

Table S1. Coordinates (Longitude-X, Latitude-Y) of each collecting points (green circles) (Longitude-X, Latitude-Y) of municipal household solid waste (MHSW) in the neighborhoods of *Cremação* and *Guamá* in the city of Belém-Pará-Brazil on 18/10/2021, 20/10/2021, 27/10/2021, and 29/10/2021.

Day	Collecting points	Coordinates (UTM)	
		X	Y
18/10/2021	1	780950.42	9837973.32
	2	781119.90	9838278.16
	3	781009.64	9838551.67
	4	781568.34	9838605.03
	5	781463.30	9838472.94
20/10/2021	6	781103.21	9838585.31
	7	781117.53	9838342.88
	8	780928.98	9838507.28
	9	781010.98	9838551.89
	10	781242.17	9838575.64
	11	781244.84	9838577.52
	12	781098.10	9838591.18
27/10/2021	13	780980.57	9838439.40
	14	780946.68	9838204.78
	15	781116.87	9838252.38
	16	781099.50	9838652.80
29/10/2021	17	781455.46	9838305.47
	18	781800.80	9837931.59
	19	781453.34	9838493.90
	20	781560.25	9838606.52
	21	781652.42	9838468.44
	22	781673.83	9838119.49
	23	780947.53	9838102.46
	24	781115.51	9838380.92
	26	781107.30	9838497.16
	27	781096.49	9838642.49

Table S2. Classes of compounds, summation of peak areas, CAS number, and retention times of chemical compounds identified by CG-MS in bio-oil by pyrolysis of (organic matter + paper) fraction from MHSW at 400 °C, 1.0 atm, in laboratory scale.

400°C			
Class of Compounds: Chemical Compounds	RT [min]	CAS	Ⓔ _i (area.%)
Alkanes			
7-methylene-Tridecane	21.849	19780-80-4	0.77
Tridecane	22.082	629-50-5	1.94
Tetradecane	24.833	629-59-4	1.02
Pentadecane	27.439	629-62-9	2.16
Tetradecane	29.945	629-59-4	0.74
Σ (Area.%) =			6.64
Alkenes			
7-Methylenecycloocta-1,3,5-triene	12.576	2570-13-0	0.86%
trans-4-Nonene	16.807	10405-85-3	0.88%
3-Hexadecene, (Z)-	24.641	34303-81-6	0.87%
7-Hexadecene, (Z)-	32.014	35507-09-06	0.85%
Σ (Area.%) =			3.46
Alkynes			
1-Tridecyne	33.512	26186-02-07	2.01
Σ (Area.%) =			2,01
Ring-containing Hydrocarbons			
Cyclohexane	4.031	110-82-7	2.25
Cyclohexadecane	27.252	295-65-8	0.98
1H-3a,7-Methanoazulene, octahydro-1,9,9-trimethyl-4-methylene-, (1α,3α,7α,8αβ)-	27.993	508-55-4	1.00
1,3-dimetil-Benzene	8.770	108-38-3	1.80
Bicyclo[4.2.0]octa-1,3,5-triene	9.726	694-87-1	2.03
Limonene	14.155	138-86-3	1.34
7-Methylbicyclo[4.4.1]undeca-2,4,8-triene	24.181	86067-59-6	0.65
Toluene	6.153	108-88-3	1.58
Σ (Area.%) =			11.63
Carboxylic Acids			
2-(aminooxy)-propanoic acid	5.890	2786-22-3	0.65
Octanoic acid	17.996	0124-07-02	1.28
Dodecanoic acid	28.855	0143-07-07	4.43
9,12-Octadecadienoic acid (Z,Z)-	38.024	60-33-3	4.14
17-Octadecynoic acid	44.633	34450-18-5	0.63
Σ (Area.%) =			11.13
Ketones			
4-methyl-3-Penten-2-one	6.741	141-79-7	0.66
4-amino-4-methyl-2-pentanone	8.542	0625-04-07	4.55
3-Methyl-2-Cyclopenten-1-one	10.005	2758-18-1	0.75
3-methyl-1,2-Cyclopentanodione	13.811	765-70-8	1.36
2,3-dimethyl-2-Cyclopenten-1-one	14.260	1121-05-07	0.60
4,4-dimethyl-2-Cyclohexen-1-one	16.277	1073-13-8	1.32
Maltol	16.673	118-71-8	1.14
2,5-Cyclohexadien-1-one, 4-ethyl-3,4-dimethyl-	18.230	17429-35-5	1.95
2-Piperidinone, N-[4-bromo-n-butyl]-	32.282	195194-80-0	0.64
3,4,5-trimethyl-2-Ciclopenten-1-one	15.951	55683-21-1	1,62
Σ (Area.%) =			14.59
Alcohols			

2-furanmethanol	8.257	98-00-0	2.74
Bicyclo[3.3.1]nonan-9-ol	13.089	15598-80-8	0.76
Carveol	15.001	99-48-9	1.20
2,6-Octadien-1-ol, 2,7-dimethyl-	19.914	22410-74-8	0.65
6,6-Dimethyl-2-methylenebicyclo[3.2.0]heptan-3-ol	29.560	1005276-05-0	0.62
Isopinocarveol	32.096	6712-79-4	0.76
Σ (Area.%) =			6.73
Aldehydes			
E-11-Hexadecenal	42.214	---	1.65%
Hexadecanal	43.036	629-80-1	0.83%
13-Octadecenal, (Z)-	44.010	58594-45-9	0.89%
Σ (Area.%) =			3.37
Amines			
Pyridine	5.535	110-86-1	0.68
4-metil-Pyridine	7.324	108-89-4	0.53
R(-)-1-cyano-2-methylpyrrolidine	10.116	---	0.88
4-Piperidinone, 2,2,6,6-tetramethyl-	18.422	826-36-8	1.45
Pyrrolidine,1-cyclohexyl-	18.678	04-02-7731	0.62
2,6-Octadien-1-amine, 3,7-dimethyl-	18.981	35278-77-4	1.22
Σ (Area.%) =			5.38
Phenol			
Phenol	12.179	108-95-2	1.68
2-Methyl-Phenol	14.674	95-48-7	1.06
p-Cresol	15.304	106-44-5	2.13
3-ethyl- Phenol	17.297	620-17-7	0.77
2,5-dimethyl- Phenol,	17.711	95-87-4	1.77
Creosol	19.156	93-51-6	1.24
6-Methyl-4-indanol	20.281	20294-32-0	0.60
Phenol, 4-ethyl-2-methoxy-	21.692	2785-89-9	0.99
Phenol, 2-methoxy-4-(1-propenyl)-	26.530	97-54-1	0.78
Σ (Area.%) =			11.02
Ester			
Formic acid, 2,6-dimethoxyphenyl ester	23.703	---	111
Ethylene diacrylate	29.764	05-11-2274	0.72
6-Bromohexanoic acid, 2,2-dimethylpropyl ester	32.894	91304-02-08	0.83
Hexadecanoic acid, methyl ester	37.033	112-39-0	1.81
Hexadecanoic acid, ethyl ester	38.886	628-97-7	0.91
(E,E)- 9,12-Octadecadienoic acid, methyl ester	42.518	2566-97-4	0.78
13-Octadecenoic acid, methyl ester	42.727	56554-47-3	1.64
Methyl stearate	43.555	112-61-8	1.02
Ethyl Oleate	44.767	111-62-6	1.01
Σ (Area.%) =			9.83
Nitrogenous			
4,5-di-hidro-2,4,4-trimetil-Oxazol	6.374	1772-43-6	3.07
2,2,4,5-tetrametil-2H-Imidazol	6.642	---	0.73
Benzonitrile	12.687	100-47-0	0.65
2-Ethyl-3-Methyl-Pyrazine	12.949	15707-23-0	0.71
N-(3-Oxobutyl)-2-methylazetidine	15.438	---	1.58
4-Piperidinone, 2,2,6,6-tetramethyl-	16.906	826-36-8	2.10
Hydroxylamine, O-decyl-	32.405	29812-79-1	1.27
Pentadecanenitrile	36.572	18300-91-9	2.23
Σ (Area.%) =			12.34
Amide			
Hexadecanamide	45.205	629-54-9	1.16
Σ (Area.%) =			1.16
Non-identified compounds			
Total			100.00

Table S3. Classes of compounds, summation of peak areas, CAS number, and retention times of chemical compounds identified by CG-MS in bio-oil by pyrolysis of (organic matter + paper) fraction from MHSW at 450 °C, 1.0 atm, in laboratory scale.

450°C			
Class of Compounds: Chemical Compounds	RT [min]	CAS	Ⓐi (area.%)
Alkanes			
Tridecane	22.082	629-50-5	1.621
Tetradecane	24.833	629-59-4	1.605
Pentadecane	27.439	629-62-9	2.995
Tetradecane	29.945	629-59-4	1.356
Nonadecane	32.399	629-92-5	2.409
2,6-Dimethyldecane	12.896	13150-81-7	0.755
Dodecane	16.090	112-40-3	1.031
Dodecane	19.168	112-40-3	1.749
Σ (Area.%) =			13.521
Alkenes			
4-Tridecene, (Z)-	18.923	41446-54-2	1.348
4-Tetradecene, (Z)-	24.641	41446-65-5	1.805
1-Tridecene	32.282	2437-56-1	0.997
1,E-11,Z-13-Octadecatriene	44.627	80625-36-1	1.253
1-Dodecene	15.811	112-41-4	0.886
Σ (Area.%) =			6.289
Alkynes			
4-Tridecyne	16.265	60186-79-0	1.043
Σ (Area.%) =			1.043
Ring-containing Hydrocarbons			
Cyclohexane	4.031	110-82-7	2.903
Toluene	6.153	108-88-3	1.642
Benzene, 1,3-dimethyl-	8.770	108-38-3	2.240
Bicyclo[4.2.0]octa-1,3,5-triene	9.720	694-87-1	2.961
D-Limonene	14.161	5989-27-5	2.373
Cyclododecane	21.855	294-62-2	1.246
1-Cyclohexylnonene	33.518	114614-84-5	2.217
1-Cyclohexylnonene	33.518	114614-84-5	1.108
Σ (Area.%) =			16.690
Carboxylic Acids			
Dodecanoic acid	28.855	0143-07-07	2.191
9,12-Octadecadienoic acid (Z,Z)-	37.994	60-33-3	6.804
Σ (Area.%) =			8.995
Ketones			
2-Pentanone, 4-amino-4-methyl-	8.560	0625-04-07	0.856
Ethanone, 1-(2-furanyl)-	10.110	1192-62-7	0.750
1,2-Cyclopentanedione, 3-methyl-	13.811	765-70-8	1.100
2,3-dimethyl-2-Cyclopenten-1-one, 2,3-dimethyl-	14.272	1121-05-07	0.753
2-Cyclopenten-1-one, 3-ethyl-2-hydroxy-	16.796	21835-01-08	0.807
Cyclopentadecanone, 4-methyl-	42.931	34894-60-5	0.793
Σ (Area.%) =			5.059
Alcohols			
2-furanmethanol	8.257	98-00-0	1.872
3-Thujen-2-ol, stereoisomer	15.000	3310-03-0	1.182
1-Octanol, 2-butyl-	29.759	08-02-3913	1.217
Σ (Area.%) =			4.271
Phenol			
Phenol	12.174	108-95-2	1.907
2-Methyl-Phenol	14.657	95-48-7	1.318
p-Cresol	15.309	106-44-5	4.568

Phenol, 2-methoxy-	15.933	90-05-1	1.126
Phenol, 2-ethyl-	17.291	90-00-6	0.947
Phenol, 3,4-dimethyl-	17.699	95-65-8	1.772
Phenol, 3-ethyl-	18.218	620-17-7	2.091
Phenol, 4-ethyl-2-methoxy-	21.703	2785-89-9	1.044
Phenol, 2,6-dimethoxy-	23.697	91-10-1	1.062
Phenol, 3-phenoxy-	33.273	713-68-8	0.752
Σ (Area.%) =			16.587
Ester			
Oxalic acid, allyl nonyl ester	34.235	---	0.751
Hexadecanoic acid, methyl ester	37.027	112-39-0	1.902
Eicosanoic acid, ethyl ester	38.869	18281-05-05	1.192
9-Octadecenoic acid (Z)-, methyl ester	42.739	112-62-9	1.899
Methyl stearate	43.555	112-61-8	1.002
9-Octadecenoic acid, ethyl ester	44.756	6512-99-8	1.160
Σ (Area.%) =			7.906
Nitrogenous			
Azetidine, 3-methyl-3-phenyl-	12.593	5961-33-1	1.461
Tridecanenitrile	27.264	629-60-7	1.401
Hexadecanenitrile	36.572	629-79-8	4.149
Oleanitrile	42.203	---	2.325
Nonadecanenitrile	43.048	28623-46-3	1.887
Σ (Area.%) =			11.223
Amide			
2-Methyl-6-propylpiperidine	18.434	68170-79-6	1.135
13-Docosenamide, (Z)-	45.204	112-84-5	1.959
Σ (Area.%) =			3.094
Chlorinated			
1,10-Dichlorodecane	32.102	2162-98-3	2.487
3-Chloropropionic acid, pentadecyl ester	38.309	---	1.855
Σ (Area.%) =			4.342
Total			100.00

Table S4. Classes of compounds, summation of peak areas, CAS number, and retention times of chemical compounds identified by CG-MS in bio-oil by pyrolysis of (organic matter + paper) fraction from MHSW at 475 °C, 1.0 atm, in laboratory scale.

475°C			
Class of Compounds: Chemical Compounds	RT [min]	CAS	Ⓐ _i (area.%)
Alkanes			
Decane	24.839	124-18-5	0.902
Tetradecane	27.433	629-59-4	2.421
Σ (Area.%) =			3.323
Alkenes			
Benzene, (1-methylethyl)-	10.717	98-82-8	0.459
1-Undecene, 4-methyl-	22.082	74630-39-0	1.233
Σ (Area.%) =			1.692
Alkynes			
1-Octadecyne	42.046	629-89-0	1.138
Σ (Area.%) =			1.138
Ring-containing Hydrocarbons			
Cyclohexane	4.025	110-82-7	3.126
Toluene	6.153	108-88-3	1.771
Benzene, 1,3-dimethyl-	8.770	108-38-3	2.239
Bicyclo[4.2.0]octa-1,3,5-triene	9.726	694-87-1	3.055
Cyclohexene, 4-ethenyl-1,4-dimethyl-	14.155	1743-61-9	1.498
1-Cyclohexylnonene	33.501	114614-84-5	2.737
Σ (Area.%) =			14.426
Carboxylic Acids			
Dodecanoic acid	28.855	0143-07-07	3.677
Oleic Acid	38.000	112-80-1	9.912
Σ (Area.%) =			13.589
Ketones			
3-Penten-2-one, 4-methyl-	6.736	141-79-7	0.993
2-Pentanone, 4-amino-4-methyl-	8.548	0625-04-07	4.874
2-Cyclopenten-1-one, 2-methyl-	10.005	1120-73-6	0.550
4,4-Dimethyl-2-cyclopenten-1-one	10.116	22748-16-9	0.736
3-Methylcyclopentane-1,2-dione	13.806	---	1.217
2-Nonadecanone	42.908	629-66-3	1.274
Σ (Area.%) =			9.644
Alcohols			
2-Furanmethanol	8.257	98-00-0	2.537
Cyclopentanol, 1-(methylenecyclopropyl)-	14.995	86951-58-8	1.348
1-Decanol	24.641	112-30-1	0.997
2-Hexyl-1-octanol	32.411	19780-79-1	1.612
Σ (Area.%) =			6.494
Phenol			
Phenol	12.185	108-95-2	1.429
Phenol, 2-methyl-	14.663	95-48-7	0.924
p-Cresol	15.310	106-44-5	1.590
Phenol, 2-methoxy-	15.939	90-05-1	1.587
Phenol, 3,5-dimethyl-	17.705	108-68-9	1.093
Phenol, 2-ethyl-	18.218	90-00-6	1.491
Phenol, 4-ethyl-2-methoxy-	21.692	2785-89-9	0.967
Phenol, 2-methoxy-4-(1-propenyl)-	26.536	97-54-1	0.997
Σ (Area.%) =			10.078
Ester			
Hexadecanoic acid, methyl ester	37.027	112-39-0	2.975
Hexadecanoic acid, ethyl ester	38.869	628-97-7	1.027
Methyl stearate	43.543	112-61-8	1.616
8-Octadecenoic acid, methyl ester	42.727	2345-29-1	2.141
Σ (Area.%) =			7.759
Nitrogenous			

Oxazole, 4,5-dihydro-2,4,4-trimethyl-	6.380	1772-43-6	0.445
Azetidine, 3-methyl-3-phenyl-	12.576	5961-33-1	1.324
Benzonitrile	12.687	100-47-0	0.823
1,2,3-Trimethylpiperidin-4-one	15.432	---	2.829
2,4-Dimethoxy-5-methyl pyrimidine	23.691	5151-34-8	1.074
1,2,4,4,6-Pentamethyl-1,4-dihydropyridine-3,5-dicarbonitrile	33.262	32136-89-3	0.862
Hexadecanenitrile	36.567	629-79-8	5.269
Oleanitrile	42.209	---	3.562
Eicosanenitrile	43.048	4616-73-3	1.797
Σ (Area.%) =			17.985
Amide			
2-(2-Isopropenyl-5-methyl-cyclopentyl)-acetamide	19.162	---	1.072
Nonadecanamide	45.199	58185-32-3	3.515
Σ (Area.%) =			4.587
Amine			
Piperidin-4-one, 1-ethyl-2,3-dimethyl-	18.428	---	1.529
4-Piperidinone, 2,2,6,6-tetramethyl-	16.907	826-36-8	4.683
Σ (Area.%) =			6.212
Chlorinated			
1,10-Dichlorodecane	32.114	2162-98-3	2.438
Σ (Area.%) =			2.438
Non-identified compounds			0.637
Total			100.00

Table S5. Classes of compounds, summation of peak areas, CAS number, and retention times of chemical compounds identified by CG-MS in bio-oil by thermal catalytic cracking of (organic matter + paper) fraction from MHSW at 475 °C, 1.0 atm, 5.0% (wt.) of Ca(OH)₂, in laboratory scale.

5% Ca(OH) ₂ ; 475°C			
Class of Compounds: Chemical Compounds	RT [min]	CAS	⊗ _i (area.%)
Alkanes			
Octane, 3,5-dimethyl-	19.162	15869-93-9	1.026
Tridecane	22.077	629-50-5	1.62
Tetradecane	24.834	629-59-4	1.40
Pentadecane	27.439	629-62-9	2.84
Hexadecane	29.939	544-76-3	1.33
Heptadecane	32.405	629-78-7	2.78
Σ (Area.%) =			11.23
Alkenes			
2-Pentene, 2,4-dimethyl-	6.736	625-65-0	2.00
1-Octene, 3,7-dimethyl-	12.174	04-01-4984	1.82
1-Tetradecene	24.635	1120-36-1	1.72
Z,Z,Z-1,4,6,9-Nonadecatetraene	32.102	---	1.81
Σ (Area.%) =			7.35
Ring-containing Hydrocarbons			
Cyclohexane	4.031	110-82-7	2.31
Toluene	6.153	108-88-3	1.45
Ethylbenzene	8.537	100-41-4	8.06
1,3,5,7-Cyclooctatetraene	8.77	629-20-9	1.69
Cyclododecane	21.849	294-62-2	1.48
Σ (Area.%) =			14.99
Ketones			
2-Cyclopenten-1-one, 3,4,4-trimethyl-	15.315	30434-65-2	2.52
2-Cyclopenten-1-one, 3,4,4-trimethyl-	15.945	30434-65-2	1.18
2-Heptadecanone	36.537	2922-51-2	11.68
2-Nonadecanone	42.908	629-66-3	4.50
Σ (Area.%) =			19.88
Alcohols			
2-Furanmethanol	8.053	98-00-0	1.32
2-Methyl-Z,Z-3,13-octadecadienol	42.215	---	5.28
Σ (Area.%) =			6.60
Phenol			
Phenol	9.726	108-95-2	2.16
Phenol, 3-methyl-	13.042	108-39-4	2.90
Phenol, 2,5-dimethyl-	17.699	95-87-4	1.93
Phenol, 3-ethyl-	18.218	620-17-7	1.53
Σ (Area.%) =			8.52
Ester			
Hexadecanoic acid, methyl ester	37.021	112-39-0	1.34
9-Octadecene, 1-methoxy-, (E)-	42.016	56847-01-09	2.65
10-Octadecenoic acid, methyl ester	42.727	13481-95-3	1.17
Σ (Area.%) =			5.16
Nitrogenous			
Piperidine, 1-methyl-	7.913	626-67-5	3.71
Piperidine, 1,2-dimethyl-	12.611	671-36-3	1.26
4-Piperidinone, 2,2,6,6-tetramethyl-	16.907	826-36-8	6.27
Octadecanenitrile	43.054	638-65-3	3.12
Σ (Area.%) =			14.36
Amide			
Acetamide, N-(aminocarbonyl)-	5.541	0591-07-01	1.28
Nonadecanamide	45.205	58185-32-3	1.66
cis-11-Eicosenamide	48.725	10436-08-05	1.40
Σ (Area.%) =			4.34
Amine			

2-Pentanone, 4-amino-4-methyl-	8.257	0625-04-07	2.31
Σ (Area.%) =			2.31
Aldehyde			
10-Undecen-1-al, 2-methyl-	18.923		1.22
cis-7-Decen-1-al	19.908	21661-97-2	1.23
2-Isopropylidene-5-methylhex-4-enal	21.692	3304-28-7	1.45
(E)-Tetradec-2-enal	27.258	51534-36-2	1.38
Σ (Area.%) =			5.28
Total			100.00

Table S6. Classes of compounds, summation of peak areas, CAS number, and retention times of chemical compounds identified by CG-MS in bio-oil by thermal catalytic cracking of (organic matter + paper) fraction from MHSW at 475 °C, 1.0 atm, 10.0% (wt.) of Ca(OH)₂, in laboratory scale.

10% Ca(OH) ₂ ; 475°C			
Class of Compounds: Chemical Compounds	RT [min]	CAS	Ⓢ _i (area.%)
Alkanes			
2,6-Dimethyldecane	19.162	13150-81-7	1.761
Tridecane	22.076	629-50-5	1.729
Tetradecane	24.833	629-59-4	1.825
Pentadecane	27.439	629-62-9	3.654
Hexadecane	29.939	544-76-3	1.672
Tetradecane, 2,6,10-trimethyl-	32.411	14905-56-7	4.300
Octane, 4-ethyl-	16.085	15869-86-0	3.721
Σ (Area.%) =			18.662
Alkenes			
1-Decene	12.611	0872-05-09	2.478
2-Dodecene, (E)-	18.923	7206-13-5	1.894
1-Tetradecene	24.629	1120-36-1	2.577
Σ (Area.%) =			6.949
Ring-containing Hydrocarbons			
Cyclohexane	4.031	110-82-7	2.279
Toluene	6.153	108-88-3	1.822
Ethylbenzene	8.770	100-41-4	1.897
Styrene	9.720	100-42-5	2.705
Limonene	14.161	138-86-3	1.049
Cyclododecane	21.855	294-62-2	1.720
Σ (Area.%) =			11.472
Ketones			
2-Cyclopenten-1-one, 2,3-dimethyl-	14.266	1121-05-07	0.814
2-Heptadecanone	36.531	2922-51-2	15.176
2-Nonadecanone	42.914	629-66-3	6.442
Σ (Area.%) =			22.432
Alcohols			
2-Furanmethanol	8.251	98-00-0	2.152
1-Hexadecanol, 2-methyl-	32.277	2490-48-4	1.685
2-Methyl-Z,Z-3,13-octadecadienol	42.197	---	6.723
1-Tetradecanol	29.759	112-72-1	2.039
Σ (Area.%) =			12.599
Phenol			
Phenol	12.179	108-95-2	2.200
Phenol, 2-methyl-	14.662	95-48-7	1.242
p-Cresol	15.304	106-44-5	2.457
Phenol, 2,5-dimethyl-	17.693	95-87-4	3.375
Phenol, 2-ethyl-	18.218	90-00-6	2.334
Σ (Area.%) =			11.608
Ether			
Caryophyllene oxide	32.096	1139-30-6	2.334
9-Octadecene, 1,1-dimethoxy-, (Z)-	42.016	15677-71-1	3.407
Σ (Area.%) =			5.741
Nitrogenous			
Indolizine	22.438	274-40-8	1.633
Eicosanenitrile	43.048	4616-73-3	3.195
Σ (Area.%) =			4.828
Amide			
cis-9,10-Epoxyoctadecanamide	45.199	172995-07-2	2.269
Σ (Area.%) =			2.269
Aldehyde			

(E)-Tetradec-2-enal	27.252	51534-36-2	1.970
Σ (Area.%) =			1.970
Oxygenated			
2-Oxatricyclo[4.3.1.0(3,8)]decane	13.036	16710-57-9	1.469
Σ (Area.%) =			1.469
Non-identified compounds			0.001
Total			100.00

Table S7. Classes of compounds, summation of peak areas, CAS number, and retention times of chemical compounds identified by CG-MS in bio-oil by thermal catalytic cracking of (organic matter + paper) fraction from MHSW at 475 °C, 1.0 atm, 15.0% (wt.) of Ca(OH)₂, in laboratory scale.

15% Ca(OH) ₂ ; 475°C			
Class of Compounds: Chemical Compounds	RT [min]	CAS	Ⓐ (area.%)
Alkanes			
1-Decene	12.617	0872-05-09	2.267
Decane	12.891	124-18-5	1.070
Undecane	16.085	1120-21-4	1.367
Dodecane	19.156	112-40-3	1.781
Tridecane	22.082	629-50-5	1.937
Tetradecane	24.839	629-59-4	1.824
Pentadecane	27.439	629-62-9	3.632
Hexadecane	29.939	544-76-3	1.725
Heptadecane	32.405	629-78-7	3.891
Tetradecane, 2,6,10-trimethyl-	34.229	14905-56-7	1.863
Σ (Area.%) =			20.287
Alkenes			
1-Nonene	9.440	0124-11-8	0.565
Styrene	9.720	100-42-5	2.630
1-Undecene	15.817	821-95-4	1.630
3-Dodecene, (E)-	18.923	7239-23-8	2.075
6-Tridecene, (Z)-	21.861	6508-77-6	2.005
7-Tetradecene	24.635	10374-74-0	2.700
3-Hexadecene, (Z)-	29.753	34303-81-6	1.804
8-Heptadecene	32.282	06-04-2579	1.659
Σ (Area.%) =			12.438
Ring-containing Hydrocarbons			
Cyclohexane	4.025	110-82-7	2.921
Toluene	6.153	108-88-3	1.985
Ethylbenzene	8.764	100-41-4	2.089
D-Limonene	14.161	5989-27-5	0.968
Cyclopentadecane	27.252	295-48-7	2.043
Σ (Area.%) =			10.006
Ketones			
2-Cyclopenten-1-one, 2,3-dimethyl-	14.272	1121-05-07	0.771
2-Heptadecanone	36.532	2922-51-2	13.925
3-Octadecanone	39.137	18261-92-2	1.482
2-Nonadecanone	42.902	629-66-3	6.517
Σ (Area.%) =			22.695
Alcohols			
2-Furanmethanol	8.257	98-00-0	1.888
p-Mentha-1(7),8-dien-2-ol	15.001	35907-10-9	0.626
2-Methyl-Z,Z-3,13-octadecadienol	42.197	-	6.178
Σ (Area.%) =			8.692
Phenol			
Phenol	12.174	108-95-2	1.678
Phenol, 2-methyl-	14.662	95-48-7	1.195
p-Cresol	15.304	106-44-5	2.336
Phenol, 2,5-dimethyl-	17.705	95-87-4	1.883
Phenol, 2-ethyl-	18.212	90-00-6	2.042
Σ (Area.%) =			9.134
Ester			
Hexadecanoic acid, methyl ester	37.027	112-39-0	0.978
Σ (Area.%) =			0.978
Ether			
9-Octadecene, 1-methoxy-, (E)-	42.016	56847-01-09	3.109

Σ (Area.%) =			3.109
Nitrogenous			
Benzenepropanoic acid, α -(hydroxyimino)-	22.432	3682-17-5	1.415
Octadecanenitrile	43.042	638-65-3	2.318
Σ (Area.%) =			3.733
Amide			
9-Octadecenamide, (Z)-	45.199	301-02-0	1.891
9-Octadecenamide, (Z)-	48.713	301-02-0	1.627
Σ (Area.%) =			3.518
Aldehyde			
2-((2R,4aR,8aS)-4a-Methyl-8-methylenedecahydronaphthalen-2-yl)acrylaldehyde	32.113	3650-40-6	1.711
Σ (Area.%) =			1.711
Non-identified compounds			3.699
Total			100.00