

Supplementary



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SUPPL. TABLE 1. GC-MS analysis shows the chemical components of untreated *D. salina* cells

No.	RT (min)	Compound name	%	MW	M formula
1	4.06	Thieno (3,4- C) pyridine,1,3,4,7tetraphenyl	4.86	439	C ₃₁ H ₂₁ NS
2	9.92	α-Hydroxyquebrachamine	1.02	298	C ₁₉ H ₂₆ N ₂ O
3	12.38	5 α-Pregn-16-en-20-one, α,12α-dihydroxy-, diacetate	0.83	416	C ₂₅ H ₃₆ O ₅
4	12.87	Cyclooctasiloxane, hexadecamethyl-	1.14	592	C ₁₆ H ₄₈ O ₈ Si ₈
5	14.60	3,6,2',3'-Tetramethoxyflavone	0.83	342	C ₁₉ H ₁₈ O ₆
6	15.13	Cyclononasiloxane, octadecamethyl-	1.02	666	C ₁₈ H ₅₄ O ₉ Si ₉
7	16.63	Trimethylsilyl 3-methoxy-2-(2-oxo-2-((trimethylsilyl) oxy) ethoxy) benzoate	0.63	370	C ₁₆ H ₂₆ O ₆ Si ₂
8	16.73	Celidoniol, deoxy (Nonacosane)	1.92	408	C ₂₉ H ₆₀
9	17.10	Glycine, N-[(3α,5α)-24-oxo-3-[(trimethylsilyl) oxy]cholan-24-yl]-, methyl ester	0.43	519	C ₃₀ H ₅₃ NO ₄ Si
10	17.24	Octacosane (AI3-52615)	4.89	394	C ₂₈ H ₅₈
11	17.67	1-chlorooctadecane	1.28	288	C ₁₈ H ₃₇ Cl
12	18.51	Dihydromorphine, 2TMS derivative (Dihydromorphine , di(trimethylsilyl) ether)	0.82	431	C ₂₃ H ₃₇ NO ₃ Si ₂
13	18.91	Propanoic acid,2-(3-acetoxy-4,4,14-trimethylandro- 8-en-17-yl)-	0.64	430	C ₂₇ H ₄₂ O ₄
14	20.26	Dodecyl cis-9,10-epoxyoctadecanoate	0.91	466	C ₃₀ H ₅₈ O ₃
15	20.33	Palmitic acid, 2-(tetradecyloxy) ethyl ester	0.98	496	C ₃₂ H ₆₄ O ₃
16	20.58	Bis(trimethylsilyl) N-acetylcycosaphinga -4,11-dienine	0.60	511	C ₂₈ H ₅₇ NO ₃ Si ₂
17	21.61	9-hexadecenoic acid, methyl ester (Z)	24.10	270	C ₁₇ H ₃₄ O ₂
18	21.89	Pentadecanoic acid, 14 methyl-methyl ester	1.31	270	C ₁₇ H ₃₄ O ₂
19	22.14	9,12-octadecadienoic acid (Z,Z),2,3-bis[(trimethylsilyl) oxy]propyl ester	0.62	498	C ₂₇ H ₅₄ O ₄ Si ₂
20	23.11	Cyclopropanoic acid, 2-octyl-,methyl ester	1.33	310	C ₂₀ H ₃₈ O ₂
21	23.41	4H-1-benzopyran -4-one, 2-(3,4-di-methoxyphenyl)-3,5-dihydroxy-7-methoxy -(3',4',7-trimethylquercetin)	0.57	344	C ₁₈ H ₁₆ O ₇
22	23.63	1H-purin-6-amine,(2-fluorophenyl) methyl	0.92	243	C ₁₂ H ₁₀ FN ₅
23	24.18	10-Octadecenoic acid, methyl ester	27.67	296	C ₁₉ H ₃₆ O ₂
24	24.41	12,15-Octadecadienoic acid, methyl ester	10.16	294	C ₁₉ H ₃₄ O ₂
25	24.85	Linoleic acid ethyl ester	0.36	308	C ₂₀ H ₃₆ O ₂
26	25.05	9,12,15-octadecatrienoic acid,2,3- bis [(trimethylsilyl) oxy] propylester,(Z,Z,Z)-(Linolenic-acid)	0.66	496	C ₂₇ H ₅₂ O ₄ Si ₂
27	25.47	9,12- Octadecadienoic acid(Z,Z)-,methyl ester	1.01	308	C ₂₀ H ₃₆ O ₂
28	25.56	8,11-Octadecadienoic acid, methyl ester	1.41	294	C ₁₉ H ₃₄ O ₂
29	25.95	10,13-octadecadienoic acid, methyl ester	2.98	294	C ₁₉ H ₃₄ O ₂
30	26.23	1,9-Dioxo-5-thianonane,3,7-bis(9 bor abicyclo [3.3.1]non-9-yloxy)-1,9-diphenyl-	0.38	574	C ₃₄ H ₄₈ B ₂ O ₄ S
31	26.40	Methyl glycocholate, 3TMS derivative , glycine, N-[(3α,5α,7α,12α)-24-oxo-3,7,12-tris [(trimethyl silyl)oxy] cholan-24-yl]-, methyl ester	0.58	695	C ₃₆ H ₆₉ NO ₆ Si ₃
32	28.94	Methyl-9,9,10,10-D4 octadecanoate	1.16	302	C ₁₉ H ₃₄ D ₄ O ₂
33	30.74	Cyclopropanedecanoic acid α-(Acetyloxy)-2-hexyl-,methyl ester	0.78	368	C ₂₂ H ₄₀ O ₄
34	42.82	Psi.,psi.-carotene -16-ol (Lycoxanthin)	0.74	552	C ₄₀ H ₅₆ O
35	44.80	Cyclotrisiloxane, hexaphenyl- (Diphenylsiloxane cyclic trimer)	0.47	594	C ₃₆ H ₃₀ O ₃ Si ₃

SUPPL. TABLE 2. GC-MS analysis shows the chemical components of N deficiency-treated *D. salina*

No.	RT (min)	Name of compound	(%)	MW	M formula
1.	10.01	1, 7, 7-Trimethyl-Bicyclo [2.2.1]Heptan-2-one	1.20	152	C ₁₀ H ₁₆ O
2.	15.25	1-Tetradecanol	1.59	214	C ₁₄ H ₃₀ O
3.	16.30	Phenol-2,4-bis(1,1 dimethyl ethyl)	28.52	206	C ₁₄ H ₂₂ O
4.	18.39	7-Heptadecene, 1-Chloro	1.28	272	C ₁₇ H ₃₃ Cl
5.	19.01	DI (phenyl thio) (P Methoxyphenyl) Methane	1.70	338	C ₂₀ H ₁₈ OS ₂
6.	20.04	1,3,6,10-Cyclotetradecatetraene 3,7,11-trimethyl-14-(1-methylethyl)-, [S-(E,Z,E,E)]	1.54	272	C ₂₀ H ₃₂
7.	20.16	Kaur-16-Ene	1.66	272	C ₂₀ H ₃₂
8.	20.35	(4-Methoxyphenyl)-2-Methyl-6 Methoxy-+ Benz imidazole	3.40	268	C ₁₆ H ₁₆ N ₂ O ₂
9.	20.64	4-Methoxyphenoxyformamide, N-methyl-N-[4-(1-pyrrolidinyl)-2-butynyl]-	1.27	302	C ₁₇ H ₂₂ N ₂ O ₃
10.	21.27	ATIS-16-ENE, (5 α ,8 α ,9 α ,10 α ,12 α)-	1.51	272	C ₂₀ H ₃₂
11.	21.71	Geranyl- α -terpinene	3.85	272	C ₂₀ H ₃₂
12.	21.94	Phenanthrene,7ethenyl1,2,3,4,4A,4 β ,5,6,7,9,10,10A-dodecahydro-1,1,4A,7 tetra methyl-,[4AS-(4A α ,4 β α ,7 α ,10A α)]	1.17	272	C ₂₀ H ₃₂
13.	22.12	3-Phenanthrenol,4 β ,5,6,7,8,8A,9,10 octahydro-4 β ,8,8-Trimethyl-, (4BS-Trans)	2.15	244	C ₁₇ H ₂₄ O
14.	22.3	Naphthalene propanol, α ethenyldecahydro α ,5,5,8 α -tetrame thyl-2-methylene-,[1S[1 α (S*),4 α α ,8 α α]]	0.83	290	C ₂₀ H ₃₄ O
15.	22.59	1,2-Diaza-3-Silacylopent-5-ENE, 2-(1,1dimethyl ethyl)-3,3,5-Trimethyl-4 (phenyl Methylene)-, (Z)	1.53	272	C ₁₆ H ₂₄ N ₂ Si
16.	22.82	Retinol	1.00	286	C ₂₀ H ₃₀ O
17.	23.57	Dehydro isoandrosterone acetate	1.11	330	C ₂₁ H ₃₀ O ₃
18.	23.87	Bactroiochlorophyll-c-stearyl	1.63	840	C ₅₂ H ₇₂ MgN ₄ O ₄
19.	24.16	Indolo[2,3- α]quinolizin-4(12H)-one 1,2,3,6,7,12b-hexahydro-3,12b-dimethyl	8.84	268	C ₁₇ H ₂₀ N ₂ O
20.	24.25	phenanthrene,1,2,3,4,4A,9,10,10A-octahydro-1,1,4A-Trimethyl-7-(1-methyl Ethyl), (4AS-TRANS)	1.69	270	C ₂₀ H ₃₀
21.	24.46	Estrone	3.87	270	C ₁₈ H ₂₂ O ₂
22.	26.30	Oleic Acid	6.78	282	C ₁₈ H ₃₄ O ₂
23.	30.72	1,2-Benzenedicatrienoic acid	2.03	390	C ₂₄ H ₃₈ O ₄
24.	31.51	9,19-Cyclolanost-24-en-3-ol, acetate,(3 α)	1.55	468	C ₃₂ H ₅₂ O ₂
25.	31.90	9,12,15-octadecatrienioc acid, (2-phenyl-1,3-Dioxolan-4-YL) Methylster	1.49	440	C ₂₈ H ₄₀ O ₄
26.	32.16	Psi psi.-carotene	3.12	600	C ₄₂ H ₆₄ O ₂
27.	32.38	α -Carotene	6.15	536	C ₄₀ H ₅₆
28.	33.48	3,5,6,9,11,12,13,14,17,18,21,22,23,24,25,26-Hexadecahydro4Hdicyclodeca[C,J]Oxacyclo Tetradecin	1.88	406	C ₂₉ H ₄₂ O
29.	33.58	α , α -Carotene-4,4'-Dione,3,3'-Dihydroxy-, (3S,3'S)-	3.80	596	C ₄₀ H ₅₂ O ₄
30.	39.02	3A,6,6,12A-Tetramethyl-1-[1-Methyl-4-OXO-4-Phenyl-2-butenyl]Tetracahydro-1H Cyclopenta [A] cyclopropa [E]phenanthren-7-YL Acetate	1.96	516	C ₃₅ H ₄₈ O ₃