

**Catalytic hydrothermal liquefaction of *Euglena* sp. microalgae over
zeolite catalysts for the Production of Bio-oil**

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Table captions

Table S1 The GC-MS analysis of the bio-oil obtained from *Euglena* HTL with/without catalysts.

Table S1. The GC-MS analysis of the bio-oil obtained from *Euglena* HTL with/without catalysts.

No.	Retention time	Organic compounds	Relative Content (%)					
			Blank	HZSM-22	HZSM-5	H beta	MCM-22	SAPO-11
1	2.72	Pyridine	0.93	1.30	1.64	1.65	--	--
2	3.22	Cyclopentanone	1.33	1.36	1.28	1.75	1.77	0.92
3	3.67	Pyrazine, methyl-	1.62	2.18	1.74	1.20	2.97	1.13
4	3.96	Cyclopentanone, 2-methyl-	--	1.05	--	--	--	--
5	4.37	Pyridine, 3-methyl-	--	1.32	--	--	--	--
6	4.91	Styrene	--	0.95	--	--	--	--
7	5.22	2-Cyclopenten-1-one, 2-methyl-	6.85	8.69	7.01	6.61	10.51	6.55
8	5.30	Pyrazine, 2,5-dimethyl-	3.14	3.09	2.94	2.79	3.56	2.88
9	6.59	2-Cyclopenten-1-one, 3-methyl-	3.13	3.73	3.47	2.96	--	1.78
10	7.06	Phenol	1.93	2.65	2.70	--	--	--
11	7.30	2-Cyclopenten-1-one, 3,4-dimethyl-	--	2.61	--	--	--	--
12	7.43	2-Cyclopenten-1-one, 2,3-dimethyl-	3.96	1.35	4.56	4.16	2.33	1.60
13	9.40	2-Pyrrolidinone	0.85	1.34	--	--	--	--
14	9.61	Phenol, 4-methyl-	1.62	1.68	--	--	--	--
15	10.16	1H-Pyrrole, 3-ethyl-2,4-dimethyl-	0.78	--	--	0.79	1.97	--
16	11.04	1H-Pyrrole, 2,3,4,5-tetramethyl-	0.75	--	1.76	1.37	--	1.17
17	12.41	1H-Pyrrole, 3,4-diethyl-2-methyl-	1.31	--	--	--	--	--
18	12.84	1H-Pyrrole, 2-ethyl-3,4,5-trimet	2.03	--	3.03	--	--	2.50
19	15.66	Indole	1.25	--	--	--	--	--

20	18.09	1H-Indole, 6-methyl-	1.20	--	--	--	--	--
21	20.21	1-Dodecanol	3.25	3.28	2.74	3.18	4.10	2.85
22	20.64	1-Tridecene	1.85	6.50	6.28	--	2.49	1.62
23	22.63	1-Tetradecanol	--	--	--	7.53	--	--
24	24.66	Tridecanoic acid	1.22	--	--	--	--	--
25	24.73	2(1H)-Pyridinone, 1-(2-methylphe	1.47	2.06	--	2.51	3.45	2.24
26	24.73	2,3-Dimethyl-1H-imidazo(1,2-a)py...	--	--	2.93	--	--	--
27	24.94	1-Tetradecene	24.40	30.54	25.81	43.43	28.54	28.40
28	26.34	1,7-Trimethylene-2,3,5-trimethyl...	--	--	1.72	--	--	--
29	26.92	Tetradecanoic acid	11.65	7.81	9.56	9.50	10.81	8.28
30	27.20	n-Pentadecanol	4.36	4.97	4.38	--	6.57	5.07
31	28.31	2-Hydroxy-3,5,5-trimethyl-cycloh...	--	--	--	--	--	2.65
32	28.91	2-Hexadecene, 3,7,11,15-tetramet...	--	--	--	--	--	7.00
33	30.75	L-Proline, N-(3-cyclopentylpropi	3.38	--	--	--	--	--
34	30.77	5,10-Diethoxy-2,3,7,8-tetrahydro...	--	--	--	4.20	--	4.39
35	30.89	N-[3-[.alpha.-Furylmethylamino]p...	--	--	2.64	--	--	--
36	31.17	Hexadecanoic acid	3.56	2.19	3.01	--	2.84	3.35
37	31.31	Tetradecanamide	1.72	2.59	1.73	2.01	3.64	2.23
38	34.02	Hexadecanamide	2.31	2.24	1.97	--	3.35	1.96
39	34.20	Benzeneacetic acid, .alpha.-cyan...	--	--	--	--	2.23	1.43
40	34.58	2,5-Piperazinedione, 3-benzyl-6-	1.35	1.95	1.12	--	3.21	3.84
41	35.70	Pyrrolo[1,2-a]pyrazine-1,4-dione	1.72	2.58	2.52	2.02	3.71	2.38

42	35.84	Cyclo-(1-leucyl-1-phenylalanyl)	--	--	--	--	--	0.75
43	36.17	Benzyl nitrile	2.87	--	1.15	--	1.95	2.18
44	37.50	1,2-Benzenedicarboxylic acid, mo...	--	--	--	--	--	0.84
45	39.13	Pyridine-3-carboxamide, oxime, N	0.93	--	--	--	--	--
46	39.26	13-Docosenamide, (Z)-	1.25	--	2.29	2.33	--	--
