

Table S1. The main organic compound components of bio-oil (no catalyst)

Chemical compound	Molecular formula	Area (%) No catalyst
Hydrocarbons		
Decane	C ₁₀ H ₂₂	1.53
1-Nonadecene	C ₁₉ H ₃₈	1.46
E,E-1,9,17-Docasatriene	C ₂₂ H ₄₀	1.32
Cholest-5-ene	C ₂₇ H ₄₆	1.66
3,5-Cyclo-6,8(14),22-ergostatriene	C ₂₈ H ₄₂	0.95
Nitrogen compounds		
Amides		
N,N-Dimethylacetamide	C ₄ H ₉ NO	0.62
N-(3-Methylbutyl)acetamide	C ₇ H ₁₅ NO	0.98
Acetamide, N-(2-phenylethyl)-	C ₁₀ H ₁₃ NO	1.56
Dodecanamide, N-ethyl-	C ₁₄ H ₂₉ NO	2.2
Hexadecanamide	C ₁₆ H ₃₃ NO	1.58
9-Octadecenamide, (Z)-	C ₁₈ H ₃₅ NO	1.48
Octadecanamide, N-butyl-	C ₂₂ H ₄₅ NO	1.47
Amines		
Benzenamine, 3-methoxy-	C ₇ H ₉ NO	0.48
Benzenamine, 3,4-dimethoxy-	C ₈ H ₁₁ NO ₂	0.51
Undecanoic acid, 11-amino-	C ₁₁ H ₂₃ NO ₂	0.68
N-Methyldodecanamide	C ₁₃ H ₂₇ NO	1.34
N-Ethyl-4-methyl-4-decanamine	C ₁₃ H ₂₉ N	2.86
Pyrroles		
2-Pyrrolidinone	C ₄ H ₇ NO	1.32
Pyrrolidine, 1-acetyl-	C ₆ H ₁₁ NO	2.01
Pyrrolidine, 1-(1-cyclopenten-1-yl)-	C ₉ H ₁₅ N	3.11
3-Isobutylhexahydropyrrolo[1,2-a]pyrazine-1,4-dione	C ₁₁ H ₁₈ N ₂ O ₂	1.44
Tetradecanoic acid, pyrrolidide	C ₁₈ H ₃₅ NO	0.78
Pyridines		
3-Pyridinol, 2,6-dimethyl-	C ₇ H ₉ NO	1.36
2-Pyridinamine, 3-methyl-	C ₆ H ₈ N ₂	1.59
4-Pyridinamine, N,N,2,6-tetramethyl-	C ₉ H ₁₃ N ₂	0.37
3-Pyridinol, 2-ethyl-6-methyl-	C ₈ H ₁₁ NO	1.08
9H-Pyrido[3,4-b]indole	C ₁₁ H ₈ N ₂	1.99
9H-Pyrido[3,4-b]indole, 1-methyl-	C ₁₂ H ₁₀ N ₂	2.3
3,5-Diethyl-2-(2-furyl)pyridine	C ₁₃ H ₁₅ NO	1.77
Indoles		
Indole	C ₈ H ₇ N	3.5
Indole, 3-methyl-	C ₉ H ₉ N	2.71
1H-Indole, 5,6,7-trimethyl-	C ₁₁ H ₁₃ N	0.58
Pyrazines		
Pyrazine, 2,5-dimethyl-	C ₆ H ₈ N ₂	2.82

Pyrazine, 3-ethyl-2,5-dimethyl-	C ₈ H ₁₂ N ₂	2.45
3,6-Dipropyl-2,5-dimethylpyrazine	C ₁₂ H ₂₀ N ₂	1.59
<i>Piperidines</i>		
Piperidine, 1-acetyl-	C ₇ H ₁₃ NO	2.85
4-Piperidinone, 2,2,6,6-tetramethyl-	C ₉ H ₁₇ NO	1.58
<i>Others</i>		
3-Benzyl-6-isopropyl-2,5-piperazinedione	C ₁₄ H ₁₈ N ₂ O ₂	1.08
3,6-Diisopropyl-2,5-piperazinedione	C ₁₀ H ₁₈ N ₂ O ₂	1.16
Benzonitrile, 2,4,6-trimethyl-	C ₁₀ H ₁₁ N	1.56
<hr/> <i>Oxygenated compounds</i>		
<i>Organic acids</i>		
n-Hexadecanoic acid	C ₁₆ H ₃₂ O ₂	3.55
9,12-Octadecadienoic acid (Z,Z)-	C ₁₈ H ₃₂ O ₂	6.26
<i>Alcohols</i>		
Isosorbide	C ₆ H ₁₀ O ₄	5.16
Sorbitol	C ₆ H ₁₄ O ₆	5.67
Neoergosterol	C ₂₇ H ₄₀ O	1.09
Ergosterol	C ₂₈ H ₄₄ O	1.22
<i>Esters</i>		
Acetic acid, octyl ester	C ₁₀ H ₂₀ O ₂	2.79
Hexadecanoic acid, ethyl ester	C ₁₈ H ₃₆ O ₂	3.87
<i>Phenols</i>		
Phenol	C ₆ H ₆ O	1.05
p-Cresol	C ₇ H ₈ O	3.96
Phenol, 3,5-bis(1,1-dimethylethyl)-	C ₁₄ H ₂₂ O	1.59

Table S2. The main organic compound components of bio-oil (Na₂CO₃, NaOH)

Chemical compound	Molecular formula	Area (%)									
		Na ₂ CO ₃ (wt. %)					NaOH (wt. %)				
		1	3	5	8	10	1	3	5	8	10
<i>Hydrocarbons</i>											
Decane	C ₁₀ H ₂₂	1.05	1.22	2.1	1.63	1.33	0.97	0.82	-	1.21	0.65
1H-Indene,2,3-dihydro-1,1,4-trimethyl-	C ₁₂ H ₁₆	0.58	-	-	1.05	0.96	-	0.71	1.11	0.65	-
1,2,3,4-Tetrahydrochrysene	C ₁₈ H ₁₆	-	0.78	0.42	-	-	1.78	-	0.86	-	0.78
Heptadecane	C ₁₇ H ₃₆	-	1.06	-	0.86	1.19	-	0.79	-	0.56	1.06
1-Nonadecene	C ₁₉ H ₃₈	1.42	2.05	1.09	1.32	2.08	1.69	1.33	0.92	1.19	1.93
Atis-16-ene, 5π8π9π10π12π-	C ₂₀ H ₃₂	-	-	0.46	0.78	-	-	-	-	-	-
E,E-1,9,17-Docasatriene	C ₂₂ H ₄₀	0.79	1.5	-	-	1.76	-	-	1.03	-	-
Cholest-5-ene	C ₂₇ H ₄₆	3.03	1.79	2.03	1.83	2.11	2.14	1.56	2.44	2.07	1.29
3,5-Cyclo-6,8(14),22-ergostatriene	C ₂₈ H ₄₂	0.54	1.56	2.24	1.05	-	1.88	1.41	0.81	1.62	2.01
<i>Nitrogen compounds</i>											
<i>Amides</i>											
N,N-Dimethylacetamide	C ₄ H ₉ NO	1.16	0.59	0.92	0.78	-	0	1.57	1.78	0	0
Caprolactam	C ₆ H ₁₁ NO	0.59	0.54	-	-	0.96	-	-	-	-	-
N-(3-Methylbutyl)acetamide	C ₇ H ₁₅ NO	-	1.05	1.29	0.69	-	-	-	0.96	1.78	0
Acetamide, N-(2-phenylethyl)-	C ₁₀ H ₁₃ NO	0.66	-	0.97	1.09	1.73	-	-	-	-	-
Dodecanamide, N-ethyl-	C ₁₄ H ₂₉ NO	1.49	1.35	2.14	1.67	0.92	-	-	-	-	-
Hexadecanamide	C ₁₆ H ₃₃ NO	0.86	0.96	-	-	-	2.26	1.29	0.96	1.77	2.49
9-Octadecenamide, (Z)-	C ₁₈ H ₃₅ NO	1.53	1.72	1.67	1.32	1.28	1.09	0	1.26	1.32	1.15
1-Octadecanamine, N-methyl-	C ₁₉ H ₄₁ N	2.09	1.55	1.1	1.54	0.75	1.06	2.32	1.33	-	-
Octadecanamide, N-butyl-	C ₂₂ H ₄₅ NO	0.85	0.92	1.18	0.76	1.35	0.88	-	-	1.06	1.67

Amines											
Benzenamine, 3-methoxy-	C ₇ H ₉ NO	1.07	0.91	1.22	0.85	-	1.02	0.85	1.29	-	1.97
Benzenamine, 3,4-dimethoxy-	C ₈ H ₁₁ NO ₂	1.35	-	0.53	1.12	0.83	-	0.67	-	1.33	1.64
1-Hexanamine, N-butyl-	C ₁₀ H ₂₃ N	0.97	1.26	1.57	1.38	1.45	1.92	1.44	0.92	-	-
1,4-Benzenediamine, N,N-diethyl-	C ₁₀ H ₁₆ N ₂	-	-	-	-	-	-	0.62	-	0.83	-
N-Methyldodecanamide	C ₁₃ H ₂₇ NO	-	-	-	-	-	-	-	1.05	0	1.85
N-Ethyl-4-methyl-4-decanamine	C ₁₃ H ₂₉ N	-	-	-	-	-	1.94	1.05	-	0.68	-
Pyrroles											
2-Pyrrolidinone	C ₄ H ₇ NO	1.03	1.73	2.21	1.98	2.35	-	2.89	1.71	2.23	1.72
2,5-Pyrrolidinone, 1-methyl-	C ₅ H ₇ NO ₂	-	1.32	-	2.36	3.77	-	-	-	-	-
2-Pyrrolidinone, 1-methyl-	C ₅ H ₉ NO	2.09	2.27	2.38	1.75	3.05	-	-	-	-	-
1-Ethyl-2-pyrrolidinone	C ₆ H ₁₁ NO	1.92	1.3	-	0.63	0.72	2.78	-	1.96	-	-
Pyrrolidine, 1-acetyl-	C ₆ H ₁₁ NO	5.39	2.59	3.87	3.12	4.61	-	-	-	-	-
Pyrrolo[1,2-a]pyrazine-1,4-dione, hexahydro-	C ₇ H ₁₀ N ₂ O ₂	-	-	-	-	-	1.91	3.78	2.54	0.92	-
Pyridines											
3-Pyridinol, 2,6-dimethyl-	C ₇ H ₉ NO	1.73	1.22	2.34	0.96	2.21	1.76	-	-	2.15	-
2-Pyridinamine, 3-methyl-	C ₆ H ₈ N ₂	-	0.78	0.56	1.15	1.32	1.15	2.26	-	1.62	1.06
4-Pyridinamine, N,N,2,6-tetramethyl-	C ₉ H ₁₃ N ₂	1.04	1.5	1.32	1.89	1.67	1.33	-	1.71	1.03	-
3-Pyridinol, 2-ethyl-6-methyl-	C ₈ H ₁₁ NO	-	1.32	-	0.58	0.92	-	-	-	-	-
9H-Pyrido[3,4-b]indole	C ₁₁ H ₈ N ₂	3.09	3.01	2.83	2.19	3.17	4.17	5.42	2.19	5.53	1.82
9H-Pyrido[3,4-b]indole, 1-methyl-	C ₁₂ H ₁₀ N ₂	-	-	-	-	-	1.09	-	4.45	-	3.26
2,3-Cyclododecenpppyridine	C ₁₅ H ₂₃ N	1.16	1.32	-	-	0.97	-	-	-	-	-
Indoles											
Indole	C ₈ H ₇ N	5.19	3.98	4.45	6.37	5.03	6.37	5.64	6.56	4.9	5.19
Indole, 3-methyl-	C ₉ H ₉ N	3.87	3.67	4.24	6.43	2.96	2.63	2.59	3.77	4.76	5.66
Indolizine, 2,3-dimethyl-	C ₁₀ H ₁₁ N	0.56	-	-	0.51	1.06	-	1.35	-	1.72	-

<i>Pyrazines</i>											
Pyrazine, methyl-	C ₅ H ₆ N ₂	0.71	0.58	0	1.78	1.06	3.12	2.06	4.16	3.03	3.63
Pyrazine, 2,5-dimethyl-	C ₆ H ₈ N ₂	2.32	1.85	2.77	3.05	4.34	2.65	1.76	1.83	3.72	4.25
Pyrazine, 2-ethyl-3-methyl-	C ₇ H ₁₀ N ₂	1.26	0.82	0	0	-	-	2.09	3.15	4.36	3.15
Pyrazine, 3-ethyl-2,5-dimethyl-	C ₈ H ₁₂ N ₂	2.65	3.25	2.16	1.65	2.11	4.59	6.48	5.49	5.12	4.31
3,6-Dipropyl-2,5-dimethylpyrazine	C ₁₂ H ₂₀ N ₂	1.32	0.96	1.54	0.98	0	1.45	0.84	1.36	2.34	2.29
<i>Piperidines</i>											
Piperidine, 1-acetyl-	C ₇ H ₁₃ NO	4.73	5.03	5.82	3.94	1.96	3.67	2.89	3.21	2.47	2.41
2-Piperidinone, 1-methyl-	C ₆ H ₁₁ NO	0	1.76	2.94	2.09	0	1.29	3.92	0	0	3.09
<i>Others</i>											
3,6-Diisopropyl-2,5-piperazinedione	C ₁₀ H ₁₈ N ₂ O ₂	1.76	2.07	1.98	-	1.32	2.96	0.94	1.81	-	3.05
<i>Oxygenated compounds</i>											
<i>Organic acids</i>											
n-Hexadecanoic acid	C ₁₆ H ₃₂ O ₂	2.07	4.65	3.97	2.96	2.45	-	1.72	1.85	0.95	-
9,12-Octadecadienoic acid (Z,Z)-	C ₁₈ H ₃₂ O ₂	3.12	3.42	2.66	3.63	4.13	1.26	1.59	1.8	1.67	2.04
<i>Alcohols</i>											
Erythritol	C ₄ H ₁₀ O ₄	-	0.69	1.02	-	0.93	-	-	-	-	-
Isosorbide	C ₆ H ₁₀ O ₄	4.72	4.26	4.88	5.5	3.78	4.26	3.89	4.61	5.13	4.77
Sorbitol	C ₆ H ₁₄ O ₆	6.32	5.4	5.1	4.29	4.79	3.69	4.26	4.36	2.75	3.9
Neoergosterol	C ₂₇ H ₄₀ O	-	1.83	1.63	2.23	1.92	1.34	3.1	2.59	3.71	2.83
Ergosterol	C ₂₈ H ₄₄ O	2.64	1.25	1.45	0.96	2.01	5.12	4.87	3.22	4.12	2.73
<i>Esters</i>											
Acetic acid, octyl ester	C ₁₀ H ₂₀ O ₂	3.64	2.71	2.85	2.14	4.33	3.24	2.91	2.63	3.32	2.96
Hexadecanoic acid, ethyl ester	C ₁₈ H ₃₆ O ₂	3.67	2.69	4.23	3.52	1.93	4.69	5.09	5.66	3.89	4.14
9,12-Octadecadienoic acid (Z,Z)-, methyl ester	C ₁₉ H ₃₄ O ₂	6.11	4.78	4.04	5.19	6.66	6.42	6.11	5.48	4.56	5.55
<i>Phenols</i>											

Phenol	C ₆ H ₆ O	2.65	-	4.31	2.65	-	1.81	2.1	-	1.26	1.56
p-Cresol	C ₇ H ₈ O	-	2.05	-	1.82	1.15	2.12	-	3.24	1.95	2.43
<i>Aldehydes</i>											
Dodecanal	C ₁₂ H ₂₄ O	1.95	0.82	-	1.23	2.09	2.87	1.96	1.29	1.77	3.71
Decanal	C ₁₀ H ₂₀ O	1.26	0.97	-	0.75	-	-	1.06	-	2.14	-
Oxacyclododecan-2-one	C ₁₁ H ₂₀ O ₂	-	1.34	1.52	-	0.53	1.63	-	0.65	-	-

Table S3. The main organic compound components of bio-oil (ZSM-5, MCM-48)

Chemical compound	Molecular formula	Area (%)									
		ZSM-5 (wt. %)					MCM-48 (wt. %)				
		1	3	5	8	10	1	3	5	8	10
Hydrocarbons											
Decane	C ₁₀ H ₂₂	0.79	1.11	1.7	0.99	1.25	1.14	0.95	1.42	0.87	-
1H-Indene,2,3-dihydro-1,1,4-trimethyl-	C ₁₂ H ₁₆	-	1.41	-	1.55	-	-	1.35	0.92	1.72	1.85
1,2,3,4-Tetrahydrochrysene	C ₁₈ H ₁₆	1.07	-	1.56	1.92	2.15	-	-	0.96	1.32	-
Heptadecane	C ₁₇ H ₃₆	-	0.95	1.25	-	1.64	0.95	-	-	-	1.69
1-Nonadecene	C ₁₉ H ₃₈	1.56	1.78	1.44	2.08	1.46	1.25	2.48	3.12	2.23	1.06
Atis-16-ene, 5π8π9π10π12π-	C ₂₀ H ₃₂	-	-	-	-	-	-	-	-	-	-
E,E-1,9,17-Docasatriene	C ₂₂ H ₄₀	2.34	2.86	1.89	3.05	1.83	2.76	0.92	1.53	2.02	1.73
Cholest-5-ene	C ₂₇ H ₄₆	1.76	2.32	3.32	1.48	1.52	2.04	2.17	1.85	2.13	1.08
3,5-Cyclo-6,8(14),22-ergostatriene	C ₂₈ H ₄₂	-	-	-	-	-	2.31	1.92	1.43	1.63	2.95
Nitrogen compounds											
Amides											
N,N-Dimethylacetamide	C ₄ H ₉ NO	0.81	-	1.21	1.44	-	-	0.65	1.34	0.95	-
N-(3-Methylbutyl)acetamide	C ₇ H ₁₅ NO	1.02	1.12	-	-	0.56	-	-	-	-	-
Acetamide, N-(2-phenylethyl)-	C ₁₀ H ₁₃ NO	-	-	-	-	1.69	0.97	-	-	0.65	1.42
Dodecanamide, N-ethyl-	C ₁₄ H ₂₉ NO	-	1.69	-	1.24	-	1.38	-	-	0.89	1.56
Hexadecanamide	C ₁₆ H ₃₃ NO	2.51	1.78	1.56	0.96	1.07	-	1.77	1.43	-	-
9-Octadecenamide, (Z)-	C ₁₈ H ₃₅ NO	-	2.04	1.24	-	1.25	2.32	1.59	1.17	1.44	1.32
1-Octadecanamine, N-methyl-	C ₁₉ H ₄₁ N	1.25	-	0.95	1.46	1.09	0.96	2.32	1.76	-	1.29
Octadecanamide, N-butyl-	C ₂₂ H ₄₅ NO	1.33	1.65	2.33	1.81	1.34	1.09	1.35	-	1.26	1.63
Amines											

Benzenamine, 3-methoxy-	C ₇ H ₉ NO	-	-	-	-	-	1.45	1.69	0.85	-	0.73
Benzenamine, 3,4-dimethoxy-	C ₈ H ₁₁ NO ₂	-	0.95	1.13	0.73	-	-	-	1.01	1.86	-
Amphetamine	C ₉ H ₁₃ N	-	-	1.01	1.24	0.87	-	-	-	-	-
1,4-Benzenediamine, N,N-diethyl-	C ₁₀ H ₁₆ N ₂	1.14	0.76	-	0.96	-	2.13	1.76	1.32	0.96	-
N-Methyldodecanamide	C ₁₃ H ₂₇ NO	-	0.59	0.86	1.73	-	-	-	0.86	-	1.1
N-Ethyl-4-methyl-4-decanamine	C ₁₃ H ₂₉ N	1.53	-	1.97	-	1.33	1.45	0.98	0.6	1.21	-
<i>Pyrroles</i>											
2-Pyrrolidinone	C ₄ H ₇ NO	1.86	1.02	-	0.83	-	2.23	1.56	1.33	-	0.83
2,5-Pyrrolidinone, 1-methyl-	C ₅ H ₇ NO ₂	2.72	-	3.16	1.8	4.23	1.95	-	-	2.31	2.62
2-Pyrrolidinone, 1-methyl-	C ₅ H ₉ NO	1.13	3.9	2.33	3.15	-	-	-	-	-	-
1-Ethyl-2-pyrrolidinone	C ₆ H ₁₁ NO	-	0.72	-	-	2.12	-	1.23	-	-	-
Pyrrolidine, 1-acetyl-	C ₆ H ₁₁ NO	3.56	4.23	2.9	3.16	1.97	2.36	3.15	2.85	3.02	2.13
Pyrrolo[1,2-a]pyrazine-1,4-dione, hexahydro-	C ₇ H ₁₀ N ₂ O ₂	2.31	1.37	1.56	0.96	-	1.74	0.95	2.08	1.62	0.86
N-(3-Hydroxypropyl)-2-pyrrolidone	C ₇ H ₁₃ NO ₂	-	1.21	-	-	-	1.26	-	1.82	0.95	-
<i>Pyridines</i>											
3-Pyridinol, 2,6-dimethyl-	C ₇ H ₉ NO	-	2.14	1.78	-	2.56	-	1.14	-	2.32	-
2-Pyridinamine, 3-methyl-	C ₆ H ₈ N ₂	1.13	0.97	-	0.65	1.45	1.26	-	0.96	2.74	1.65
4-Pyridinamine, N,N,2,6-tetramethyl-	C ₉ H ₁₃ N ₂	1.65	0.81	2.04	1.43	1.76	-	1.25	1.13	-	1.03
3-Pyridinol, 2-ethyl-6-methyl-	C ₈ H ₁₁ NO	1.17	-	1.83	-	2.34	-	-	1.05	-	-
9H-Pyrido[3,4-b]indole	C ₁₁ H ₈ N ₂	5.76	2.56	3.45	5.55	4.36	5.33	6.52	5.86	4.96	5.2
9H-Pyrido[3,4-b]indole, 1-methyl-	C ₁₂ H ₁₀ N ₂	-	4.01	1.06	3.06	2.0	3.21	2.04	2.52	1.87	2.85
2,3-Cyclododecenpyridine	C ₁₅ H ₂₃ N	0.97	-	-	1.19	0.65	-	0.86	1.25	0.56	-
<i>Indoles</i>											
Indole	C ₈ H ₇ N	5.67	4.44	6.2	3.97	4.6	4.73	3.93	3.26	4.23	5.8
Indole, 3-methyl-	C ₉ H ₉ N	3.51	2.67	2.11	4.36	2.96	3.67	4.23	5.53	3.85	4.3
Indolizine, 2,3-dimethyl-	C ₁₀ H ₁₁ N	-	-	4.03	-	1.52	-	-	-	-	-

<i>Pyrazines</i>											
Pyrazine, methyl-	C ₅ H ₆ N ₂	-	2.71	1.45	1.76	3.1	-	1.14	2.2	1.34	1.05
Pyrazine, 2,5-dimethyl-	C ₆ H ₈ N ₂	3.49	2.62	2.78	2.63	3.11	1.76	3.05	2.31	3.89	2.78
Pyrazine, 2-ethyl-3-methyl-	C ₇ H ₁₀ N ₂	-	-	-	-	-	4.13	2.89	3.24	4.78	3.67
Pyrazine, 3-ethyl-2,5-dimethyl-	C ₈ H ₁₂ N ₂	2.22	1.72	-	1.4	-	2.56	3.41	1.96	2.16	1.64
<i>Piperidines</i>											
Piperidine, 1-acetyl-	C ₇ H ₁₃ NO	3.56	2.76	2.05	2.33	3.17	3.52	4.01	3.17	2.81	4.53
<i>Others</i>											
3,6-Diisopropyl-2,5-piperazinedione	C ₁₀ H ₁₈ N ₂ O ₂	2.32	1.5	0.96	1.56	0.97	1.26	0.95	0	0	1.85
<i>Oxygenated compounds</i>											
<i>Organic acids</i>											
n-Hexadecanoic acid	C ₁₆ H ₃₂ O ₂	3.73	2.62	3.25	1.9	2.13	3.69	1.65	2.88	3.15	2.45
9,12-Octadecadienoic acid (Z,Z)-	C ₁₈ H ₃₂ O ₂	3.89	4.16	3.15	5.49	4.6	4.54	5.41	6.02	4.7	3.9
<i>Alcohols</i>											
Isosorbide	C ₆ H ₁₀ O ₄	5.01	4.72	5.7	3.89	6.31	4.82	4.19	5.67	4.26	3.96
Sorbitol	C ₆ H ₁₄ O ₆	3.43	5.34	3.15	4.25	2.1	5.69	4.93	3.85	4.2	4.53
Cyclohexanol, 3,3,5-trimethyl-	C ₉ H ₁₈ O	-	0.83	-	1.74	-	0.95	-	-	-	-
Neoergosterol	C ₂₇ H ₄₀ O	2.83	4.02	3.11	1.74	2.16	3.05	2.78	4.12	3.44	2.75
Ergosterol	C ₂₈ H ₄₄ O	3.22	2.41	2.69	3.0	2.2	2.62	3.42	1.23	1.89	3.17
<i>Esters</i>											
Acetic acid, octyl ester	C ₁₀ H ₂₀ O ₂	3.67	2.89	1.78	2.51	3.71	-	-	-	-	-
Hexadecanoic acid, ethyl ester	C ₁₈ H ₃₆ O ₂	4.78	5.13	6.3	3.23	2.58	3.12	5.07	4.73	3.69	5.16
9,12-Octadecadienoic acid (Z,Z)-, methyl ester	C ₁₉ H ₃₄ O ₂	3.15	1.26	2.05	4.23	3.03	2.66	1.53	1.25	2.32	1.52
<i>Phenols</i>											
Phenol	C ₆ H ₆ O	1.62	-	-	2.14	1.85	2.35	1.21	0	1.67	-
p-Cresol	C ₇ H ₈ O	2.1	3.25	1.86	-	3.06	-	2.56	2.71	3.22	3.87

<i>Aldehydes</i>												
Dodecanal	$C_{12}H_{24}O$	-	1.6	-	3.45	4.35	2.13	1.8	-	2.91	4.03	
Decanal	$C_{10}H_{20}O$	2.43	-	3.85	-	-	-	1.24	2.63	-	2.46	
Oxacyclododecan-2-one	$C_{11}H_{20}O_2$	-	-	-	-	-	1.21	-	0.82	-	-	