

Supplementary Materials

Effect of Accumulative Recycling of Aqueous Phase on the Properties of Hydrothermal Degradation of Dry Biomass and Bio-crude Oil Formation

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Figure S1. Composition of bio-crude oil and relative peak area of major components before and after aqueous phase recycling.

Number	R.T (min)	Name of Compounds	Relative Peak Area (%)			
			C0	C1	C2	C3
Organic acids						
1	18.275	2-Hexenoic acid , 3 , 4 , 4-trimethyl-5-oxo- , (Z)-	0.469	1.155	1.205	-
2	21.415	2-(1-Carboxy-1-methylethyl)-4-methylfuran-3-carboxylic acid	-	-	2.091	-
Total			0.469	1.155	3.296	0.000
Ketones						
3	6.535	2-Cyclopenten-1-one , 2-methyl-	0.615	-	3.105	4.166
4	8.133	2-Cyclopenten-1-one , 3-methyl-	-	2.335	1.804	2.207
5	10.183	2-Cyclopenten-1-one , 3 , 4-dimethyl-	-	-	-	2.648
6	11.634	2-Cyclopenten-1-one , 3 , 4 , 5-trimethyl-	2.565	4.422	-	12.749
7	13.188	2-Hydroxy-5 , 5-dimethylcyclopent-2-en-1-one	-	-	0.886	-
8	14.376	2 , 4-Pentanedione , 3-(2-propenyl)-	-	-	1.121	-
9	19.989	7-Methylindan-1-one	-	-	0.477	-
10	23.521	Ethanone , 1-(2 , 6-dihydroxy-4-methoxyphenyl)-	-	-	-	0.653

		Total	3.180	6.757	7.393	22.423
Aromatics						
11	3.603	Benzene, (butoxymethyl)-	-	-	0.583	-
12	3.609	Benzene, (propoxymethyl)-	-	-	-	0.834
13	8.714	Phenol	-	-	5.118	-
14	11.628	Mequinol	-	-	9.199	-
15	13.960	Phenol , 4-ethyl-	5.217	7.861	20.792	22.102
16	17.008	Phenol , 4-ethyl-2-methoxy-	3.446	7.561	10.645	10.172
17	18.961	Phenol , 2 , 6-dimethoxy-	3.356	-	14.756	-
18	18.973	Phenol , 3 , 4-dimethoxy-	-	5.158	-	8.510
19	30.988	Ethanone, 1-(4-hydroxy-3,5-dimethoxyphenyl)-	2.037	-	-	-
		Total	14.056	20.580	61.093	41.618
Esters , alcohols and aldehydes						
20	4.852	Furfural	1.339	-	-	-
21	6.792	Aprofene	-	-	-	0.846
22	8.732	Carbonic acid , ethyl phenyl ester	-	-	-	3.821
23	12.870	5-Ethylcyclopent-1-enecarboxaldehyde	-	-	0.593	1.128

Total			1.339	0.000	0.593	5.795
N-containing compounds						
24	4.193	1, 2, 4, 5-Tetrazine	-	-	0.579	-
25	9.008	Pyrazine, methyl-, 4-oxide	-	-	-	2.136
26	9.424	3-Formyl-4,5-dimethyl-pyrrole	-	-	0.735	-
27	9.687	1-Pentanone, 1-(1H-imidazol-4-yl)-	-	-	0.472	-
28	11.266	Pyrazine, methoxy-	-	-	0.647	-
29	12.172	1,3,5-Triazin-2(1H)-one, 4,6-diamino-	-	-	0.686	-
30	12.674	4-Pyridinol	-	-	0.976	-
31	19.371	L-4-Hydroxy-3-methoxyphenylalanine	-	-	0.671	-
32	26.397	2-(1-Amino)butyl-4-amino-6-dimethylamino-s-triazine	-	-	1.780	-
33	35.285	N,N-Dimethyl-4-[(N,N-dimethylcarbamoyl)benzyl]triphenylacetamide	0.511	18.075	-	4.816
Total			0.511	18.075	6.546	6.997
Hydrocarbonos						
34	3.609	1,3,5-Cycloheptatriene	-	4.096	-	-
35	28.895	Cyclohexene, 1, 5, 5-trimethyl-6-(2-propenylidene)-	-	-	0.638	-
Total			0.000	4.096	0.638	0.000

