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Efficiency of solvents in identification of bioactive compounds from selected marine red algae of the Gulf of Mannar, India

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Supplementary Table 1 — GCMS detection of Secondary Metabolites from three Marine Red Algae of Mandapam Coast, Gulf of Mannar, India using polar and non-polar solvents

S. No.	Name of the Compound	R.T Time (min)	Peak Area %	Chemical Formula	Mol. Weight	Red Seaweeds HM	AS	GA	Status, Biological Activity & Reference
1	(+)-γ-Tocopherol, O-methyl	57.082	0.063	C29H50O2	430.381		+		Reported (1)
2	(E)-9-octadecenoic acid ethyl ester	39.409/ 39.520/ 39.387	0.321/ 0.509/ 0.719	C20H38O2	310.287	**+(1)**	**+(1)**	**+(1)**	Anti-inflammatory (2)
3	(E)-dodec-5-en-4-olide	44.958	0.564	C12H20O2	196.146	**+ (2)**			Anti-microbial (3)
4	1,18-nonadecadien-7,10-dione	45.041	0.121	C19H32O2	292.240		+		Reported (4)
5	1,2-benzisothiazol-3-amine tbdms	12.290	1.116	C13H20N2SSi	264.112	+			Antioxidant (5)
6	1,2-propanediol, 3-(tetradecyloxy)-	25.770	0.172	C17H36O3	288.266			+	Reported Other plant, Antifungal and antibacterial activity. (6)
7	1,4-diphenyl-1-pentanone	43.636	0.312	C17H18O	238.136		+		Antioxidants (7)
8	10-heneicosene (c,t)	48.363	0.098	C21H42	294.329	**+(2)**			Antimicrobial and analgesic effects (8)
9	11-hydroxysolasodine triacetate	11.261	0.037	C33H49NO6	555.356			+	Antioxidant, cytotoxic, and anti-inflammatory (9)
10	11-methyldodecanol	33.696	0.983	C13H28O	200.214	+			Reported, Not intended for therapeutic use (10)
11	14-hydroxy-15-methylhexadec-15-enoic acid, ethyl ester	30.219	0.052	C19H36O3	312.266			+	Reported other plant (11)

12	17-(1,5-dimethylhexyl)-10,13-dimethyl-2,3,4,7,8,9,10,11,12,13,14,15,16,17-tetradecahydro-1h-cyclopenta[a]phenanthren-3-ol	56.993	14.066	C27H46O	386.355			+	Not reported
13	17-pentatriacontene	24.596/ 45.493	0.040/ 0.342	C35H70	490.548		**+(1)**	**+(3)**	Anti-inflammatory, Anti-arthritic, and Anti-microbial (12)
14	1-chloroundecane	23.281	0.116	C11H23Cl	190.149			+	Antibacterial and antifungal (13)
15	1-decanol, 2-hexyl	31.304	1.420	C16H34O	242.261			+	Not reported in seaweeds; antioxidant and antimicrobial
16	1-decanol, 2-octyl	28.526	0.086	C18H38O	270.292	+			Not reported
17	1-docosene	42.960	0.775	C22H44	308.344		+		antibacterial and potentially antimicrobial (15)
18	1-dodecanol, 2-octyl	35.754	1.497	C20H42O	298.324			+	Not reported
19	1-dodecanol, 3,7,11-trimethyl	37.715/ 37.670	0.396/ 0.310	C15H32O	228.245	**+(3)**	+		Antioxidant (10)
20	1-heneicosyl formate	47.060	0.123	C22H44O2	340.334		+		antimicrobial(14)
21	1-hentetracontanol	12.272	0.215	C41H84O	592.652			**+(2)**	Anti-inflammatory (2)
22	1-heptacosanol	51.488	0.177	C27H56O	396.433	+			Anti-diabetes (17)
23	1-heptadecene	28.756	0.259	C17H34	238.266	+			Anti-Inflammatory (2)
24	1-hexadecanol	33.451	0.489	C16H34O	242.261	+			Temperature-regulator (18)
25	1-Hexadecanol, 2-methyl	28.526/ 28.496	0.046/ 0.192	C17H36O	256.277		+	+	Anti-viral (10)
26	1-Hexadecen-3-ol, 3,5,11,15-tetramethyl	34.825	0.735	C20H40O	296.308			+	Anti-viral (10)
27	1H-Indene, 1-methylene	15.845	0.527	C10H8	128.063	+			Anti-inflammatory, analgesic, antimicrobial, and anticancer properties (19)
28	1-Octadecanesulphonyl chloride	28.600	0.213	C18H37ClO2S	352.220	+			antioxidant, antifungal, and antimicrobial (20)
29	1-Octadecene	31.624	0.240	C18H36	252.282			**+(2)**	Antibacterial, antioxidant, and anticancer (21)
30	1-Propanol	3.899	0.037	C3H8O	60.058		+		Antimicrobial (22)
31	1-Trifluorosilyltridecane	19.567	0.119	C13H27F3Si	268.183			+	Antibacterial (23)
32	2(3H)-Furanone, dihydro-5-tetradecyl	39.966	0.611	C18H34O2	282.256	+			Not Reported
33	2,4,4,6,6,8,8-Heptamethyl-1-nonene	54.400/ 29.432	2.782/ 0.590	C16H32	224.250	+		**+(5)**	Not Reported
34	2,4,6-Tris(1-methyl-2-(a-methylbenzylamino)-ethen-1-yl)-1,3,5-triazine	17.130	0.120	C36H42N6	558.347			+	Not Reported
35	2,4-Dimethyldodecane	17.138	0.024	C14H30	198.235	**+(2)**			Antimicrobial and antioxidant (23)
36	2,6-Dimethyldecane	10.623/ 10.645	0.023/ 0.253	C12H26	170.203		+	+	Reported (24)
37	26,26-Dimethyl-5,24(28)-ergostadien-3β-o	59.533	0.350	C30H50O	426.386			**+(2)**	Antimicrobial (25)
38	2-Amino[1,3]thiazolo[4,5-d]pyrimidine-5, 7-diol tritbdms	51.377	0.166	C23H46N4O2SSi3	526.265			+	Not Reported in seaweeds. antimicrobial properties (26)
39	2-Bornanol, 5-(2,4-dinitrophenyl)hydrazono	49.148	0.067	C16H20N4O5	348.143		+		Not Reported

40	2-Bromododecane	17.398/ 17.383/ 17.390	0.024/ 0.009/ 0.149	C12H25Br	248.114	+	+	**+(2)**	Antibacterial (13)
41	2-Dodecenoic acid	16.105	0.060	C12H22O2	198.162			+	Antibacterial, antioxidant, and anti-apoptotic (27)
42	2-Ethyl-1-dodecanol	26.616	1.668	C14H30O	214.230			+	Reported (18)
43	2-Hexadecene, 3,7,11,15-tetramethyl-, [R-[R+,R+-(E)]]-	29.818	0.404	C20H40	280.313		+		Not Reported
44	2-Hexyl-1-octanol	21.609	0.631	C14H30O	214.230			+	Not Reported
45	2H-Pyran, tetrahydro-2-(12-pentadecynyloxy)	35.278/ 37.388	0.112/ 0.241	C20H36O2	308.272	+		+	Not Reported
46	2-Methyl-E,E-3,13-octadecadien-1-ol	42.217	0.543	C19H36O	280.277	+			Antibacterial and antiviral Reported (28)
47	2-methylhexacosane	39.521	0.387	C27H56	380.438	+			Antimicrobial (28)
48	2-methyltetracosane	29.529	0.065	C25H52	352.407		+		Antioxidant (29)
49	2-Norpinanol, 3,6,6-trimethyl	35.293	0.232	C10H18O	154.136			+	Antibiofilm (30)
50	2-Pentadecanone, 6,10,14-trimethyl	34.142/ 32.701/ 32.597	4.996/ 3.208/ 4.353	C18H36O	268.277	**+(3)**	**+(4)**	**+(3)**	Antibacterial (31)
51	2-Pentanone, 4-hydroxy-4-methyl	4.977	2.309	C6H12O2	116.084			+	Not Reported
52	2-Pentenoic acid, 5-(decahydro-5,5, 8a-trimethyl-2-methylene-1-naphthalenyl)-3-methyl-, [1S-[1α(E),4aβ,8aα]]-	42.313	0.557	C20H32O2	304.240		+		Not Reported
53	2-Pyrrolidinone, 1-methyl	3.149/ 5.058	3.552/ 0.724	C5H9NO	99.068	**+(3)**	+		Not reported
54	3,7,11,15-Tetramethyl-2-hexadecen-1-ol	32.961/ 32.545/ 75.193	0.112/ 5.958/ 0.932	C20H40O	296.308	**+(2)**	**+(6)**	**+(7)**	Antiviral (32)
55	3-Acetoxydodecane	13.156	0.164	C14H28O2	228.209			+	Antimicrobial (33)
56	3-Heptadecene, (Z)-	28.749	0.035	C17H34	238.266		+		Antimicrobial (34)
57	3-Heptyne-2,6-dione, 5-methyl-5-(1-methylethyl)-	12.443	0.164	C11H16O2	180.115			+	Not reported
58	4-(3-Hydroxy-2,2,6-trimethyl-7-oxa-bicyclo[4.1.0]hept-1-yl)-but-3-en-2-one	20.577	0.076	C13H20O3	224.141			+	Not reported
59	4,8,12,16-Tetramethylheptadecan-4-olide	43.027/ 42.923	1.036/ 0.277	C21H40O2	324.303	**+(2)**		+	Not reported
60	4-Aminobenzoic acid, N, O-bis(heptafluorobutyryl)-	79.212/ 79.204	0.250/ 0.339	C15H5F14NO4	529.000		+	+	Not reported
61	4'-Apo-β,.psi.-carotenoic acid	54.244	0.136	C35H46O2	498.350	+			Reported (35)
62	4-Pentenoic acid, 2-acetyl-2,3-dimethyl-, ethyl ester	42.737	0.100	C11H18O3	198.126		+		Not Reported
63	5,8,11,14-Eicosatetraenoic acid, methyl ester, (all-Z)	41.244	0.166	C21H34O2	318.256		+		Reported (36)
64	5-Eicosene, (E)-	39.810	0.534	C20H40	280.313			+	Antiviral (37)
65	5-Nitro-6-thiophen-2-yl-piperidin-2-one	46.741	0.086	C9H10N2O3S	226.041		+		Reported (38)

66	6-epi-shyobunol	40.256	0.709	C15H26O	222.198		+		Antioxidant (39)
67	7,8-Epoxylanostan-11-ol, 3-acetoxy	78.907	1.621	C32H54O4	502.402			+	Reported (33)
68	7-Dehydrodiosgenin	55.499	0.468	C27H40O3	412.298	+			Not Reported
69	7-Hexadecenoic acid, methyl ester, (Z)-	33.971	0.296	C17H32O2	268.240			**+(3)**	Antimicrobial and antioxidant(40)
70	7-Methyl-Z-tetradecen-1-ol acetate	37.968/ 41.363	0.108/ 0.151	C17H32O2	268.240	+		**+(2)**	Antibacterial (41)
71	7-Oxabicyclo[4.1.0]heptan-2-one, 6-methyl-3-(1-methylethyl)-	34.231	0.520	C10H16O2	168.115			+	Not reported
72	7-Oxo-5-cholesten-3beta-yl benzoate	59.229/ 59.229	1.324/ 0.323	C34H48O3	504.360	+		**+(2)**	Not reported
73	8,11-Octadecadienoic acid, methyl ester	39.052	0.292	C19H34O2	294.256		+		Reported (42)
74	9,10,12,13-Tetrabromooctadecanoic acid	57.825	2.035	C18H32Br4O2	595.914	+			Reported (43)
75	9,11-Didehydrolumisterol acetate	53.092	0.272	C30H44O2	436.334	+			Reported (44)
76	9,12-Octadecadienoic acid, methyl ester, (E,E)-	37.997	0.081	C19H34O2	294.256			+	Anit-inflammation (40)
77	9-Hexadecenoic acid, 9-octadecenyl ester, (Z,Z)-	57.706	0.162	C34H64O2	504.491		**+(2)**		Not Reported
78	9-Hexadecenoic acid, methyl ester, (Z)	33.986	0.306	C17H32O2	268.240		+		Reported (45)
79	9-Hexadecyn-1-ol	13.913	0.043	C16H30O	238.230		+		Reported (46)
80	9-Nonadecene	30.160	0.200	C19H38	266.297		+		Reported (15)
81	9-Octadecenamide	40.181	0.583	C18H35NO	281.272			+	Anti-bacterial (47)
82	9-Octadecenamide, n-butyl	47.031	0.165	C22H43NO	337.334		+		Not Reported
83	9-Octadecenoic acid (Z)-, 2-hydroxy-1-(hydroxymethyl)ethyl ester	56.458	0.514	C21H40O4	356.293	+			Reported (27)
84	9-Octadecenoic acid (Z)-, methyl ester	38.190	1.223	C19H36O2	296.272		+		Antibacterial, antifungal, and antioxidant (28)
85	Acetic acid, 3,7,11,15-tetramethyl-hexadecyl ester	37.708	0.557	C22H44O2	340.334	+			Antimicrobial (34)
86	Astaxanthin	23.073	0.096	C40H52O4	596.387		+		Antibacterial (48)
87	Benzaldehyde, 2,5-bis[(trimethylsilyl)oxy	12.844/ 12.970	0.039/ 0.175	C13H22O3Si2	282.111		+	**+(2)**	Anti-cancer (49)
88	Benzoic acid, 3,5-dicyclohexyl-4-hydroxy-, methyl ester	79.175/ 78.766	3.601/ 2.032	C20H28O3	316.204		+	+	Anti-bacterial (50)
89	Bis-(3,5,5-trimethylhexyl) phthalate	48.115	0.455	C26H42O4	418.308		+		Not Reported
90	Bis(tridecyl) phthalate	45.240	0.426	C34H58O4	530.434		**+(2)**		Not Reported
91	Calcitriol	53.523	0.312	C27H44O3	416.329			+	Reported (51)
92	Card-20(22)-enolide, 3-[(6-deoxy-3,4-O-methylenehexopyranos-2-ulos-1-yl)oxy]-5,11,14-trihydroxy-12-oxo-, (3β)	51.295	0.172	C30H40O11	576.257	+			Not Reported
93	Cetene	21.224/ 20.956	0.158/ 0.070	C16H32	224.250	**+(3)**	**+(4)**		Antimicrobial and antioxidant (52)
94	Cholest-4-en-3-one	60.551/ 60.454	0.230/ 0.482	C27H44O	384.339	+		**+(2)**	Anti-obesity (53)
95	Cholest-4-ene-3,6-dione	66.851	0.837	C27H42O2	398.318		**+(3)**		Antiparasitic (29)
96	Cholest-5-en-3-ol (3β)-, nonanoate	52.015	0.240	C36H62O2	526.475			+	Not reported
97	Cholest-5-en-3-ol (3β)-, tetradecanoate	49.898	0.088	C41H72O2	596.553			+	Antiparasitic (54)

98	Cholesta-22,24-dien-5-ol, 4,4-dimethyl	60.863	0.355	C29H48O	412.371	+			Reported (55)
99	Cholesta-3,5-diene	52.030	0.244	C27H44	368.344		+		Reported (31)
100	Cholesta-4,6-dien-3-ol, (3β)	51.050/ 51.079/ 51.607	0.745/ 0.188/ 0.562	C27H44O	384.339	**+(4)**	**+(3)**	**+(3)**	Anti-microbial (56)
101	Cholesta-4,6-dien-3-one	61.687/ 61.494	0.432/ 0.207	C27H42O	382.324	+		+	Anti-microbial (56)
102	Cholesta-5,22-dien-3-ol, (3β)-	55.745/ 55.722	0.954/ 0.237	C27H44O	384.339	+	**+(3)**		Antiparasitic (57)
103	Cholestan-3-ol, 4-methyl-, (3β,4α,5α)-	66.004	0.555	C28H50O	402.386			+	Not reported
104	Cholestane-3,5-diol, 5-acetate, (3β,5α)-	57.083	2.348	C29H50O3	446.376			+	Anti-fungal (58)
105	Cholestane-3,6,7-triol, (3β,5α,6β,7α)-	51.399	0.242	C27H48O3	420.360		+		Anti-cancer (59)
106	Cholesterol	56.814/ 56.643/ 57.163	8.329/ 0.346/ 11.558	C27H46O	386.355	+	**+(3)**	**+(3)**	Anit-inflammation (58)
107	Cholesteryl hydrogen succinate	58.367	0.139	C31H50O4	486.371			+	Anti-microbial (60)
108	cis-10-Nonadecenoic acid	74.428	0.450	C19H36O2	296.272			+	Not Reported
109	cis-13-Eicosenoic acid	34.283	0.043	C20H38O2	310.287	+			Anti-microbial (61)
110	cis-13-Octadecenoic acid	39.572/ 39.892	4.525/ 1.686	C18H34O2	282.256		+	+	Anit-inflammation (62)
111	cis-13-Octadecenoic acid, methyl ester	38.079	0.078	C19H36O2	296.272	+			Antiparasitic (29)
112	cis-1-Chloro-9-octadecene	37.826	0.181	C18H35Cl	286.243			**+(3)**	Anti-viral (63)
113	cis-Vaccenic acid	39.572	4.525	C18H34O2	282.256		**+(2)**		Anit-inflammation (65)
114	Cyclohexane, (1-hexyltetradecyl)-	42.745	0.227	C26H52	364.407	+			Anti-microbial (66)
115	Cyclohexane, 1,3,5-trimethyl-2-octadecyl	47.424	0.093	C27H54	378.423			+	Anit-inflammation (52)
116	Cyclohexasiloxane, dodecamethyl	18.883	0.057	C12H36O6Si6	444.113			**+(2)**	Anti-oxidant (67)
117	Cycloheximide, acetoxy	42.269	0.164	C17H25NO6	339.168			+	Anti-microbial (68)
118	Cyclooctasiloxane, hexadecamethyl	28.258	0.012	C16H48O8Si8	592.150		+		Anti-microbial (69)
119	Cyclopenta[a,d]cycloocten-5-one, 1,2,3,3a,4,5,6,8,9,9a,10,10a-dodecahydro-7-(1-methylethyl)-1,9a-dimethyl-4-m	41.050	0.149	C20H30O	286.230		+		Not Reported
120	Cyclopentanone, 2-methyl-3-(1-methylethyl)	11.573	0.034	C9H16O	140.120		+		Not Reported
121	Cyclopentasiloxane, decamethyl	13.913/ 13.928	0.043/ 0.258	C10H30O5Si5	370.094		**+(2)**	**+(2)**	Anti-oxidant (70)
122	Cyclopropane, 1-(1-hydroxy-1-heptyl)-2-methylene-3-pentyl	54.341	0.094	C16H30O	238.230			+	Anti-microbial (71)
123	Cyclopropanebutanoic acid, 2-[[2-[[2-[(2-pentylcyclopropyl)methyl]cyclopropyl] methyl]cyclopropyl]methyl]-, meth	34.372	0.379	C25H42O2	374.318	+			Anti-cancer (41)
124	Cyclotetracosane	44.067	0.357	C24H48	336.376			+	Anti-viral (71)
125	Cyclotetrasiloxane, octamethyl	9.174/ 8.981	0.114/ 0.322	C8H24O4Si4	296.075	**+(2)**		**+(5)**	Anti-oxidant (70)
126	Cyclotriaconta-1,7,16,22-tetraone	51.235	0.142	C30H52O4	476.387			+	Not reported

127	Cyclotridecane	31.186	0.098	C13H26	182.203	+			Anti-oxidants (69)
128	Cyclotrisiloxane, hexamethyl	5.140/ 6.306/ 6.425	0.577/ 1.424/ 0.124	C6H18O3Si3	222.056	+	**+(2)**	**+(2)**	Anti-oxidant (69)
129	Decane, 5-ethyl-5-methyl	18.252	0.397	C13H28	184.219			+	Anti skin diseases (32)
130	Decanoic acid, 10-(2-hexylcyclopropyl)	75.602	0.332	C19H36O2	296.272			+	Anti-microbial (19)
131	Desmosterol	55.834/ 55.886	1.665/ 0.451	C27H44O	384.339	+		+	Anti-colesteral (48)
132	Dibutyl phthalate	35.279	0.204	C16H22O4	278.152	+			Anti-oxidant (69)
133	Didecan-2-yl phthalate	51.027/ 50.953	0.723/ 0.095	C28H46O4	446.340		+	+	Anti-oxidant (69)
134	Diethyl Phthalate	26.252/ 26.824/ 26.832	4.463/ 2.967/ 5.607	C12H14O4	222.089	**+(2)**	**+(3)**	+	Anti-coagulation (72)
135	Diisooctyl phthalate	46.377/ 46.414/ 46.407	1.545/ 10.443/ 5.242	C24H38O4	390.277	+	**+(2)**	**+(2)**	Anti-bacterial (73)
136	Disulfide, ditert-dodecyl	24.514	0.019	C24H50S2	402.335		+		Not reported
137	Docosane, 11-butyl	45.991	45.991	C26H54	366.423			+	Anti-microbial (74)
138	Docosane, 7-hexyl	43.160	0.165	C28H58	394.454			+	Anti-fungal (75)
139	Docosanoic acid, nonyl ester	19.062	0.069	C31H62O2	466.475		+		Antioxidant (76)
140	Docosanoic acid, ethyl ester	39.914	0.472	C24H48O2	368.365			+	Anti-inflammation (77)
141	Dodecane, 1-chloro	23.192	0.159	C12H25Cl	204.164		+		Antimicrobial (33)
142	Dodecane, 2,6,11-trimethyl	18.014/ 17.656/ 18.014	0.038/ 0.182/ 0.365	C15H32	212.250	**+(5)**	**+(5)**	**+(5)**	Anti-microbial (78)
143	Dodecane, 2,7,10-trimethyl	18.252	0.065	C15H32	212.250	+			Anti-microbial (79)
144	Dodecane, 5,8-diethyl	18.772/ 22.627	0.006/ 0.096	C16H34	226.266		+	+	Anti-bacterial (33)
145	Dodecanoic acid, 1-methylethyl ester	27.307	0.173	C15H30O2	242.225			+	Anti-microbial (80)
146	Dodecyl cis-9,10-epoxyoctadecanoate	43.710	0.127	C30H58O3	466.439			+	Not Reported
147	Dotetracontane	26.163	0.022	C42H86	590.673		+		Antimicrobial, antioxidant, and anticonvulsant (79)
148	E,E,Z-1,3,12-Nonadecatriene-5,14-diol	40.018	0.593	C19H34O2	294.256		+		Anti-viral (80)
149	Eicosane	27.783/ 27.775/ 33.683	0.154/ 0.041/ 1.277	C20H42	282.329	**+(3)**	**+(3)**	**+(9)**	Anti-microbial (81)
150	Eicosane, 2-methyl	23.638/ 38.688/ 29.179	0.117/ 0.534/ 0.442	C21H44	296.344	**+(2)**	**+(2)**	**+(5)**	Anti-microbial (81)
151	Eicosane, 7-hexyl	34.951	0.264	C26H54	366.423			**+(2)**	Anti-androgenic (20)
152	Eicosane, 9-octyl	49.267	0.926	C28H58	394.454		**+(2)**		Anti-microbial (46)
153	Ergost-25-ene-3,5,6-triol, (3β,5α,6β)-	62.267	0.447	C28H48O3	432.360			+	Cytotoxic (81)

154	Ergosta-5,22-dien-3-ol, (3β,22E,24S)-	57.951/ 58.062	1.229/ 1.728	C28H46O	398.355	+		+	Anti-tumor (82)
155	Ergosta-5,22-dien-3-ol, acetate, (3β,22E)-	53.575	0.171	C30H48O2	440.365	+			Antioxidant (29)
156	Ergosterol	52.468	0.233	C28H44O	396.339			+	Anti-cholesterol (53)
157	Erucic acid	42.232	0.400	C22H42O2	338.318	+			Antioxidant and anti-inflammatory (83)
158	Ethanol, 2-(9,12-octadecadienyloxy)-, (Z,Z)-	33.384	0.152	C20H38O2	310.287		+		Antimicrobial, anti-inflammatory (84)
159	Ethanol, 2-(octadecyloxy)-	44.067/ 34.848/ 34.179	0.138/ 0.089/ 0.116	C20H42O2	314.318	+	+	+	Anti-microbial (85)
160	Fumaric acid, allyl pentadecyl ester	44.802	0.137	C22H38O4	366.277	+			Not reported
161	Fumaric acid, dodecyl 2-methylallyl ester	66.405	0.261	C20H34O4	338.246			+	Not reported
162	Glycerin	14.047	64.676	C3H8O3	92.047	+			Antimicrobial (86)
163	Glycerol 1-palmitate	46.050	0.792	C19H38O4	330.277	+			Anti-bacterial (85)
164	Glycine, N-[(3α,5β,12α)-3,12-dihydroxy-24-oxocholan-24-yl]-	58.055	0.483	C26H43NO5	449.314		+		Not reported
165	Heneicosane	30.160/ 33.436	0.051/ 0.882	C21H44	296.344		**+(9)**	**+(3)**	Anti-microbial (79)
166	Heneicosane, 5-methyl	38.963	0.279	C22H46	310.360			+	Anti-microbial (79)
167	Heptadecane	29.120/ 29.365/ 29.261	1.011/ 0.196/ 3.881	C17H36	240.282	**+(4)**	**+(4)**	**+(6)**	Anti-bacterial (31)
168	Heptadecane, 2,3-dimethyl	34.840/ 34.840	0.224/ 0.372	C19H40	268.313	+		+	Anti-bacterial (31)
169	Heptadecane, 2,6,10,14-tetramethyl	22.850	0.033	C21H44	296.344		+		Anti-microbial (74)
170	Heptadecane, 2,6,10,15-tetramethyl	23.764/ 22.850	0.173/ 0.075	C21H44	296.344		**+(4)**	**+(5)**	Anti-microbial (74)
171	Heptadecane, 2-methyl	30.747/ 34.194/ 23.630	0.098/ 0.182/ 0.526	C18H38	254.297	+	+	**+(3)**	Anti-bacterial (74)
172	Heptadecane, 3-methyl	30.747/ 30.740	0.098/ 0.364	C18H38	254.297	+		+	Anti-bacterial (74)
173	Heptadecane, 9-hexyl	12.123/ 28.377/ 41.890	0.029/ 0.007/ 0.173	C23H48	324.376	+	**+(5)**	**+(2)**	Anti-bacterial (87)
174	Heptadecane, 9-octyl	40.166	0.439	C25H52	352.407			+	Anti-bacterial (88)
175	Heptadecanoic acid, 16-methyl-, methyl ester	38.673	0.336	C19H38O2	298.287		+		Anti-bacterial (31)
176	Heptasiloxane, hexadecamethyl	53.382	0.211	C16H48O6Si7	532.184			+	Anti-bacterial (44)
177	Hexacosane	51.860	0.084	C26H54	366.423	+			Antioxidant (89)
178	Hexacosane, 9-octyl	49.876	0.132	C34H70	478.548			+	Anti-malarial (90)
179	Hexacosylheptafluorobutyrate	47.031/ 47.016	0.131/ 0.219	C30H53F7O2	578.393		+	+	Anti-bacterial (46)
180	Hexadecanamide	40.315/ 40.649	1.164/ 1.637	C16H33NO	255.256	**+(2)**	+		Anti-viral (91)

181	Hexadecane	19.552/ 26.565/ 26.542	0.038/ 0.490/ 0.655	C16H34	226.266	**+(3)**	+	**+(3)**	Anti-cancer (92)
182	Hexadecane, 2,6,10,14-tetramethyl	21.744	0.030	C20H42	282.329	+			Anti-microbial (74)
183	Hexadecane, 2,6,11,15-tetramethyl	24.024/ 26.082/ 23.749	0.070/ 0.017/ 0.155	C20H42	282.329	**+(9)**	**+(12)**	**+(9)**	Anti-microbial (74)
184	Hexadecanoic acid, 1-(hydroxymethyl)-1,2-ethanediyl ester	45.790	0.142	C35H68O5	568.507		+		Not reported
185	Hexadecanoic acid, 2-hydroxy-1-(hydroxymethyl)ethyl ester	45.552/ 45.493	0.668/ 0.342	C19H38O4	330.277	+	+		Antifouling (56)
186	Hexadecanoic acid, eicosyl ester	72.437	0.177	C36H72O2	536.553		**+(2)**		Anti-bacterial (50)
187	Hexadecanoic acid, ethyl ester	35.918/ 35.917/ 35.873	8.172/ 5.447/ 5.725	C18H36O2	284.272	+	+	+	Anti-bacterial (44)
188	Hexadecanoic acid, hexadecyl ester	64.874	0.205	C32H64O2	480.491			**+(2)**	Anti-bacterial (44)
189	Hexadecanoic acid, methyl ester	34.417/ 34.357/ 34.446	1.187/ 0.118/ 2.086	C17H34O2	270.256	+	**+(2)**	+	Anit-inflammation (74)
190	Hexatriacontane	58.685/ 56.256	0.109/ 0.402	C36H74	506.579		+	**+(2)**	Anti-bacterial (50)
191	Hydrogen bromide	4.804/ 6.202	0.183/ 0.402	HBr	79.926		**+(2)**	+	Not Reported
192	Hydroxylamine, O-decyl	21.736	0.094	C10H23NO	173.178		+		Anti-bacterial (88)
193	Isophytol	34.848/ 75.349	0.203/ 0.672	C20H40O	296.308	+	**+(2)**		Anti-microbial (44)
194	Isophytol, acetate	64.466	0.220	C22H42O2	338.318		+		Not reported
195	Lanost-8-en-3-ol, (3β)-	61.896	0.352	C30H52O	428.402			+	Not reported
196	Methyl 13-methyltetradecanoate	32.522	0.067	C16H32O2	256.240		+		Reported (93)
197	Methyl eicosa-5,8,11,14,17-pentaenoate	41.392	0.333	C21H32O2	316.240		+		Not reported
198	Methyl stearate	38.599/ 38.368	0.142/ 2.085	C19H38O2	298.287	+		+	Anti-inflammatory, antioxidant(94)
199	Methyl tetradecanoate	29.855/ 29.878	0.148/ 2.149	C15H30O2	242.225	+	+		Antimicrobial, antioxidant, and anti-inflammatory (33)
200	Milbemycin B, 5-demethoxy-5-one-6,28-anhydro-25-ethyl-4-methyl-13-chloro-oxime	16.885	0.050	C32H44ClNO7	589.281			+	Reported (95)
201	Myristic acid, 9-octadecenyl ester, (Z)-	41.883	0.340	C32H62O2	478.475		+		Not Reported
202	N-(5-Hydroxy-2-oxo-5-phenyl-1-aza-bicyclo[4.2.0]oct-3-yl)carbamic acid, benzyl ester	23.311	0.169	C21H22N2O4	366.158	+			Not Reported
203	N,N-Diethyloctadecanamide	44.007	0.218	C22H45NO	339.350		+		Anti-inflammatory (96)
204	N-Decanoylmorpholine	45.790	0.321	C14H27NO2	241.204		+		Reported (97)
205	n-Hexadecanoic acid	36.170/ 37.760/	42.176/ 61.829/	C16H32O2	256.240	**+(3)**	**+(3)**	**+(3)**	Anit-inflammation (98)

		35.917	5.447					
206	Nonadecane, 2,3- dimethyl	35.122	0.134	C21H44	296.344		+	Anti-microbial (99)
207	Nonadecane, 2-methyl	24.960	35.122	C20H42	282.329		**+(6)**	Reported (89)
208	Nonadecane, 3-methyl	35.256	0.504	C20H42	282.329		+	Not Reported
209	Nonadecane, 9-methyl	41.856/ 42.501	0.092/ 0.271	C20H42	282.329	+	+(4)	Reported (100)
210	Nonanal dimethyl acetal	36.994	0.174	C11H24O2	188.178	+		Not Reported
211	n-Tetracosanol-1	39.862/ 43.688/ 40.293	0.256/ 0.578/ 0.468	C24H50O	354.386	**+(2)**	+	Antimicrobial, anticancer, antioxidant, antiplasmodial, enhancing immune functions, cardiovascular, hepato-protective, Anti-proliferative effect (101-102, 28)
212	Octacosane	50.285	0.242	C28H58	394.454	+		Antimicrobial (46)
213	Octadecanal	29.596	0.500	C18H36O	268.277	+		Antimicrobial (16)
214	Octadecanamide	40.412	1.694	C18H37NO	283.288	+		Defense or signaling molecule(93)
215	Octadecane	31.482	2.211	C18H38	254.297		+	Cosmetic (31)
216	Octadecane, 1-iodo	39.521	0.387	C18H37I	380.194	+		Antimicrobial (38)
217	Octadecane, 2,6-dimethyl	34.654	0.132	C20H42	282.329		+	Cosmetic (31)
218	Octadecane, 2-methyl	30.747/ 36.147	0.400/ 1.364	C19H40	268.313	+	**+(2)**	Cosmetic (31)
219	Octadecane, 3-ethyl-5-(2-ethylbutyl)	43.695/ 45.471/ 62.104	0.089/ 0.066/ 0.190	C26H54	241.204	+	**+7**	**+4** Cosmetic (31)
220	Octadecane, 5-methyl	22.613	0.030	C19H40	268.313	+		Not-Reported
221	Octadecanoic acid	33.704	1.280	C18H36O2	284.272	+		Antimicrobial (96)
222	Octadecanoic acid, 2-propenyl ester	16.870	0.013	C21H40O2	324.303	+		Antimicrobial (43)
223	Octane, 2,3,6,7-tetramethyl	10.786	0.018	C12H26	170.203	+		Not Reported
224	Octasiloxane, 1,1,3,3,5,5,7,7,9,9,11,11,13, 13,15,15-hexadecamethyl	41.481	0.186	C16H50O7Si8	578.171		**+(4)**	Not Reported
225	Oleic acid, eicosyl ester	55.707/ 16.491	6.231/ 0.003	C38H74O2	562.569	+	+	Antimicrobial (43)
226	Oleic diethanolamide	48.769	0.246	C22H43NO3	369.324		+	Not reported
227	Oleyloleate	75.616	0.080	C36H68O2	532.522		+	Skin conditioner(80)
228	Oxime-, methoxy-phenyl-_	4.375	0.384	C8H9NO2	151.063		+	Antioxidants (89)
229	Palmitoleic acid	35.338/ 35.538	0.185/ 2.446	C16H30O2	254.225		+	+ Anti-oxidant, Anti-tumour(25)
230	Pentadecane	17.851/ 17.836/ 22.910/	0.040/ 0.019/ 0.168/	C15H32	212.250	**+(4)**	**+(5)**	+ Antimicrobial (32)
231	Pentadecane, 2,6,10,14-tetramethyl	22.873	0.053	C19H40	268.313	+		Antimicrobial (32)
232	Pentadecane, 2,6,10-trimethyl	25.473/ 23.028	0.016/ 0.221	C18H38	254.297		+	+ Antimicrobial and antioxidant(30)

233	Pentadecane, 3-methyl	25.777	0.078	C16H34	226.266		+		Reported (30)
234	Pentadecanoic acid	33.934/ 32.106	0.826/ 5.573	C15H30O2	242.225	+	+		Anti-cancer, Neurotransmitter regulator(90)
235	Pentatriacontane	68.633/ 16.558	0.415/ 0.034	C35H72	492.563		+	+	Food additives, glazing agents, and cosmetic products (43)
236	Phen-1,4-diol, 2,3-dimethyl-5-trifluoromethyl	34.417	0.482	C9H9F3O2	206.055		+		Not reported
237	Phenol, 2,4-bis(1,1-dimethylethyl)-	24.648/ 24.685/ 24.700	0.567/ 0.122/ 1.191	C14H22O	206.167	+	**+(3)**	+	Antibioflim (91)
238	Phthalic acid, butyl undecyl ester	33.184	0.082	C23H36O4	376.261		+		Anti-cancer (92)
239	Phthalic acid, di(2-propylpentyl) ester	46.384/ 46.429/ 46.429	0.209/ 0.291/ 0.260	C24H38O4	390.277	+	**+(4)**	+	Anti-microbial (50)
240	Phthalic acid, ethyl pentadecyl ester	27.062	0.020	C25H40O4	404.293		+		Not Reported
241	Phthalic acid, hept-3-yl nonyl ester	50.842	0.715	C24H38O4	390.277		+		Not Reported
242	Phthalic acid, nonyl 2-propylpentyl ester	48.286	0.702	C25H40O4	404.293		+		Not Reported
243	Phytol	37.819/ 38.614/ 38.451	0.165/ 1.777/ 8.076	C20H40O	296.308	**+(4)**	**+(4)**	**+(6)**	Anti-fungal (93)
244	Phytol, acetate	32.396/ 75.535/ 38.428	0.340/ 0.178/ 0.737	C22H42O2	338.318	**+(2)**	**+(3)**	**+(2)**	Anti-fungal (94)
245	Rhodopin	15.347	0.067	C40H58O	554.449			+	Anti-parasite (51)
246	Sebacic acid, but-3-enyl tridecyl ester	44.817	0.057	C27H50O4	438.371		+		Not Reported
247	Silane, cyclohexyldimethoxymethyl	13.973	0.009	C9H20O2Si	188.123		+		Antimicrobial (95)
248	Silane, dimethyl(dimethyl(dimethyl(2-isopropylphenoxy)silyloxy)silyloxy)(2-isopropylphenoxy)-	16.863	0.038	C24H40O4Si3	476.223			**+(2)**	Not reported
249	Silane, dimethyl(docosyloxy)butoxy	13.981/ 67.801	0.033/ 0.748	C28H60O2Si	456.436		+	+	Not reported
250	Silanediol, dimethyl	2.956/ 4.085	5.387/ 0.577	C2H8O2Si	92.029	+	+		Nephroprotective effect (96)
251	Squalane	44.178	0.155	C30H62	422.485			+	Not reported
252	Squalene	50.760	0.421	C30H50	410.391			+	Not reported
253	Stearic acid, 9-hexadecenyl ester, (Z)-	75.512	0.505	C34H66O2	506.506		+		Not reported
254	Stigmasta-5,24(28)-dien-3-ol, (3β,24Z)-	62.839	1.248	C29H48O	412.371			+	Anti-bacterial (103)
255	Stigmasteroltbdms	51.421	0.588	C35H62OSi	526.457		+		Not Reported
256	Stigmasterol, 3,4-dedihydro-, acetate(ester)	57.936	0.408	C31H48O2	452.365			+	Anti-bacterial (49)
257	Succinic acid, 2-methylphenyl octadecyl ester	25.569	0.065	C29H48O4	460.355		+		Not reported
258	Succinic acid, 3,7-dimethyloct-6-en-1-yl pentyl ester	12.502	0.007	C19H34O4	326.246		+		Not reported
259	Sulfurous acid, cyclohexylmethyl dodecyl ester	48.539	0.076	C19H38O3S	346.254			+	Not reported
260	Terephthalic acid, 4-octyl octyl ester	49.638	0.926	C24H38O4	390.277		+		Not reported

261	tert-Hexadecanethiol	37.998	0.427	C16H34S	258.238	+		Anti-bacterial (49)
262	Tetracontane	68.024	0.752	C34H70	478.548	+		Anti-microbial (49)
263	Tetracosane	43.487/ 43.658	0.079/ 0.487	C24H50	338.391	+	+	Anti-bacterial (45)
264	Tetracosane, 11-decyl	49.133	0.554	C34H70	478.548		**+(4)**	Anti-bacterial (45)
265	Tetracosapentaene, 2,6,10,15,19,23-hexamethyl	49.534	0.040	C30H52	412.407	+		Not reported
266	Tetracosylheptafluorobutyrate	4.977	2.309	C28H49F7O2	550.362		+	Not reported
267	Tetradecane	21.156	0.128	C14H30	198.235	+		Antibacterial and antifungal (88)
268	Tetradecane, 1-chloro	28.615	0.109	C14H29Cl	232.196		+	Antimicrobial (88)
269	Tetradecane, 2,6,10-trimethyl	23.200/ 27.404/ 21.751	0.015/ 0.033/ 0.221	C17H36	240.282	+	**+(4)**	**+(3)** Mosquito vectors (89)
270	Tetradecane, 4-ethyl	30.279	0.264	C16H34	226.266		+	Anti-bacterial (45)
271	Tetradecane, 4-methyl	18.794	0.016	C15H32	212.250	+		Antioxidant and antibacterial (104)
272	Tetradecanoic acid	31.490/ 31.289/ 31.423	2.527/ 0.210/ 5.295	C14H28O2	228.209	**+(2)**	**+(5)**	+ Antioxidant, Antimicrobial (14)
273	Tetrahydropyranyl ether of citronellol	35.338	0.185	C15H28O2	240.209		+	Not reported
274	Tetratriacontane	48.732/ 47.105	0.087/ 0.216	C34H70	478.548		**+(13)**	**+(6)** Anti-bacterial (105)
275	Tetratriacontyltrifluoroacetate	19.797	0.011	C36H69F3O2	590.525	+		Not reported
276	Thiophene, 3-methyl-2-pentadecyl	42.982/ 42.871	0.559/ 0.960	C20H36S	308.254	**+(2)**		**+(2)** Not reported
277	Toluene-4-sulfonic acid, 2,2-dimethyl-5-phenyltetrahydro-1,3,4,6,8-pentaoxacyclopenta[a]inden-7-ylmethyl ester	18.088	0.020	C23H26O8S	462.135		+	Not reported
278	Trachylobane	33.310	0.109	C20H32	272.250			+ Not reported
279	Trans-(2-Docosenyl)succinic acid	53.070	0.067	C26H48O4	424.355		+	Related to signalling and metabolism (106)
280	trans-13-Octadecenoic acid	39.528	1.135	C18H34O2	282.256	+		Anti-inflammatory, Anti-algal & anti-microbial (43)
281	trans-13-Octadecenoic acid, methyl ester	38.287/ 38.027	0.279/ 0.303	C19H36O2	296.272		+	**+(2)** Anti-inflammatory & anti-microbial (107)
282	Tridecanoic acid, 12-methyl-, methyl ester	28.810	4.090	C15H30O2	242.225			+ Bio-surfactant (108)
283	Undecane, 3,7-dimethyl	17.561	0.038	C13H28	184.219			+ Anti-bacterial (86)
284	Vinyl lauryl ether	27.070	0.097	C14H28O	212.214	+		Inhalation anaesthetics (79)
285	Vitamin E	57.342	0.606	C29H50O2	430.381		+	Reported (98)
286	Z-14-Nonacosane	51.332	0.154	C29H58	406.454	+		Not Reported
287	α-Tocopheryl acetate	58.701	0.189	C31H52O3	472.392			+ dietary supplements and skin care products (109)
288	γ-Sitosterol	62.958/ 62.943/ 62.973	0.614/ 0.355/ 1.452	C29H50O	414.386	+	+	+ Hypolipidemic Agents (110)

	HM	AS	GA	Total
HM	**47**	**80**	**82**	**209**
HM-AS	**11**	**11**	**-**	**11**
HM-GA	**15**	**-**	**15**	**15**
AS-GA	**-**	**22**	**22**	**22**
HM-AS-GA	**31**	**31**	**31**	**31**
Grand Total	**-**	**-**	**-**	**288**
Not reported in Marco Algae	**-**	**-**	**-**	**71**

HM: *Hypnea musciformis*; AS: *Acanthophora spicifera*; GA: *Gelideilla acerosa;*
Number in the parenthesis: Number of occurrences from GC-MS analysis

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