

Production of Omega-3 Fatty Acids from the Microalgae *Cryptocodinium cohnii* by Utilizing Both Pentose and Hexose Sugars From Agricultural Residues

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Supplementary Material

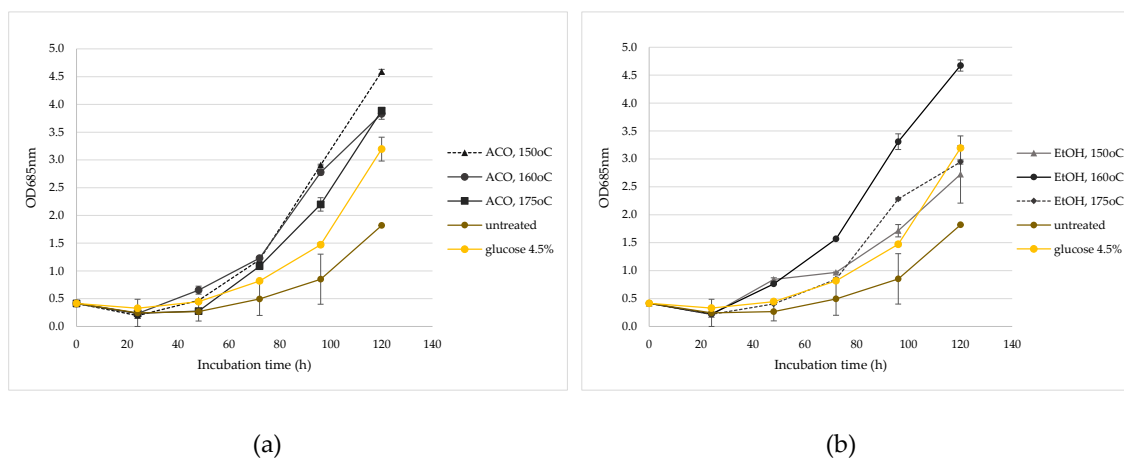


Figure S1. Time course of growth of *C. cohnii* cells on enzymatic hydrolysate from solid pulps as carbon source, as monitored spectrophotometrically at OD_{685nm}.

Table S1. Concentration of phenolic compounds in the liquid fraction before and after detoxification.

Sample	Phenolic compounds – initial concentration (mg/mL)	Phenolic compounds – after activated carbon (mg/mL)	% Removal
L1	1.93	0.18	90.51%
L2	2.71	0.40	85.05%
L3	3.48	0.44	87.45%
L4	2.18	0.34	84.20%
L5	2.51	0.19	92.61%
L6	2.47	0.29	88.20%

Table S2. Total reducing sugars (TRS) released after enzymatic hydrolysis of solid fraction. Numbers in parenthesis represent standard error.

Sample	TRS (mg/mL)					mg TRS/g pretreated biomass				
	0 h	6 h	24 h	48 h	72 h	0 h	6 h	24 h	48 h	72 h
S1	0.0	12.5 (0.0)	22.5 (0.9)	33.5 (1.0)	40.4 (0.7)	0	139 (0)	250 (10)	372 (11)	449 (8)
S2	0.0	20.5 (0.1)	38.7 (0.2)	44.3 (0.3)	53.2 (0.0)	0	228 (1)	430 (2)	492 (3)	591 (0)
S3	0.0	32.9 (3.9)	48.7 (2.7)	57.3 (5.3)	64.9 (1.1)	0	366 (43)	541 (30)	636 (59)	721 (13)
S4	0.0	14.2 (0.6)	23.5 (0.7)	27.6 (1.0)	35.3 (0.6)	0	158 (6)	261 (8)	307 (11)	392 (6)
S5	0.0	15.2 (0.0)	27.3 (0.6)	32.4 (0.8)	35.9 (0.0)	0	169 (0)	303 (6)	360 (9)	399 (0)
S6	0.0	18.2 (0.1)	32.5 (0.1)	38.2 (0.8)	43.3 (0.6)	0	203 (2)	361 (2)	424 (8)	481 (6)
Untreated	0.0	4.7 (0.3)	7.6 (2.1)	7.3 (1.7)	8.3 (1.2)	0	53 (4)	85 (23)	81 (19)	92 (13)

Table S3. Initial sugar concentration and consumption after 120 h of fermentation of *C. cohnii* in medium containing enzymatic hydrolysates from solid (2-times diluted) and liquid (undiluted) fraction after pretreatment. Stander error was $\leq 2.5\%$ in all measurements.

Sample	sugars (0 h) (mg/mL)	sugars (120 h) (mg/mL)	Total sugars consumed	% sugar consumption
S1	36.86	3.32	33.54	91.0%
S2	37.90	22.50	15.41	40.6%
S3	42.31	32.97	9.34	22.1%
S4	21.73	11.94	9.78	45.0%
S5	37.78	13.47	24.31	64.3%
S6	43.32	26.61	16.71	38.6%
untreated	3.43	0.03	3.40	99.0%
glucose 4.5 wt%	45.00	24.87	20.13	44.7%
L1	5.07	0.03	5.04	99.5%
L2	10.34	4.15	6.19	59.9%
L3	7.72	1.13	6.59	85.3%