

Table (1) GC-MS analysis of *n*-hexane fraction of *Silene succulenta*

No	Identified Compounds	RT	RRT	Area %
1	2-pentanone, 4-hydroxy-4-methyl-	4.11	(4.11/31.38) 0.131	0.78
2	D-2-Aminobutyric acid	4.91	0.1565	0.59
4	methylmalonic acid	7.01	0.2234	0.12
5	hexanoic acid	8.35	0.2661	0.23
6	glycolic acid	8.67	0.2763	0.30
7	Tetradecane	8.86	0.2823	0.14
8	pentanoic acid	10.01	0.31899	0.07
9	hydracrylic acid	10.44	0.3327	0.14
10	1-chlorooctadecane	10.60	0.3378	0.06
11	butanoic acid	10.92	0.34799	0.19
12	Mercaptoethanol	11.37	0.3623	0.28
13	butoxyacetic acid	11.97	0.3815	0.18
14	2-heptenoic acid	12.30	0.39197	0.06
15	2-hydroxycyclohexane-1-carboxylic acid	13.07	0.4165	0.19
16	10-undecyonic acid	13.29	0.4235	0.11
17	octanoic acid	13.50	0.4302	0.29
18	2-undecen-1-ol	13.56	0.4321	0.06
19	Glycerol	14.18	0.4519	1.02
20	benzeneacetic acid	14.32	0.4563	0.45
21	2-ethoxyethanol	14.78	0.4710	0.31
22	2-octenoic acid	14.86	0.4736	0.05
23	butanedioic acid	14.97	0.4771	0.13
24	glyceric acid	15.66	0.4990	0.31
25	2-hydroxyoctanoic acid	15.89	0.5064	0.10
26	nonanoic acid	16.05	0.5115	0.47
27	Pinacol	16.32	0.5201	1.54
28	octadecanoic acid	17.03	0.5427	0.08

29	pentonic acid	17.15	0.5465	0.08
30	4-hexenoic acid	17.68	0.5634	0.31
31	decanoic acid	18.52	0.5902	0.31
32	Acetophenone	18.71	0.5962	0.21
33	octadecanoic acid	19.07	0.6077	0.08
34	1,25-dihydroxyvitamin d3	19.47	0.6205	0.29
35	malic acid	19.73	0.6287	0.21
36	octadecanoic acid	19.97	0.6364	0.09
37	1-heptatriacotanol	21.14	0.6737	0.06
38	Octadecanoic acid	21.26	0.6775	0.06
39	Tyrosol	21.34	0.6801	0.28
40	octadecanoic acid	22.29	0.7103	0.08
41	dodecanoic acid	23.17	0.7384	0.94
42	1-heptatriacotanol	23.44	0.74697	0.08
43	octadecanoic acid	23.70	0.7553	0.11
44	tetradecane, 2,6,10-trimethyl-	24.26	0.7731	0.35
45	homovanillyl alcohol	24.57	0.78298	0.37
46	9,12,15-octadecatrienoic Acid	25.29	0.8059	0.33
47	Ribitol	25.42	0.8101	0.36
48	1-heptatriacotanol	25.76	0.8209	0.08
49	ethyl homovanillate	26.05	0.8301	2.06
50	cis-13-eicosenoic acid	26.15	0.8333	0.14
51	tetradecane, 2,6,10-trimethyl-	26.49	0.8442	1.10
52	pentacosane, 13-phenyl-	27.01	0.8607	0.67
53	9-octadecenoic acid	27.11	0.8639	0.22
54	2-pentadecanone, 6,10,14-trimethyl-	27.24	0.8681	1.93
55	myristic acid,	27.43	0.8741	2.29
56	d-pinitol	27.77	0.88496	3.69
57	1-heptatriacotanol	27.99	0.89197	0.14
58	14-á-h-pregna	28.20	0.8987	0.26
59	Nonadecane	28.36	0.9038	0.60

60	benzene, (1-methyldodecyl)-	28.52	0.9089	0.68
61	1-heptatriacotanol or ethyl iso-allocholate	28.77	0.9168	0.35
62	hexadecanoic acid	28.89	0.9207	0.55
63	1-heptatriacotanol	28.97	0.9232	0.26
64	pentadecanoic acid	29.39	0.9366	0.47
65	hexadecanoic acid	30.24	0.9637	1.03
66	Eicosane	30.34	0.9668	0.61
67	9-octadecenoic acid (z)-	30.91	0.9850	0.24
68	palmitic acid	31.38	1	6.41
69	12-methyl-e,e-2,13-octadecadien-1-Ol	33.34	1.062	0.58
70	z-(13,14-epoxy)tetradec-11-en-1-ol acetate	33.45	1.066	0.20
71	Phytol	33.72	1.075	1.07
72	cis-13-eicosenoic acid	33.91	1.081	0.08
73	9,12-octadecadienoic acid (z,z)	34.29	1.093	2.23
74	à-linolenic acid	34.41	1.097	2.28
75	cis-13-eicosenoic acid	34.50	1.099	0.05
76	Stearic acid	34.87	1.111	1.31
78	azelaic acid	34.94	1.113	0.54
79	9-octadecenoic acid (z)-	37.11	1.183	0.17
80	Arachidic acid	38.16	1.216	1.88
81	Dotriacontane	38.49	1.227	0.06
82	1-monopalmitin	40.66	1.296	0.31
83	behenic acid	41.21	1.313	1.61
84	Dotriacontane	41.41	1.32	0.11
85	1,11-undecanediol	41.54	1.324	0.22
86	1-heptatriacotanol or ethyl iso-allocholate	41.68	1.328	0.13
87	11-eicosenoic acid	42.66	1.36	0.16
89	2-tridecanol	43.02	1.37	0.58
90	undecanedioic acid	43.43	1.39	0.88
91	tetracosanoic acid	43.59	1.39	0.88

92	Dotriacontane	43.99	1.402	0.06
93	oleic acid	44.31	1.412	0.07
94	linolool oxide	44.38	1.414	0.31
95	2-dodecanol	44.47	1.417	0.29
96	9,12,15-octadecatrienoic Acid	44.91	1.43	0.21

RT; retention time

RTT*; Relative Retention Time (RT for each / RT of the highest AREA),

Table (2) UPLC-Triple TOF-MS/MS analysis of total alcoholic extract

Peak	RT(min)	(M-H) [±] (m/z)	Formula	Mode	MSn product ions	Identification
1	1.28275	477.10385	C ₂₂ H ₂₂ O ₁₂	(M-H) ⁻	477.12, 133.0091, 135.0281	Isorhamnetin-3-O-glucoside
2	1.193583	317.0303	C ₁₅ H ₁₀ O ₈	(M-H) ⁻	317.05, 281.08, 222.04, 225, 152.98, 133.01, 125.02, 80.96, 78.99	Myricetin
3	5.550034	447.09329	C ₂₁ H ₂₀ O ₁₁	(M-H) ⁻	447.0906, 429.0849, 387.2083, 357.0415, 357.0602, 327.0552, 285.0346	Luteolin-8-C-glucoside
4	5.790517	593.15118	C ₂₇ H ₃₀ O ₁₅	(M-H) ⁻	593.1508, 486.88, 473.1, 413.0722, 385.14, 311.05, 293.0463, 282.05, 89.02	Kaempferol-7-neohesperidoside
5	5.904167	285.04047	C ₁₅ H ₁₀ O ₆	(M-H) ⁻	285.05301, 285.14154	Luteolin
6	5.984783	449.10785	C ₂₁ H ₂₀ O ₁₁	(M+H) ⁺	449.09, 431.0914, 413.0759, 401.7715, 395.0575, 383.075, 377.0624, 351.044, 353.0577, 329.0735, 305.0838, 299.0609, 287.0612, 269.0544, 259.0772, 241.0502, 128.0719	Luteolin-6-C-glucoside
7	6.030667	623.16174	C ₂₈ H ₃₂ O ₁₆	(M-H) ⁻	623.1572, 503.115, 443.0948, 323.0601, 308.03, 119.03	Isorhamnetin-3-O-rutinoside
8	6.80595	417.08273	C ₂₀ H ₁₈ O ₁₀	(M-H) ⁻	417.1285, 371.1467, 286.94, 218.9455, 209.0774, 161.0479	Kaempferol-3-O-alpha-L-arabinoside
9	6.89595	447.09329	C ₂₁ H ₂₀ O ₁₁	(M-H) ⁻	447.09705, 387.1, 369.1505, 285.0373, 284.0368, 179.058	Luteolin-7-O-glucoside
10	7.682416	611.19812	C ₂₈ H ₃₆ O ₁₅	(M-H) ⁻	611.1982, 519.2004, 403.1503, 369.1315, 207.0593	Neohesperidin dihydrochalcone

11	7.744184	609.1814	C ₂₈ H ₃₂ O ₁₅	(M+H) ⁺	609.17, 463.12, 401.27, 310.08, 301.0668, 286.062, 219.10	Diosmin
12	7.74525	431.09836	C ₂₁ H ₂₀ O ₁₀	(M-H) ⁻	431.097, 385.1743, 362.8986, 269.0391, 268.0278, 256.92	apigenin-7-O-glucoside
13	7.934067	461.07254	C ₂₁ H ₁₈ O ₁₂	(M-H) ⁻	461.0778, 446.0795, 392.9014, 324.9014, 299.046, 283.0266, 154.99	Kaempferol-3-Glucuronide
14	9.285334	593.13007	C ₃₀ H ₂₆ O ₁₃	(M-H) ⁻	593.12793, 593.18298, 547.33, 284.02316,	Kaempferol-3-O-(6'''-p-coumaroyl)-glucoside
15	22.47598	609.14612	C ₂₇ H ₃₀ O ₁₆	(M-H) ⁻	609.1379	Luteolin-3', 7-di-O-glucoside
16	1.316017	219.06519	C ₁₂ H ₁₀ O ₄	[M+H] ⁺	219.18, 203.14, 177.05, 146.11, 130.04 116.07	7-ACETOXY-4-METHYLCOUMARIN
17	11.5031	359.07724	C ₁₈ H ₁₆ O ₈	[M-H] ⁻	359.07, 357.9, 343.06, 329.0304, 344.0527, 301.03, 285.04, 202.02, 182.97, 174.03, 151.05, 112.98	rosmarinic acid
18	17.3225	339.07214	C ₁₅ H ₁₆ O ₉	[M-H] ⁻	338.13, 339.19, 258.059, 182.995, 183.01	Esculin
19	23.79942	449.18634	C ₂₀ H ₃₆ O ₇ P ₂	[M-H] ⁻	269.1354, 269.9212, 387.0878, 405.142	Geranylgeranyl pyrophosphate ammonium salt
20	5.62635	424.03775	C ₁₄ H ₁₉ NO ₁₀ S ₂	[M-H] ⁻	287.9341, 327.1243, 350.0478, 355.9192, 396.1294	p-Hydroxybenzylglucosinolate
21	1.257583	128.03532	C ₅ H ₇ NO ₃	[M-H] ⁻	128.035, 127.62, 82.029	L-5-Oxoproline
22	1.291183	191.10263	C ₇ H ₁₄ N ₂ O ₄	[M+H] ⁺	122.9212, 135.1147, 173.0746	DL-alpha,epsilon-Diaminopimelic acid
23	1.353683	175.11896	C ₆ H ₁₄ N ₄ O ₂	[M+H] ⁺	60.057, 70.064, 116.0678, 130.0963	L-Arginine
24	1.353683	118.08626	C ₅ H ₁₁ NO ₂	[M+H] ⁺	58.0647, 59.0719	Glycine-Betaine
25	1.429183	116.0706	C ₅ H ₉ NO ₂	[M+H] ⁺	116.0679, 71.496, 70.064, 68.048	L-PROLINE
26	1.429183	130.08626	C ₆ H ₁₁ NO ₂	[M+H] ⁺	59.0486, 70.064, 84.0446	Pipecolate
27	1.219083	146.04588	C ₅ H ₉ NO ₄	[M-H] ⁻	98.0224, 102.0533, 128.0323, 129.041	L-Glutamic acid
28	1.2699	275.12485	C ₁₁ H ₂₀ N ₂ O ₆	[M-H] ⁻	100.039, 128.0355, 146.0487, 167.0855, 239.078	L-Saccharopine
29	5.52435	183.02989	C ₈ H ₈ O ₅	[M-H] ⁻	165.0148	3,4-Dihydroxymandelate
30	6.832117	223.0612	C ₁₁ H ₁₂ O ₅	[M-H] ⁻	190.1038	3-(4-HYDROXY-3,5-DIMETHOXYPHENYL)-2-PROPENOIC ACID (Hydroxycinnamic acids)
31	1.2699	179.03499	C ₉ H ₈ O ₄	[M-H] ⁻	59.0134, 71.0122, 75.0107, 143.0351, 161.0388	Caffeic acid (Hydroxycinnamic acids)

32	1.206583	161.04555	C ₆ H ₁₀ O ₅	[M-H] ⁻	57.0331, 71.0478, 99.0428, 101.023, 143.0333	3-Hydroxy-3-Methylglutaric acid (Hydroxy fatty acids)
33	1.473733	129.01933	C ₅ H ₆ O ₄	[M-H] ⁻	84.9904	Citraconic acid (Methyl-branched fatty acids)
34	1.3204	147.02989	C ₅ H ₈ O ₅	[M-H] ⁻	71.0476, 85.032, 101.0582, 145.0499	Citramalate (Hydroxy fatty acids)
35	1.291183	104.10645	C ₅ H ₁₄ NO	[M] ⁺	58.0647, 60.0812	Choline (Cholines)
36	5.877617	449.1073	C ₂₁ H ₂₁ O ₁₁	[M+H] ⁺	213.0649, 241.0634, 269.0591, 287.0662	Cyanidin-3-glucoside
37	2.1503	138.05496	C ₇ H ₇ NO ₂	[M+H] ⁺	92.0516, 121.056	Trigonelline

Table (3) Antioxidant activity of *Silene succulenta* extract and fractions.

Sample	% inhibition at 1000 µg/mL	% inhibition at 100 µg/mL
<i>n</i> -Hexane	<50	<50
Ethyl acetate	>50	<50
<i>n</i> -Butanol	<50	<50
Total alcohol	>50	<50

Table (4) IC₅₀ of antioxidant of total alcoholic extract and ethyl acetate fraction of *Silene succulenta*

Sample	IC ₅₀ (ug/ mL)
Ethyl Acetate	799.8 ± 45.45
Total alcohol	749.9 ± 29.73
Trolox (µM)	24.42 ± 0.87

Table (5) Cytotoxic activity of *Silene succulenta* extract and fractions against Lung and Breast Carcinoma cell lines.

Sample	IC ₅₀ (ug/ mL)	
	A549	MCF7
Aqueous fraction	44	18.7
<i>n</i> -Hexane fraction	22.6	15.5
Ethyl acetate fraction	48	33
<i>n</i> -Butanol fraction	90	33
Total alcohol extract	50	18