

## SUPPLEMENTARY MATERIALS

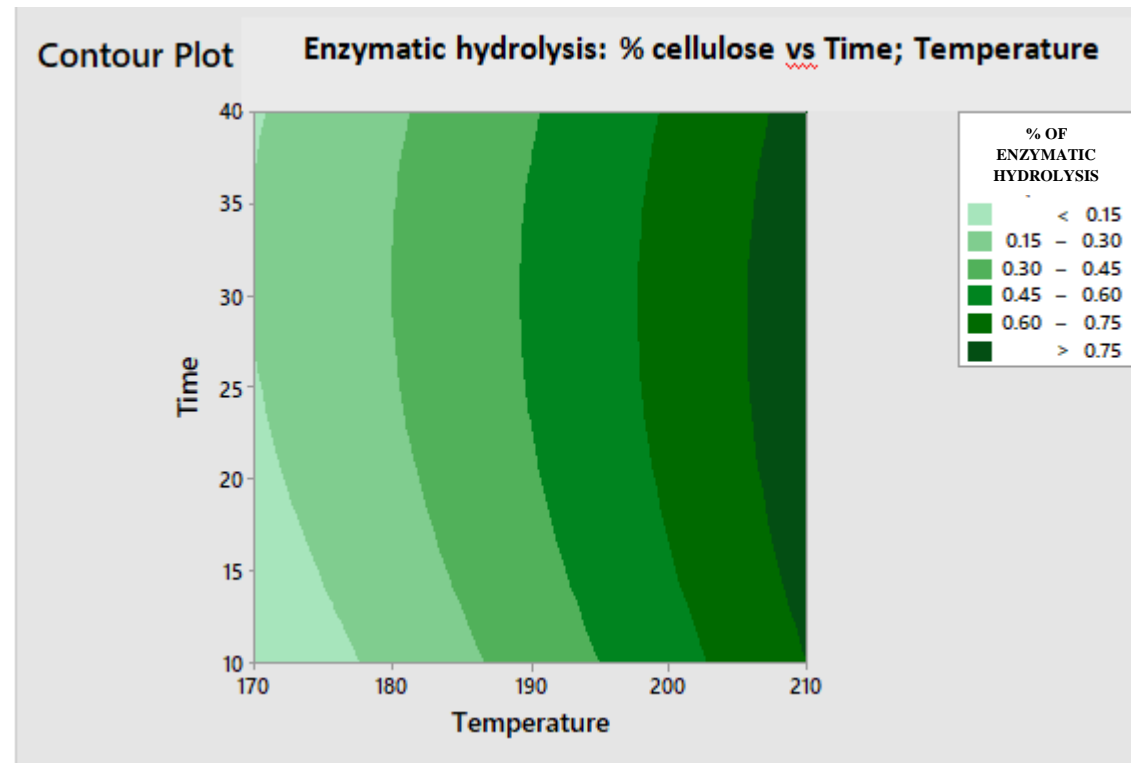
### Optimization of enzymatic hydrolysis of cellulosic fraction obtained from stranded driftwood feedstocks for lipid production by *Solicoccozyma terricola*.

Giorgia Tasselli, Sara Filippucci, Silvia D'Antonio, Gianluca Cavalaglio, Benedetta Turchetti, Franco Cotana and Pietro Buzzini

Runs	A				B	C		D	
	Temperature of SE		Time of SE		Log R <sub>0</sub>	WIS Cellulose recovery (%)	WIS Hemicellulose recovery (%)	HLF Cellulose recovery (%)	HLF Hemicellulose recovery (%)
	Level	(°C)	Level	(minutes)					
SE01	0	190	0	25	4.05	99.60	20.53	43.22	82.63
SE02	0	190	0	25	4.05	99.61	18.69	46.80	92.27
SE03	0	190	+1	40	4.25	99.48	13.22	46.42	100.00
SE04	-1	170	+1	40	3.66	99.73	70.82	14.02	36.85
SE05	+1	210	+1	40	4.84	99.40	8.26	77.52	100.00
SE06	+1	210	-1	10	4.24	99.54	13.94	76.02	100.00
SE07	0	190	-1	10	3.65	99.79	66.79	30.84	40.96
SE08	-1	170	0	25	3.46	99.83	86.26	10.06	29.60
SE09	0	190	0	25	4.05	99.61	19.36	50.07	84.17
SE10	0	190	0	25	4.05	99.56	20.88	42.60	100.00
SE11	0	190	0	25	4.05	99.63	29.95	47.80	54.77
SE12	+1	210	0	25	4.64	99.56	3.82	85.30	100.00
SE13	-1	170	-1	10	3.06	99.93	94.70	7.16	10.81

**Table S1.** A = experimental design runs (SE01-SES13) for steam explosion (SE) tests of stranded driftwood (SD) feedstocks: temperature of SE (°C) and time of SE (minutes); B = severity factor (Log R<sub>0</sub>) of steam explosion (SE01-SE13) that summarize the combined effect of both temperature and time; C= Cellulose recovery in the water insoluble substrate (WIS) after SE [(g of WIS cellulose/g of SD cellulose) x 100], Hemicellulose recovery in the water insoluble substrate (WIS) after SE [(g of WIS hemicellulose/g of SD hemicellulose) x 100]; D= Cellulose

recovery in the hydrolyzed liquid fraction (HLF) [(g of HLF glucose/g of WIS cellulose) x 100], Hemicellulose recovery in the hydrolyzed liquid fraction (HLF) [(g of HLF xylose and galactose /g of WIS hemicellulose) x 100].



**Fig. S1.** Graphical response of the dependent variable (% of enzymatic hydrolysis) as a function of the two independent variables [temperature of SE (°C) and time of SE (minutes)].

---

**Composition of stranded driftwood  
before pretreatment (%)**

---

<b>Cellulose</b>	31.43 ± 0.62
<b>Hemicellulose</b>	14.91 ± 0.21
Xylan	12.11 ± 0.11
Mannan	1.17 ± 0.14
Galactan	0.58 ± 0.25
Arabinian	1.05 ± 0.21
<b>Lignin</b>	27.80 ± 1.73
<b>Acetyl groups</b>	4.27 ± 0.11
<b>Extractives</b>	6.19 ± 0.22
<b>Ashes</b>	4.86 ± 0.48
<b>Other components</b>	10.58 ± 0.32

---

**Composition of water insoluble substrate (WIS) after steam explosion (%)**

---

<b>Cellulose</b>	44.52 ± 1.01
<b>Hemicellulose</b>	0.31 ± 0
<b>Lignin</b>	48.45 ± 0.33
<b>Acetyl groups</b>	0.78 ± 0.12
<b>Ashes</b>	0.52 ± 0.11
<b>Other components</b>	5.42 ± 0.36

---

**Table S2.** Composition of stranded driftwood feedstocks (SD) before steam explosion and composition of water insoluble substrate (WIS) after steam explosion.