Supplementary Materials: The following are available online at www.mdpi.com/xxx/s1,

Table S1. Comparison of lactic acid production from *Weizmannia coagulans* (formerly *Bacillus coagulans*).

Microorganism	Substrate	Optical isomer	Process organization	Lactic acid, g/l	Yield, g/g sugar	Reference
W. coagulans MA42	xylose	L (+)-LA	Batch-Erlenmeyer flask	7.88	0.79	This study
W. coagulans P13	xylose	L (+)-LA	Batch-Erlenmeyer flask	6.76	0.68	This study
W. coagulans S5	xylose	L (+)-LA	Batch-Erlenmeyer flask	7.13	0.71	This study
B. coagulans NL01	xylose	L (+)-LA	Batch-Erlenmeyer flask	75.0	0.75	Ouyang et al. [56]
B. coagulans LA204	xylose	N/D	Batch-bioreactor	43.72	0.88	Hu et al., [17]
B. coagulans C106	xylose	L (+)-LA	Batch-bioreactor	118.4	0.78	Ye et al., [7]
B. coagulans Azu-10	xylose	N/D	Batch-bioreactor	50.70	0.99	Abdel-Rahman et al., [57]
W. coagulans PP-18^T	glucose	L (+)-LA	Batch-Erlenmeyer flask	45.35	0.64	Tolieng et al., [58]
W. coagulans JC-4	glucose	L (+)-LA	Batch-Erlenmeyer flask	45.70	0.63	Tolieng et al., [58]

N/D—not described.

Table S2. The chemical composition (%) of lignocellulose biomass.

Lignocellulose biomass	Treatment	Compositions (% dry weight)			Total carbohydrate (g)[a]
		Cellulose	Hemicellulose	Lignin	
Sugarcane bagasse	Untreated	43.77±2.51	24.32±1.25	23.00±0.56	1.28
	0.25M H2SO4	46.00±1.45	20.67±1.37	22.50±0.95	0.56
	0.05M H2SO4	38.67±2.18	25.00±1.87	23.10±0.39	0.95
	0.25M NaOH	50.67±1.09	16.00±2.11	20.00±0.89	0.93
	0.05M NaOH	42.00±2.17	23.00±1.96	23.00±0.46	0.98
Sugarcane trash	Untreated	40.15±2.98	23.85±1.03	26.00±0.64	1.08
	0.25M H2SO4	45.33±1.93	17.00±1.09	21.00±0.47	0.59
	0.05M H2SO4	40.67±2.08	20.00±1.24	26.00±0.56	1.02
	0.25M NaOH	47.33±1.56	14.33±0.97	11.00±0.73	0.56
	0.05M NaOH	41.33±1.34	18.33±1.12	17.00±0.52	0.79
Corn stover	Untreated	42.08±2.13	23.79±0.35	21.00±0.37	1.12
	0.25M H2SO4	47.33±1.96	20.00±0.57	25.00±0.32	0.75
	0.05M H2SO4	44.00±2.02	25.33±0.82	28.50±0.27	1.01
	0.25M NaOH	49.33±1.48	15.33±0.46	16.00±0.53	0.73
	0.05M NaOH	47.00±1.19	20.33±0.69	20.00±0.45	0.95
Rice straw	Untreated	37.29±1.55	27.65±1.28	26.00±0.57	1.17
	0.25M H2SO4	44.67±1.23	23.33±1.12	26.50±0.42	0.46
	0.05M H2SO4	42.00±1.42	26.67±1.03	27.00±0.73	0.98
	0.25M NaOH	42.67±1.21	19.67±1.58	22.00±0.61	0.98
	0.05M NaOH	39.33±1.57	21.67±1.41	25.00±0.38	1.07
Water hyacinth	Untreated	45.40±1.22	26.13±1.50	20.50±0.60	1.18
	0.25M H2SO4	47.33±0.97	23.00±1.10	20.00±0.34	0.45

0.05M H2SO4	44.67±1.12	25.33±1.73	20.30±0.52	0.78
0.25M NaOH	46.00±1.09	22.00±1.24	16.00±0.63	0.45
0.05M NaOH	45.33±1.11	23.33±1.07	18.00±0.71	0.81

[a]Total carbohydrate from 2.5 g lignocellulose biomass.

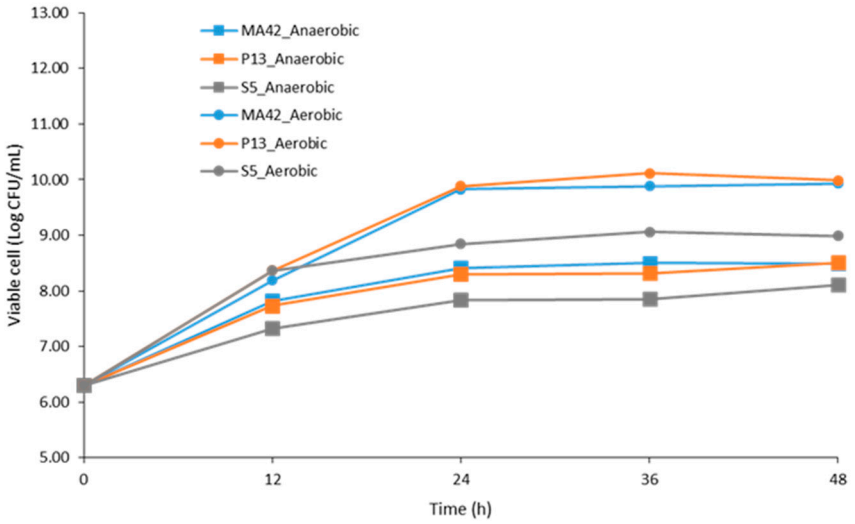

Figure S1. Effect of culture condition to growth of isolate MA42, P13 and S5 in aerobic and anaerobic fermentations.

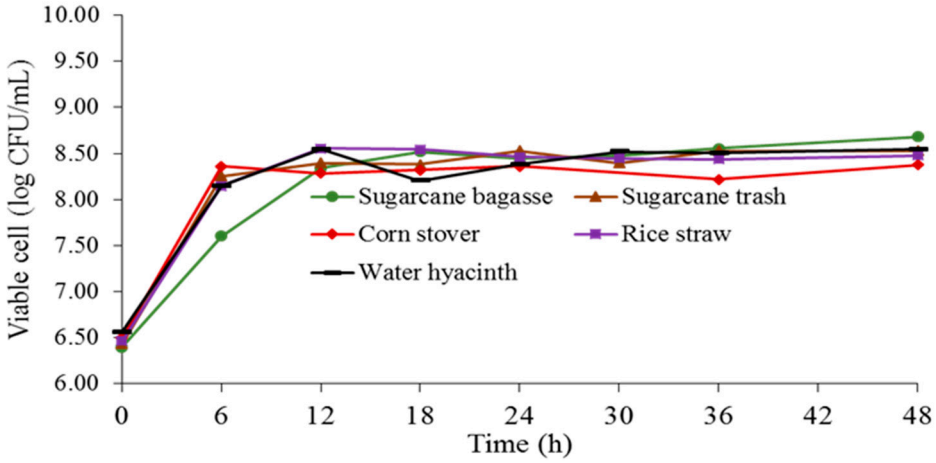

Figure S2. Growth efficiency from different lignocellulosic materials of *Weizmannai coagulans* MA42.