

Supplementary Material

Table S1. Results of GC/MS screening of organic compounds in poultry wastewater and treated water after wastewater treatment with *Tetradesmus obliquus* microalga.

Identified compounds	Molecular formula	Poultry wastewater	Treated water
HYDROCARBONS			
<i>Hydrocarbons with saturated bonds</i>			
Undecane	C ₁₁ H ₂₄	-	+
Dodecane	C ₁₂ H ₂₆	+	+
Tridecane	C ₁₃ H ₂₈	+	+
Tetradecane	C ₁₄ H ₃₀	+	+
Pentadecane	C ₁₅ H ₃₂	+	+
Hexadecane	C ₁₆ H ₃₄	+	+
Heptadecane	C ₁₇ H ₃₆	+	+
Octadecane	C ₁₈ H ₃₈	-	+
Eicosane	C ₂₀ H ₄₂	-	+
Tetracosane	C ₂₄ H ₅₀	-	+
Octacosane	C ₂₈ H ₅₈	-	+
Total No.		6	11
<i>Hydrocarbons with unsaturated bonds</i>			
2-Tetradecene, (E)-	C ₁₄ H ₂₈	+	+
1-Tetradecene	C ₁₄ H ₂₈	-	+
1-Hexadecene	C ₁₆ H ₃₂	+	+
Z-8-Hexadecene	C ₁₆ H ₃₂	-	+
3-Eicosene, (E)-	C ₂₀ H ₄₀	+	-
10-Heneicosene (c,t)	C ₂₁ H ₄₂	+	-
9-Tricosene, (Z)-	C ₂₃ H ₄₆	+	-
Total No.		5	4
<i>Alkylated hydrocarbons</i>			
Tetradecane, 2-methyl-	C ₁₅ H ₃₂	+	+
2-Methyl-Z-4-tetradecene	C ₁₅ H ₃₀	+	-
Dodecane, 2,6,11-trimethyl-	C ₁₅ H ₃₂	-	+
Pentadecane, 5-methyl-	C ₁₆ H ₃₄	-	+
Tridecane, 6-propyl-	C ₁₆ H ₃₄	-	+
Hexadecane, 2-methyl-	C ₁₇ H ₃₆	-	+
Heptadecane, 2-methyl-	C ₁₈ H ₃₈	-	+
Octadecane, 2-methyl-	C ₁₉ H ₄₀	-	+
Nonadecane, 3-methyl-	C ₂₀ H ₄₂	-	+
Total No.		2	8
KETONES			

Identified compounds	Molecular formula	Poultry wastewater	Treated water
2-Undecanone	C ₁₁ H ₂₂ O	-	+
Benzophenone	C ₁₃ H ₁₀ O	-	+
2-Tridecanone	C ₁₃ H ₂₆ O	+	+
2-Tetradecanone	C ₁₄ H ₂₈ O	-	+
Total No.		1	4
PHENOLS			
Phenol, 4-methyl-	C ₇ H ₈ O	+	-
Phenol, 4,5-bis(1,1-dimethylethyl)	C ₁₄ H ₂₂ O	+	+
Phenol, 2,4-di-t-butyl-6-nitro-	C ₁₄ H ₂₁ NO ₃	-	+
Total No.		2	2
ORGANIC ACIDS			
Pentanoic acid, 4-methyl-	C ₆ H ₁₂ O ₂	+	-
Hexanoic acid	C ₆ H ₁₂ O ₂	+	-
Benzoic acid	C ₇ H ₆ O ₂	-	+
Hexanoic acid, 4-methyl-	C ₇ H ₁₄ O ₂	+	-
Heptanoic acid	C ₇ H ₁₄ O ₂	+	-
Benzoic acid, 3-methyl-	C ₈ H ₈ O ₂	-	+
2-Octenoic acid	C ₈ H ₁₄ O ₂	+	-
n-Decanoic acid	C ₁₀ H ₂₀ O ₂	+	-
Dodecanoic acid	C ₁₂ H ₂₄ O ₂	+	-
Tetradecanoic acid	C ₁₄ H ₂₈ O ₂	+	-
Pentadecanoic acid	C ₁₅ H ₃₀ O ₂	+	-
Z-7-Hexadecenoic acid	C ₁₆ H ₃₀ O ₂	+	-
n-Hexadecanoic acid	C ₁₆ H ₃₂ O ₂	+	-
Heptadecanoic acid	C ₁₇ H ₃₄ O ₂	+	-
Oleic Acid	C ₁₈ H ₃₄ O ₂	+	-
9,12-Octadecadienoic acid (Z,Z)-	C ₁₈ H ₃₂ O ₂	+	-
6-Octadecenoic acid, (Z)-	C ₁₈ H ₃₄ O ₂	+	-
Octadec-9-enoic acid	C ₁₈ H ₃₄ O ₂	+	-
22-Tricosenoic acid	C ₂₃ H ₄₄ O ₂	+	-
Total No.		17	2
ESTERS			
Hexanoic acid, hexyl ester	C ₁₂ H ₂₄ O ₂	+	-
Isopropyl Myristate	C ₁₇ H ₃₄ O ₂	-	+
(Z)-9-Octadecenoic acid butyl ester	C ₂₂ H ₄₂ O ₂	+	-
Total No.		2	1
ETHERS			
Methyl 4,6-decadienyl ether	C ₁₁ H ₂₀ O	+	-
Total No.		1	0
ALDEHYDES			
Octanal	C ₈ H ₁₆ O	+	-

Identified compounds	Molecular formula	Poultry wastewater	Treated water
Nonanal	C ₉ H ₁₈ O	+	-
Decanal	C ₁₀ H ₂₀ O	+	-
2,4-Decadienal, (E,E)-	C ₁₀ H ₁₆ O	+	-
2-Heptadecenal	C ₁₇ H ₃₂ O	-	+
E-15-Heptadecenal	C ₁₇ H ₃₂ O	-	+
9,17-Octadecadienal, (Z)-	C ₁₈ H ₃₂ O	+	-
Total No.		5	2
ALCOHOLS			
1-Dodecanol, 3,7,11-trimethyl-	C ₁₅ H ₃₂ O	-	+
Phytol	C ₂₀ H ₄₀ O	+	-
Total No.		1	1
BIPHENYLS			
2,2'-Dimethylbiphenyl	C ₁₄ H ₁₄	+	-
Benzene, 1-methyl-4-(phenylmethyl)	C ₁₄ H ₁₄	+	-
Total No.		2	0
TERPENOIDS			
Lanosterol	C ₃₀ H ₅₀ O	+	-
Total No.		1	0
ORGANOCHLORINE COMPOUNDS			
Octadecane, 1-chloro-	C ₁₈ H ₃₇ Cl	-	+
Nonadecane, 1-chloro-	C ₁₉ H ₃₉ Cl	-	+
Total No.		0	2
POLYCYCLIC AROMATIC HYDROCARBONS			
Anthracene	C ₁₄ H ₁₀	-	+
2,6-Diisopropylnaphthalene	C ₁₆ H ₂₀	+	+
Total No.		1	2
PHTHALATE			
Dibutyl phthalate	C ₁₆ H ₂₂ O ₄	-	+
1,2-Benzenedicarboxylic acid, mono(2-ethylhexyl) ester	C ₁₆ H ₂₂ O ₄	-	+
Phthalic acid, bis(7-methyloctyl)ester	C ₂₆ H ₄₂ O ₄	-	+
Phthalic acid, decyl nonyl ester	C ₂₉ H ₄₈ O ₄	-	+
Total No.		0	4

Table S2. Results of GC/MS screening of organic compounds in *Tetradesmus obliquus* biomass, extract, and residue after subcritical water extraction.

Identified compounds	Molecular formula	Biomass	Extract	Residue
HYDROCARBONS				
<i>Hydrocarbons with saturated bonds</i>				
Dodecane	C ₁₂ H ₂₆	-	+	+
Tridecane	C ₁₃ H ₂₈	-	+	+
Tetradecane	C ₁₄ H ₃₀	+	+	+
Pentadecane	C ₁₅ H ₃₂	+	+	+
Hexadecane	C ₁₆ H ₃₄	+	+	+
Heptadecane	C ₁₇ H ₃₆	-	+	+
Octadecane	C ₁₈ H ₃₈	+	+	+
Nonadecane	C ₁₉ H ₄₀	-	+	+
Eicosane	C ₂₀ H ₄₂	+	+	+
Heneicosane	C ₂₁ H ₄₄	+	+	+
Docosane	C ₂₂ H ₄₆	+	-	-
Tetracosane	C ₂₄ H ₅₀	+	+	-
Heptacosane	C ₂₇ H ₅₆	+	+	+
Octacosane	C ₂₈ H ₅₈	+	+	+
Tetratriacontane	C ₃₄ H ₇₀	-	-	+
Tetratetracontane	C ₄₄ H ₉₀	+	-	+
Total No.		11	13	14
<i>Hydrocarbons with unsaturated bonds</i>				
1-Dodecene	C ₁₂ H ₂₄	-	+	-
1-Tetradecene	C ₁₄ H ₂₈	-	+	+
1-Hexadecene	C ₁₆ H ₃₂	+	+	+
3-Heptadecene, (Z)-	C ₁₇ H ₃₄	+	-	+
8-Heptadecene	C ₁₇ H ₃₄	-	-	+
1-Octadecene	C ₁₈ H ₃₆	+	+	+
5-Octadecene, (E)-	C ₁₈ H ₃₆	-	-	+
1-Nonadecene	C ₁₉ H ₃₈	+	-	+
Z-5-Nonadecene	C ₁₉ H ₃₈	-	-	+
1,19-Eicosadiene	C ₂₀ H ₃₈	-	-	+
1-Docosene	C ₂₂ H ₄₄	+	+	-
9-Tricosene, (Z)-	C ₂₃ H ₄₆	-	-	+
2,6,10,14,18,22-Tetracosahexaene	C ₂₄ H ₃₈	-	-	+
1-Hexacosene	C ₂₆ H ₅₂	-	-	+
9-Hexacosene	C ₂₆ H ₅₂	+	-	-
Squalene	C ₃₀ H ₅₀	+	-	-
17-Pentatriacontene	C ₃₅ H ₇₀	-	-	+
Total No.		7	5	12
<i>Alkylated hydrocarbons</i>				

Identified compounds	Molecular formula	Biomass	Extract	Residue
2-Undecene, 5-methyl-	C ₁₂ H ₂₆	-	+	-
Dodecane, 2-methyl-	C ₁₃ H ₂₈	+	+	-
Undecane, 5,7-dimethyl-	C ₁₃ H ₂₈	-	+	-
Tetradecane, 2-methyl-	C ₁₅ H ₃₂	+	+	+
Pentadecane, 3-methyl-	C ₁₆ H ₃₄	+	+	+
Hexadecane, 2-methyl-	C ₁₇ H ₃₆	+	+	+
Heptadecane, 3-methyl-	C ₁₈ H ₃₈	+	+	+
Octadecane, 2-methyl-	C ₁₉ H ₄₀	+	+	-
Nonadecane, 3-methyl-	C ₁₉ H ₃₈	+	+	-
10-Methylnonadecane	C ₂₀ H ₄₂	+	+	-
2-Hexadecene, 3,7,11,15-tetramethyl-, [R-[R*,R*-(E)]]-	C ₂₀ H ₄₀	-	-	+
Heneicosane, 11-(1-ethylpropyl)-	C ₂₆ H ₅₄	-	+	-
Total No.		8	11	5
KETONES				
Benzophenone	C ₁₃ H ₁₀ O	+	+	+
2-Tridecanone	C ₁₃ H ₂₆ O	-	+	-
2-Tetradecanone	C ₁₄ H ₂₈ O	-	-	+
2-Nonacosanone	C ₂₉ H ₅₈ O	-	-	+
Total No.		1	2	3
PHENOLS				
Phenol, 2,4-bis(1,1-dimethylethyl)	C ₁₄ H ₂₂ O	+	+	+
Total No.		1	1	1
ESTERS				
Hexadecanoic acid, methyl ester	C ₁₇ H ₃₄ O ₂	-	-	+
Hexadecanoic acid, ethyl ester	C ₁₈ H ₃₆ O ₂	-	+	-
8-Octadecenoic acid, methyl ester	C ₁₉ H ₃₆ O ₂	-	-	+
1,2-Benzenedicarboxylic acid, diisooctyl ester	C ₂₄ H ₃₈ O ₄	-	+	+
Total No.		0	2	3
PHTHALATES				
Dibutyl phthalate	C ₁₆ H ₂₂ O ₄	-	-	+
Phthalic acid, butyl undecyl ester	C ₂₃ H ₃₆ O ₄	-	-	+
Total No.		0	0	2
TIOPHENES				
3-Methyl-2-(3,7,11-trimethyldodecyl)thiophene	C ₂₀ H ₃₆ S	-	-	+
Total No.		0	0	1
ORGANOCHLORINE COMPOUNDS				
Dichloroacetic acid, heptadecyl ester	C ₁₉ H ₃₆ Cl ₂ O ₂	-	-	+
2- Chloropropionic acid, octadecyl ester	C ₂₁ H ₄₁ ClO ₂	+	-	+

Identified compounds	Molecular formula	Biomass	Extract	Residue
Heptacosane, 1-chloro-	C ₂₇ H ₅₅ Cl	-	-	+
<i>Total No.</i>		<i>1</i>	<i>0</i>	<i>3</i>