0.4	68.8 ± 0.2
3	19.79	64.5 ± 0.1	14.5 ± 0.1	13.7 ± 0.4	8.6	82.2 ± 0.7	74.8 ± 1.8
4	26.43	52.3 ± 1.7	26.8 ± 0.7	18.2 ± 0.3	1.9	50.3 ± 0.2	45.5 ± 0.02
5	19.0	53.4 ± 1.0	26.3 ± 0.9	14.3 ± 0.2	7.4	81.7 ± 0.6	68.4 ± 0.2
6	13.85	58.3 ± 0.2	20.8 ± 0.2	12.4 ± 0.2	18.0	74.7 ± 1.7	88.2 ± 0.6
7	30.90	45.6 ± 1.5	26.1 ± 1.1	19.5 ± 0.3	0.8	35.8 ± 0.4	34.6 ± 0.2
8	15.58	51.4 ± 1.9	25.1 ± 1.0	13.2 ± 0.1	7.2	90.3 ± 0.8	64.8 ± 0.4
9	18.43	61.0 ± 0.3	15.6 ± 1.6	12.1 ± 0.3	11.7	71.0 ± 1.4	88.3 ± 0.1

* Acid-insoluble lignin

** Sum of xylose, arabinose, galactose and mannose

