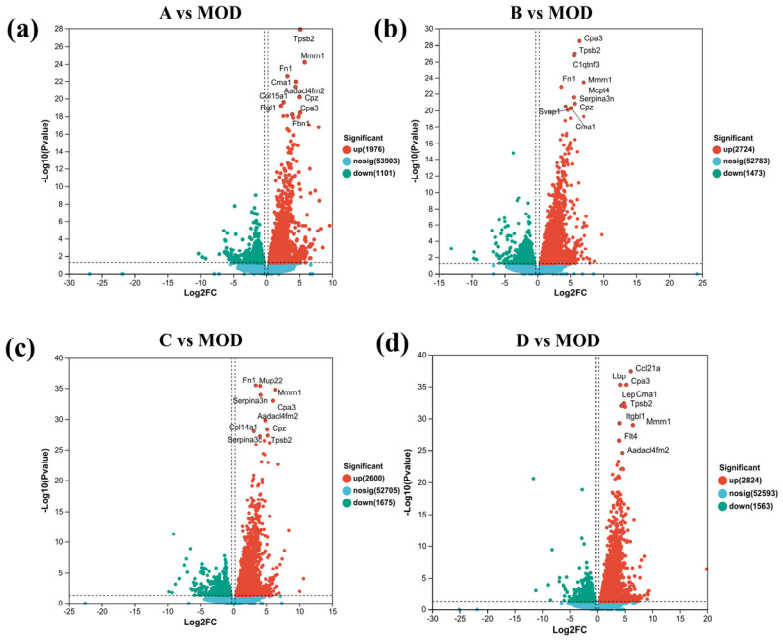
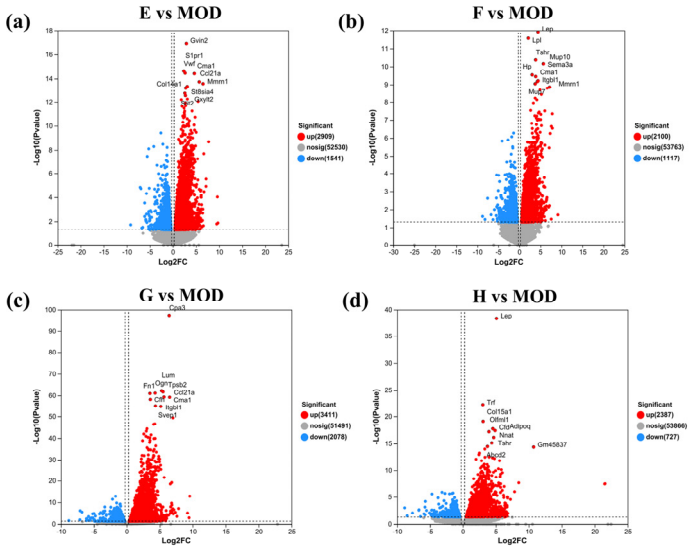
Supplementary Data:



Supplementary Figure S1. Volcano maps of A, B, C and D groups.



Supplementary Figure S2. Volcano maps of E, F, G and H groups.

Supplementary Table S1. The main components were obtained from G.L. leaves under different extraction conditions.

NO	RT [min]	Fragment ions (m/z) $[M+H]^+$	Fragment ions (m/z) $[M-H]^-$	Error (ppm)	Measured mass (m/z)	CAS	Formula	Identity	Relative content (%)			
									ethyl alcohol and then extracted with ethyl acetate	ethyl alcohol and then extracted with n-butanol	water and then extracted with ethyl acetate	water and then extracted with n-butanol
1	0.91	60.04508,70.0657,88.07607,106.08646		1.53	105.07914	111-42-2	$C_4H_{11}NO_2$	Diethanolamine	0.03	0.08	0.12	0.45
2	0.91	60.08143,87.04442,104.10716		3.02	103.06364	1956/12/2	$C_4H_9NO_2$	Y-Aminobutyric acid (GABA)	1.57	0.32	0.34	1.38
3	0.91	60.08144,104.10719		2.42	103.09996	62-49-7	$C_5H_{13}NO$	Choline	8.19	1.49	0.80	4.33
4	0.92	70.06564,88.07601,132.10175		-1.25	149.10501	104-74-3	$C_6H_{15}NO_3$	Triethanolamine	0.01	0.10	0.13	0.02
5	0.93		59.01375,75.00858,129.01917,195.0508	-1.24	196.05806	526-95-4	$C_6H_{12}O_7$	Gluconic acid	0.29	0.07	1.31	0.42
6	0.93		59.01377,71.01373,89.0243,179.05598	0.15	342.11626	612-11-1	$C_{12}H_{22}O_{11}$	α,α-Trehalose	2.01	0.30	0.04	0.25
7	0.94	56.05018,74.06056		0.62	119.05832	72-19-5	$C_4H_9NO_3$	L-Threonine	0.97	0.20	0.20	0.65
8	0.94		59.01375,71.01369,89.02427	-0.51	180.0633	6931-96-6	$C_6H_{12}O_6$	D-(+)-Mannose	16.32	5.17	2.09	7.47
9	0.95	60.08147,103.03922,116.07071,162.11226		-1.07	161.10502	540-73-8	$C_7H_{15}NO_3$	D-Carnitine	0.13	0.12	0.14	0.13

10	0.95		71.0137,89.02428,101.02422,181.07159	-0.78	182.0789	616-34-6	$C_6H_{14}O_6$	D-(-)-Mannitol	0.44	0.05	0.01	0.07
11	0.95	136.06158		-0.75	135.05439	65-21-7	$C_5H_5N_5$	Adenine	0.45	0.41	0.10	2.43
12	0.96	60.04503,88.03964		0.97	105.0427	56-40-6	$C_3H_7NO_3$	D-Serine	0.25	0.09	0.09	0.67
13	0.96		85.02934,111.00858,191.05595	-1.04	192.06319	77-97-6	$C_7H_{12}O_6$	D-(-)-Quinic acid	2.04	0.51	0.85	1.43
14	0.97	74.02415,87.05564		-0.32	132.05345	70-47-3	$C_4H_8N_2O_3$	Asparagine	0.06	0.01	-	0.16
15	0.97	84.04477,102.05513,130.04971		-1.19	147.05298	617-52-5	$C_5H_9NO_4$	L-Glutamic acid	1.71	0.46	0.31	1.40
16	0.98	94.06544,138.05475		-0.75	137.04758	612-14-3	$C_7H_7NO_2$	Trigonelline	8.12	2.12	1.37	7.03
17	0.99		73.02935,93.03441,111.04498,137.02425	-1.38	174.05258	138-59-0	$C_7H_{10}O_5$	Shikimic acid	0.15	0.03	0.02	0.08
18	0.99		71.01373,115.00352	-1.18	134.02137	617-52-5	$C_4H_6O_5$	DL-Malic acid	2.68	0.45	0.21	6.38
19	1	84.04478,130.04973		-0.95	146.069	56-86-0	$C_5H_{10}N_2O_3$	D-(-)-Glutamine	0.18	0.05	0.02	0.48
20	1	118.08625		1.05	117.0791	107-43-7	$C_5H_{11}NO_2$	Betaine	0.98	0.08	0.30	0.89
21	1.03	231.08345		13.7	230.07632	170-16-8	$C_{17}H_{10}O$	7-Oxobenz[de]anthracene	0.22	0.15	-	-
22	1.04		85.02934,129.03851	-0.97	130.02648	123-63-7	$C_5H_6O_4$	Glutaconic acid	0.53	0.15	0.18	0.92
23	1.06	61.0113,63.99836,79.02167		6.8	78.01447	67-68-5	C_2H_6OS	Dimethyl sulfoxide	0.01	0.06	0.13	0.07

24	1.06		85.02935,87.00860,111.00858	0.31	192.02706	77-92-9	$C_6H_8O_7$	Citric acid	1.85	1.82	4.27	5.48
25	1.07		89.02429	-0.99	90.0316	50-21-5	$C_3H_6O_3$	DL-Lactic Acid	0.49	0.29	0.59	0.35
26	1.08	84.04482,130.04979		-0.09	129.04258	142-04-1	$C_5H_7NO_3$	L-Pyroglutamic acid	0.68	0.32	0.17	0.50
27	1.1	124.03934		0.83	123.03213	59-67-3	$C_6H_5NO_2$	Nicotinic acid	0.09	0.01	0.04	0.08
28	1.21		73.02937,117.01923	-0.99	118.02649	110-15-6	$C_4H_6O_4$	Succinic acid	0.16	0.01	-	0.03
29	1.4	86.09681		0.12	131.09464	73-32-5	$C_6H_{13}NO_2$	L-Isoleucine	2.14	0.34	1.27	3.27
30	1.48		125.02419	-1.06	170.02134	149-91-7	$C_7H_6O_5$	Gallic acid	0.45	0.11	0.03	0.43
31	2.27	120.08074		-0.97	165.07882	63-24-6	$C_9H_{11}NO_2$	L-Phenylalanine	0.91	0.27	0.81	2.26
32	4.38	118.06512,146.05975		-1.15	187.06311	611-71-4	$C_{11}H_9NO_2$	Indole-3-acrylic acid	0.06	0.05	0.12	0.22
33	11.79	89.06008,133.08586,177.11174		-1.53	326.19357	68937-42-6	$C_{14}H_{30}O_8$	PEG n7	0.01	-	0.01	0.01
34	12.77	133.02827,137.05952,178.02576		-0.9	192.04209	532-41-9	$C_{10}H_8O_4$	Scopoletin	0.17	0.04	0.02	0.01
35	14.77	285.03888		-0.65	464.09517	482-35-5	$C_{21}H_{20}O_{12}$	Isoquercitrin	0.24	0.06	-	0.03
36	14.86	71.04966,85.02877,303.04916		-0.58	610.15303	153-18-4	$C_{27}H_{30}O_{16}$	Rutin	4.61	1.29	0.19	0.63
37	15.62	85.02879		-0.57	448.10031	482-32-7	$C_{21}H_{20}O_{11}$	Astragalin	0.20	0.05	-	0.04

38	15.63	71.04968,85.02879,287.05432		-0.62	594.1581	520-36-5	$C_{27}H_{30}O_{15}$	Kaempferol-3-O-rutinoside	3.01	0.76	0.16	
39	16.24	69.03405,139.11153		-0.78	138.10436	123-97-7	$C_9H_{14}O$	Isophorone	0.44	1.00	1.80	0.61
40	16.85	367.13544		-5.52	344.14655	170-58-9	$C_{17}H_{20}N_4O_4$	N--1,5-dimethyl-1H-pyrazole-3-carboxamide	-	0.16	0.01	0.04
41	17.17	69.07042,121.10114,139.1115,217.14299		-1.02	230.15157	111-26-2	$C_{12}H_{22}O_4$	Dimethyl sebacate	0.07	0.42	0.04	0.08
42	17.91	119.04916,192.13792		-1.22	191.13078	134-62-3	$C_{12}H_{17}NO$	DEET	0.02	0.05	0.11	0.06
43	18.1	149.02321,177.05441		-1.41	222.0889	119-32-2	$C_{12}H_{14}O_4$	Diethyl phthalate	-	0.08	0.10	0.09
44	18.24	309.13046		-1.98	286.17746	123-66-0	$C_{15}H_{26}O_5$	NP-011878	0.03	0.21	-	0.02
45	18.29	309.13022		-9.57	308.12304	123-67-1	$C_{16}H_{20}O_6$	NP-011199	0.06	0.08	0.21	0.11
46	18.59	57.07056,62.06063		-1.13	201.20904	111-76-2	$C_{12}H_{27}NO$	N, N-Dimethyldecylamine N-oxide	0.02	0.01	0.06	0.01
47	18.83	333.20383		-8.55	350.20633	123-68-2	$C_{20}H_{30}O_5$	6,8-dihydroxy-3-(10-hydroxyundecyl)-3,4-dihydro-1H-2-benzopyran-1-one	0.34	0.18	0.02	0.09
48	18.83	67.05481,81.0703,107.0857,275.2001		-1.65	292.20336	123-69-3	$C_{18}H_{28}O_3$	9S,13R-12-Oxophytodienoic acid	0.35	0.17	0.05	0.09
49	18.83		171.10251	0.22	328.22505	123-70-4	$C_{18}H_{32}O_5$	Corchorifatty acid F	0.60	0.29	0.05	0.16

50	19.03	441.18787		16.98	440.18043	123-71-5	$C_{19}H_{28}N_4O_6S$	N-[1-Amino-1-oxo-3-(2-thienyl)-2-propanyl]-1-(methoxyacetyl)-4-[(methoxyacetyl)amino]-2-piperidine carboxamide	0.02	0.34	0.03	0.04
51	19.04	105.07003		-1.8	386.17224	123-72-6	$C_{22}H_{26}O_6$	Bis (methylbenzylidene) sorbitol	0.32	0.83	0.35	0.23
52	19.36	353.2291		19.47	352.22193	123-73-7	$C_{22}H_{28}N_2O_2$	Methoxyacetyl fentanyl	0.11	0.06	0.03	0.02
53	19.37		139.11267,171.10251,211.13388,229.14439	0.29	330.24072	123-74-8	$C_{18}H_{34}O_5$	(15Z)-9,12,13-Trihydroxy-15-octadecenoic acid	0.19	0.13	0.01	0.04
54	19.52	55.05494,73.02892,83.08593		-1.51	226.12017	123-75-9	$C_{12}H_{18}O_4$	1,6-Hexanediol diacrylate	0.03	0.03	0.17	0.04
55	19.62	265.14035		-10.52	264.13338	123-76-0	$C_{15}H_{20}O_4$	NP-008274	0.06	0.11	0.01	0.04
56	19.74	119.08561,133.10114,217.1584,235.1689		-1.56	252.17215	123-77-1	$C_{15}H_{24}O_3$	NP-008095	0.01	-	0.04	0.02
57	19.76	119.08557		-1.72	392.30322	123-78-2	$C_{23}H_{40}N_2O_3$	AUDA	-	0.03	0.07	-
58	20.19	119.08555,145.10095,187.14772,233.15308		-1.58	232.14596	123-79-3	$C_{15}H_{20}O_2$	Atractylenolide II	0.02	0.02	0.05	0.04
59	20.38	57.07055,71.08606,85.10155,186.22125		-1.07	185.21415	123-80-4	$C_{12}H_{27}N$	Dodecylamine	0.22	1.33	3.25	1.38
60	20.56	70.04055		-1.13	307.14479	123-81-5	$C_{16}H_{22}ClN_3O$	Tebuconazole	0.01	0.01	0.07	0.05

61	20.67	318.17566		-9.32	332.19566	123-82-6	$C_{20}H_{28}O_4$	NP-002113	0.51	0.72	0.02	0.11
62	20.75		293.21228,311.22296	-0.97	312.22976	123-83-7	$C_{18}H_{32}O_4$	(±)9-HpODE	0.09	0.10	0.01	0.01
63	20.99	119.08559		-1.58	414.20358	123-84-8	$C_{24}H_{30}O_6$	Bis (4-ethylbenzylidene) sorbitol	0.11	0.15	0.30	0.14
64	21.09	216.8566		-8.9	334.21144	123-85-9	$C_{20}H_{30}O_4$	Bicyclo Prostaglandin E2	0.12	0.01	0.03	0.04
65	21.15	119.08555		-1.01	216.1512	123-86-0	$C_{15}H_{20}O$	(+)-ar-Turmerone	0.03	0.07	0.06	0.04
66	21.37	98.98435		-1.8	266.16422	123-87-1	$C_{12}H_{27}O_4P$	Tributyl phosphate	0.36	0.68	3.34	0.88
67	21.38	98.98446		-1.26	210.10183	123-88-2	$C_8H_{19}O_4P$	Dibutyl phosphate	0.04	0.09	0.29	0.08
68	21.46	149.02313		-1.75	278.15132	123-89-3	$C_{16}H_{22}O_4$	Diisobutylphthalate	0.36	1.44	9.29	1.87
69	21.5	347.21854		-8.48	346.21147	123-90-4	$C_{21}H_{30}O_4$	Methyl 1,4a-dimethyl-6-methylene-5-[2-(2-oxo-2,5-dihydro-3-furanyl) ethyl] decahydro-1-naphthalenecarboxylate	0.18	0.45	-	0.01
70	21.52	351.08948		-2.41	328.26057	123-91-5	$C_{19}H_{36}O_4$	1,4-dihydroxyheptadec-16-en-2-yl acetate	0.04	0.06	0.01	0.01
71	21.6	55.05495,79.0547,93.07021,275.20001		-1.5	292.20341	123-92-6	$C_{18}H_{28}O_3$	12-oxo Phytodienoic Acid	0.17	0.19	0.01	0.01
72	21.71		195.13884,275.20148	0.44	294.21962	123-93-7	$C_{18}H_{30}O_3$	13(S)-HOTrE	0.63	0.78	0.01	0.04

73	21.72	393.26022		-8.16	392.25307	123-94-8	$C_{23}H_{36}O_5$	NP-002336	0.01	0.15	-	0.01
74	22		223.20659,267.19641	-1.84	286.21388	123-95-9	$C_{16}H_{30}O_4$	Hexadecanedioic acid	0.04	0.33	0.65	0.16
75	22.08	317.20804		-9.59	316.20081	123-96-0	$C_{20}H_{28}O_3$	Cafestol	0.27	0.37	0.42	0.15
76	22.11	297.203		-1.63	274.21396	123-97-1	$C_{15}H_{30}O_4$	Monolaurin	0.02	0.10	0.04	0.01
77	22.18	301.21307		-9.32	318.21653	123-98-2	$C_{20}H_{30}O_3$	5-OxoETE	0.32	0.46	0.01	0.01
78	22.2	129.0181,139.00233,157.01286,185.08044		-1.57	402.22474	123-99-3	$C_{20}H_{34}O_8$	Citroflex A-4	-	0.01	0.67	0.06
79	22.27	422.19055		-7.04	448.27933	123-100-4	$C_{26}H_{40}O_6$	NP-006874	0.02	0.01	0.08	0.06
80	22.34		96.95989,265.14767	0.06	266.1552	123-101-5	$C_{12}H_{26}O_4S$	Dodecyl sulfate	-	-	0.11	0.04
81	22.62	303.22858		-8.13	320.23254	123-102-6	$C_{20}H_{32}O_3$	(+/-)11(12)-EET	0.27	0.31	0.36	0.17
82	22.74		205.15959	-0.07	250.15688	123-103-7	$C_{15}H_{22}O_3$	2-[(2S,4aR,8aS)-2-Hydroxy-4a-methyl-8-methylenedecahydro-2-naphthalenyl]acrylic acid	0.01	0.02	0.05	0.02
83	22.78	189.16348,203.17912,205.15837,409.34576		-1.19	472.3547	123-104-8	$C_{30}H_{48}O_4$	Corosolic acid	0.12	0.18	0.01	-

84	22.85	67.05479,81.07028,95.08577,109.10126		-2.09	292.23962	123-105-9	$C_{19}H_{32}O_2$	9(Z),11(E),13(E)-Octadecatrienoic Acid methyl ester	0.63	1.77	-	0.04
85	23.04	339.1774		-7.62	338.17036	123-106-0	$C_{18}H_{26}O_6$	NP-022470	0.06	0.03	0.21	0.41
86	23.05	57.07057,71.08607,95.08581,285.24179		-1.82	302.24516	123-107-1	$C_{17}H_{34}O_4$	2,3-dihydroxy propyl 12-methyltridecanoate	0.39	3.74	0.16	0.76
87	23.13	67.0548,81.0703,95.08579,109.10128		-1.89	306.2553	123-108-2	$C_{20}H_{34}O_2$	Linolenic acid ethyl ester	0.13	0.30	0.03	0.07
88	23.25	327.40707		-1.73	328.26079	123-109-3	$C_{19}H_{36}O_4$	2,4-dihydroxyheptadec-16-en-1-yl acetate	0.10	0.06	0.02	0.01
89	23.25	62.06068		-1.74	323.28187	123-110-4	$C_{20}H_{37}NO_2$	Linoleoyl Ethanolamide	0.05	0.01	0.28	0.02
90	23.31	351.24985		-8.84	350.24261	123-111-5	$C_{21}H_{34}O_4$	5-[5-(methoxycarbonyl)-5,8a-dimethyl-2-methylidene-decahydronaphthalen-1-yl]-3-methyl pentanoic acid	0.09	0.14	0.04	-
91	23.43		163.11272,339.23291	0.02	340.24024	123-112-6	$C_{23}H_{32}O_2$	2,2'-Methylenebis(4-methyl-6-tert-butyl phenol)	5.69	3.16	6.67	9.93
92	23.51	67.05479,81.07028,95.08576,263.23621		-1.88	354.27634	123-113-7	$C_{21}H_{38}O_4$	1-Linoleoyl glycerol	0.01	0.27	0.22	0.03
93	23.65	328.47882		16.19	426.29514	123-114-8	$C_{26}H_{38}N_2O_3$	N-(methyl)-2-methoxybenzamide	0.15	0.35	0.33	0.18

94	23.71		455.08777	-0.47	456.36013	123-115-9	$C_{30}H_{48}O_3$	Oleanolic acid	0.09	0.05	0.57	0.23
95	23.72	62.06067		-1.15	325.29771	123-116-0	$C_{20}H_{39}NO_2$	Oleoyl ethanolamide	0.04	0.06	0.33	0.04
96	23.79	55.05497,57.0706,69.07047,83.08598		-1.74	281.27137	123-117-1	$C_{18}H_{35}NO$	Oleamide	1.97	3.34	21.50	0.41
97	23.81	272.26706		-10.04	303.25317	67564-91-4	$C_{20}H_{33}NO$	Fenpropimorph	0.05	0.11	0.47	0.15
98	23.9		279.23282	-0.22	280.24017	60-33-3	$C_{18}H_{32}O_2$	Linoleic acid	0.13	0.09	0.01	0.01
99	23.95		96.95988,293.17914	0.64	294.18667	124-09-4	$C_{14}H_{30}O_4S$	Myristyl sulfate	0.11	-	0.01	0.10
100	23.96	69.07042,81.07029,95.08578,265.25189		-1.82	356.29201	591-05-9	$C_{21}H_{40}O_4$	Monoolein	0.45	0.98	1.28	0.11
101	24.11	109.10131		-1.59	424.36984	87-85-4	$C_{30}H_{48}O$	Lupenone	0.11	0.06	0.07	0.02
102	24.17	284.29404		-1.69	283.28704	124-22-2	$C_{18}H_{37}NO$	Stearamide	3.39	4.16	11.54	8.69
103	24.21	62.06068		-1.47	327.31325	6217-19-8	$C_{20}H_{41}NO_2$	Stearoyl ethanolamide	0.03	0.11	0.15	0.03
104	24.39		281.24854	-0.15	282.25584	638-90-6	$C_{18}H_{34}O_2$	Elaidic acid	0.06	0.08	0.03	0.01
105	24.4	413.26538		-7.99	412.25807	223460-87-5	$C_{26}H_{36}O_4$	5-[(10Z)-14-(3,5-dihydroxy phenyl) tetradec-10-en-1-yl] benzene-1,3-diol	0.12	0.30	0.30	0.05

106	24.4	149.02309		-1.99	390.27623	68515-49-1	$C_{24}H_{38}O_4$	Diisooctyl phthalate	0.21	0.04	0.19	0.31
107	24.42		171.25362	0.01	256.24023	1957/10/3	$C_{16}H_{32}O_2$	Palmitic acid	0.03	0.02	0.13	0.02
108	24.43	57.07063,71.08613,95.08589,341.3046		-1.75	358.30768	123-94-4	$C_{21}H_{42}O_4$	1-Stearoylglycerol	9.28	43.83	5.01	17.85
109	24.45	57.07056,58.02942,102.09155		-1.79	297.30263	67564-91-4	$C_{19}H_{39}NO$	Tridemorph	0.22	0.47	0.37	0.73
110	24.87	57.07055,70.06566,88.07603		0.05	284.27155	1957/11/4	$C_{18}H_{36}O_2$	Stearic acid	0.02	0.03	0.16	0.08
111	25.04	71.08607,85.10156,149.02312		-1.55	418.30766	119-07-3	$C_{26}H_{42}O_4$	Octyl decyl phthalate	0.09	0.09	0.19	0.02
112	25.13	69.07045,83.08596,97.10146,321.31445		-1.86	337.33384	112-84-5	$C_{22}H_{43}NO$	Erucamide	4.59	4.36	10.84	1.08
113	25.47	95.08588,109.10139,203.1792		-1.06	220.18248	139-08-2	$C_{15}H_{24}O$	(-)-Caryophyllene oxide	0.06	0.03	0.01	0.01
114	25.7	57.07057,88.07605,102.09156		-1.6	339.34957	112-84-5	$C_{22}H_{45}NO$	Docosanamide	0.22	0.12	0.01	0.21
115	27.17	81.07032,95.08581,107.08569,109.10131		-0.42	426.38599	87-85-4	$C_{30}H_{50}O$	Lupeol	0.36	0.31	0.03	-
		Total anti-inflammatory							38.27	14.73	27.19	19.54

Supplementary Table S2. The main components were obtained from P.L. leaves under different extraction conditions.

NO	RT [min]	Fragment ions (m/z) $[M+H]^+$	Mment ions (m/z) $[M-H]^-$	Error (ppm)	Measured mass (m/z)	CAS	Formula	Identity	Relative content (%)			
									ethyl alcohol and then extracted with ethyl acetate	ethyl alcohol and then extracted with n-butanol	water and then extracted with ethyl acetate	water and then extracted with n-butanol
1	0.908	60.0450, 70.0657, 88.0760, 106.0864		1.53	105.07914	105-59-9	$C_4H_{11}NO_2$	Diethanolamine	0.06	0.11	0.10	0.11
2	0.908	104.10716		3.02	103.06364	1956/12/2	$C_4H_9NO_2$	Y-Aminobutyric acid (GABA)	0.23	0.91	0.36	1.20
3	0.914	104.10717		2.42	103.09996	62-49-7	$C_5H_{13}NO$	Choline	0.85	2.05	1.68	5.58
4	0.92	150.11221		-1.25	149.10501	102-71-6	$C_6H_{15}NO_3$	Triethanolamine	0.14	0.06	0.18	-
5	0.933		195.0508,75.00858, 129.01917	-1.24	196.05806	526-95-4	$C_6H_{12}O_7$	Gluconic acid	0.05	0.18	0.69	1
6	0.934		89.02430, 59.01377, 71.01373, 179.05598	0.15	342.11626	612-11-1	$C_{12}H_{22}O_{11}$	α,α-Trehalose	0.21	0.44	0.12	0.83
7	0.939	74.06056		0.62	119.05832	72-19-5	$C_4H_9NO_3$	L-Threonine	0.12	0.27	0.26	0.38
8	0.94		59.01375, 71.01369, 89.02427	-0.51	180.0633	596-82-2	$C_6H_{12}O_6$	D-(+)-Mannose	5.51	11.38	4.3	12.73
9	0.948		181.07159, 71.01370, 101.02422, 89.02428	-0.78	182.0789	69-65-8	$C_6H_{14}O_6$	D-(-)-Mannitol	0.17	0.16	0.07	0.19

10	0.948	162.11226		-1.07	161.10502	541-15-7	$C_7H_{15}NO_3$	D-Carnitine	0.22	0.08	0.22	0.15
11	0.952	136.0615		-0.75	135.05439	60-61-7	$C_5H_5N_5$	Adenine	0.07	0.42	0.03	0.84
12	0.956	60.04503		0.97	105.0427	56-45-1	$C_3H_7NO_3$	D-Serine	0.04	0.22	0.41	0.54
13	0.961		191.0553	-1.04	192.06319	121-79-9	$C_7H_{12}O_6$	D-(-)-Quinic acid	0.44	0.83	0.62	1.89
14	0.972	84.04477		-1.19	147.05298	56-86-0	$C_5H_9NO_4$	L-Glutamic acid	0.52	1.41	1.31	4.06
15	0.976	138.05475		-0.75	137.04758	372-68-0	$C_7H_7NO_2$	Trigonelline	1.57	7.02	4.5	20.69
16	0.994	115.00352, 71.01373		-1.18	134.02137	617-48-1	$C_4H_6O_5$	DL-Malic acid	0.1	0.59	0.44	6.03
17	0.994		93.03441, 73.02935	-1.38	174.05258	138-59-0	$C_7H_{10}O_5$	Shikimic acid	0.19	0.51	0.14	0.48
18	0.998		84.04478, 130.04973	-0.95	146.069	56-85-9	$C_5H_{10}N_2O_3$	D-(-)-Glutamine	0.03	0.08	0.07	0.30
19	1.004	118.08625		1.05	117.0791	107-43-7	$C_5H_{11}NO_2$	Betaine	0.11	0.24	0.26	0.37
20	1.009		71.0137	-1.52	116.01078	110-17-8	$C_4H_4O_4$	Fumaric acid	-	0.03	0.02	0.25
21	1.033	231.0834		13.7	230.07632	218-28-5	$C_{17}H_{10}O$	7-Oxobenz[de]anthracene	0.30	0.94	-	-
22	1.04		85.0293	-0.97	130.02648	495-28-9	$C_5H_6O_4$	Glutaconic acid	0.14	0.54	0.53	2.74
23	1.055		191.0559	0.31	192.02706	77-92-9	$C_6H_8O_7$	Citric acid	1.75	4.32	3.55	6.78
24	1.056	79.0216		6.8	78.01447	67-68-5	C_2H_6OS	Dimethyl sulfoxide	0.06	0.34	0.01	0.16
25	1.074		89.0242	-0.99	90.0316	50-21-5	$C_3H_6O_3$	DL-Lactic Acid	0.41	0.65	1.11	0.55
26	1.079	84.0448		-0.09	129.04258	617-65-8	$C_5H_7NO_3$	L-Pyroglutamic acid	0.29	0.54	0.84	0.66
27	1.092	123.0553		0.92	122.04813	98-92-0	$C_6H_6N_2O$	Nicotinamide	0.01	0.06	0.69	0.02
28	1.101	124.0393		0.83	123.03213	59-67-6	$C_6H_5NO_2$	Nicotinic acid	0.03	0.02	0.05	0.09
29	1.21		73.0293	-0.99	118.02649	110-15-6	$C_4H_6O_4$	Succinic acid	0.02	0.07	0.01	0.08
30	1.268		71.0137	-2.37	72.02096	1979/10/7	$C_3H_4O_2$	Acrylic acid	-	0.04	0.02	0.07
31	1.404	86.0968		0.12	131.09464	73-32-5	$C_6H_{13}NO_2$	L-Isoleucine	0.05	0.19	0.48	0.75
32	1.483		125.0241	-1.06	170.02134	149-91-7	$C_7H_6O_5$	Gallic acid	0.08	0.26	0.32	0.81

33	2.27	120.0807		-0.97	165.07882	63-91-2	$C_9H_{11}NO_2$	L-Phenylalanine	0.02	0.23	0.29	0.49
34	4.375	146.0597		-1.15	187.06311	411-68-2	$C_{11}H_9NO_2$	Indole-3-acrylic acid	0.01	0.10	0.08	0.14
35	11.791	89.06		-1.53	326.19357	25322-68-3	$C_{14}H_{30}O_8$	PEG n7	0.01	0.01	0.03	0.01
36	12.769	133.0282		-0.9	192.04209	521-24-8	$C_{10}H_8O_4$	Scopoletin	0.04	0.27	0.01	0.23
37	12.929		353.0669	-0.71	594.15805	133-82-6	$C_{27}H_{30}O_{15}$	Vicenin II	-	0.05	-	0.07
38	13.379		300.9989	-1.9	302.00569	149-91-7	$C_{14}H_6O_8$	Ellagic acid	0.1	0.02	0.01	-
39	13.529		93.0343	-1.46	138.03149	69-72-7	$C_7H_6O_3$	Salicylic acid	0.04	0.01	0.04	0.04
40	13.888	319.0441		-0.77	480.09002	15648-86-9	$C_{21}H_{20}O_{13}$	myricetin 3-O-beta-D-galactopyranoside	0.05	0.37	0.01	0.15
41	14.765	61.029		-0.65	464.09517	482-35-9	$C_{21}H_{20}O_{12}$	Isoquercitrin	0.07	0.51	0.07	0.15
42	14.859	303.0491		-0.58	610.15303	153-18-4	$C_{27}H_{30}O_{16}$	Rutin	1.46	8.50	0.7	2.21
43	15.63	153.0179		-2.04	286.04716	520-18-3	$C_{15}H_{10}O_6$	Kaempferol	-	0.01	-	0.02
44	15.634	287.0543		-0.62	594.1581	17650-84-9	$C_{27}H_{30}O_{15}$	Kaempferol-3-O-rutinoside	0.53	2.64	0.26	1.17
45	15.784	317.0647		-0.79	624.16854	604-80-8	$C_{28}H_{32}O_{16}$	Isorhamnetin-3-O-rutinoside	0.06	0.28	0.04	0.25
46	16.237	139.11153, 69.0340		-0.78	138.10436	123-90-5	$C_9H_{14}O$	Isophorone	0.85	1.12	1.05	0.40
47	17.169	217.1431, 139.11159, 121.1012		-1.02	230.15157	111-12-6	$C_{12}H_{22}O_4$	Dimethyl sebacate	0.05	0.07	0.01	0.11
48	17.908	119.04916		-1.22	191.13078	134-62-3	$C_{12}H_{17}NO$	DEET	0.01	-	-	0.04
49	18.101	149.0232		-1.41	222.0889	84-66-2	$C_{12}H_{14}O_4$	Diethyl phthalate	0.01	0.11	0.02	0.04
50	18.394	102.0915, 158.1536		-0.87	157.14653	2564-86-2	$C_9H_{19}NO$	2,2,6,6-Tetramethyl-1-piperidinol (TEMPO)	0.30	-	0.06	-
51	19.036	105.07		-1.8	386.17224	69158-41-4	$C_{22}H_{26}O_6$	Bis (methylbenzylidene)	1.03	3.34	0.26	1.52

								sorbitol				
52	19.697		99.0813	-1.08	216.17231	301-16-7	$C_{12}H_{24}O_3$	12-Hydroxydodecanoic acid	0.02	-	0.06	-
53	19.757	119.08557		-1.72	392.30322	479413-70-2	$C_{23}H_{40}N_2O_3$	AUDA	0.01	0.02	0.04	0.01
54	20.112	119.08559		-1.77	414.20351	79072-96-1	$C_{24}H_{30}O_6$	Bis (4-ethylbenzylidene) sorbitol	0.15	0.08	0.53	0.03
55	20.187	119.08555, 145.1009, 233.1530		-1.58	232.14596	482-52-2	$C_{15}H_{20}O_2$	Atractylenolide II	0.04	0.03	0.05	0.03
56	20.376	186.2212, 71.0860		-1.07	185.21415	124-28-3	$C_{12}H_{27}N$	Dodecylamine	1.70	1.21	1.28	1.61
57	20.555	125.0152		-1.13	307.14479	652-49-1	$C_{16}H_{22}ClN_3O$	Tebuconazole	0.03	0.01	0.03	0.01
58	20.674	333.2028		-9.32	332.19566	-	$C_{20}H_{28}O_4$	NP-002113	0.04	0.29	0.03	0.09
59	20.852	71.086		-9.12	330.1801	84-61-7	$C_{20}H_{26}O_4$	Dicyclohexyl phthalate	0.17	0.62	0.62	0.34
60	21.375	98.9844		-1.26	210.10183	126-73-8	$C_8H_{19}O_4P$	Dibutyl phosphate	0.06	0.10	0.04	0.11
61	21.457	60.0450, 70.0657, 88.0760, 106.0864		-1.75	278.15132	84-68-0	$C_{16}H_{22}O_4$	Diisobutylphthalate	1.1	5.15	3.99	0.92
62	22.084	317.208		-9.59	316.20081	409-82-2	$C_{20}H_{28}O_3$	Cafestol	0.06	0.15	0.08	0.12
63	22.11	297.203		-1.63	274.21396	139-38-2	$C_{15}H_{30}O_4$	Monolaurin	0.09	0.03	0.11	0.01
64	22.155	284.3305		-1.68	283.32342	57-09-0	$C_{19}H_{41}N$	Cetrimonium	0.04	0.02	0.04	0.01

65	22.184	301.213		-9.32	318.21653	106154-18-1	$C_{20}H_{30}O_3$	5-OxoETE	0.04	0.19	0.01	0.02
66	22.195	129.0181		-1.57	402.22474	77-90-7	$C_{20}H_{34}O_8$	Citroflex A-4	-	0.12	0.06	0.03
67	22.34	363.2497		0.06	266.1552	151-21-3	$C_{12}H_{26}O_4S$	Dodecyl sulfate	0.03	0.01	0.94	0.09
68	22.718	309.2782		-1.69	325.29753	353-90-6	$C_{20}H_{39}NO_2$	Oleoyl ethanolamide	-	0.08	0.01	0.02
69	22.78	205.1583		-1.19	472.3547	76-83-5	$C_{30}H_{48}O_4$	Corosolic acid	-	0.05	-	-
70	22.847	67.0547, 81.0702, 95.0857		-2.09	292.23962	10219-70-2	$C_{19}H_{32}O_2$	9(Z),11(E),13(E)-Octadecatrienoic Acid methyl ester	0.62	1.62	0.01	0.2
71	23.048	57.0705		-1.82	302.24516	6284-43-1	$C_{17}H_{34}O_4$	2,3-dihydroxypropyl 12-methyltridecanoate	3.66	1.27	3.27	1.26
72	23.25	62.0606		-1.74	323.28187	2260670-52-6	$C_{20}H_{37}NO_2$	Linoleoyl Ethanolamide	0.17	0.14	0.14	0.02
73	23.254	327.407		-1.73	328.26079	24607-09-8	$C_{19}H_{36}O_4$	2,4-dihydroxyheptadec-16-en-1-yl acetate	0.01	0.03	0.05	0.01
74	23.505	67.0548, 81.0703, 95.0858		-1.88	354.27634	2258-92-6	$C_{21}H_{38}O_4$	1-Linoleoyl glycerol	0.27	0.46	0.1	0.01
75	23.705		455.0877	-0.47	456.36013	457-01-7	$C_{30}H_{48}O_3$	Oleanolic acid	0.21	0.30	0.06	0.26
76	23.792	69.0704, 57.0706, 55.0549		-1.74	281.27137	112-61-7	$C_{18}H_{35}NO$	Oleamide	0.15	0.07	0.02	0.23
77	23.813	272.267		-10.04	303.25317	298-81-7	$C_{20}H_{33}NO$	Fenpropimorph	0.12	0.95	0.27	0.08
78	23.902		279.2328	-0.22	280.24017	60-33-3	$C_{18}H_{32}O_2$	Linoleic acid	0.04	0.02	0.02	-
79	23.945		96.9598	0.64	294.18667	124-69-0	$C_{14}H_{30}O_4S$	Myristyl sulfate	0.23	0.19	0.30	0.15
80	23.963	69.0704,81.0702, 83.0859		-1.82	356.29201	592-28-7	$C_{21}H_{40}O_4$	Monoolein	1.35	0.92	1.02	0.10
81	24.025		183.01189	0.09	326.19159	139-09-8	$C_{18}H_{30}O_3S$	4-Dodecylbenzenesulfonic	1.09	0.16	3.15	0.43

								acid				
82	24.108	109.1012, 95.0857, 81.0702		-1.59	424.36984	470-98-3	$C_{30}H_{48}O$	Lupenone	0.08	1.17	0.12	0.03
83	24.176	274.2732		0.09	256.24025	1957/11/4	$C_{16}H_{32}O_2$	Palmitic acid	-	0.01	-	-
84	24.207	62.0606		-1.47	327.31325	111-57-9	$C_{20}H_{41}NO_2$	Stearoyl ethanolamide	-	-	0.13	0.04
85	24.298	95.0858, 109.1013, 107.0856		-0.66	426.38589	1985/1/8	$C_{30}H_{50}O$	Lupeol	0.02	0.66	0.02	0.05
86	24.39		281.2485	-0.15	282.25584	617-89-5	$C_{18}H_{34}O_2$	Elaidic acid	0.02	0.02	0.04	0.01
87	24.43	57.0706, 71.0861, 95.0858		-1.75	358.30768	123-94-4	$C_{21}H_{42}O_4$	1-Stearoylglycerol	68.67	29.91	55.59	15.64
88	25.04	149.0231, 71.0860		-1.55	418.30766	119-07-3	$C_{26}H_{42}O_4$	Octyl decyl phthalate	0.16	0.27	0.41	0.13
	Total anti-inflammatory								10.56	34.24	12.98	42.41

Supplementary Table S3. Common genes and regulation in A, B, C and D groups.

Gene ID	Gene	Gene description	*p*-value				Regulation situation
			A	B	C	D	
ENSMUSG00000058914	*C1qtnf3*	C1q and tumor necrosis factor related protein 3	1.23E-307	1.02E-307	2.44E-307	2.14E-09	up
ENSMUSG00000022225	*Cma1*	chymase 1, mast cell	8.16E-307	4.79E-306	2.88E-305	5.22E-08	up
ENSMUSG00000022371	*Col14a1*	collagen, type XIV, alpha 1	1.51E-306	6.06E-304	9.23E-305	3.91E-04	up
ENSMUSG00000028339	*Col15a1*	collagen, type XV, alpha 1	1.59E-305	9.54E-300	9.76E-304	1.49E-03	up
ENSMUSG00000001865	*Cpa3*	carboxypeptidase A3, mast cell	2.71E-302	1.43E-299	1.45E-303	2.54E-14	up
ENSMUSG00000036596	*Cpz*	carboxypeptidase Z	9.30E-302	3.14E-299	1.46E-303	1.66E-15	up
ENSMUSG00000027204	*Fbn1*	fibrillin 1	1.13E-301	2.37E-296	1.56E-301	1.01E-06	up
ENSMUSG00000026193	*Fn1*	fibronectin 1	3.48E-301	1.23E-295	4.13E-301	1.28E-02	up
ENSMUSG00000061068	*Mcpt4*	mast cell protease 4	1.82E-299	2.54E-292	4.20E-299	3.75E-18	up
ENSMUSG00000054641	*Mmrn1*	multimerin 1	9.89E-299	1.07E-291	1.63E-298	1.01E-29	up
ENSMUSG00000026482	*Rgl1*	ral guanine ucleotide dissociation stimulator, -like 1	1.46E-298	2.36E-291	2.06E-297	2.24E-15	up
ENSMUSG00000066361	*Serpina3c*	serine (or cysteine) peptidase inhibitor, clade A, member 3C	2.34E-298	7.44E-289	1.49E-296	3.20E-17	up
ENSMUSG00000021091	*Serpina3n*	serine (or cysteine)	2.45E-	8.20E-	2.18E-	5.66E-	up

		peptidase inhibitor, clade A, member 3N	297	289	296	24	
ENSMUSG00000028369	*Svep1*	sushi, von Willebrand factor type A, EGF and pentraxin domain containing 1	3.86E-297	1.50E-288	2.64E-296	1.03E-16	up
ENSMUSG00000033825	*Tpsb2*	tryptase beta 2	4.54E-297	1.58E-285	3.54E-296	1.34E-32	up

Supplementary Table S4. Common genes and regulation in E, F, G and H groups.

Gene ID	Gene	Gene description	*p*-value				Regulation situation
			E	F	G	H	
ENSMUSG00000039706	*Lep*	leptin	2.22E-10	9.76E-33	2.01E-32	4.04E-39	up
ENSMUSG00000042817	*Flt4*	FMS-like tyrosine kinase 4	4.12E-10	2.60E-27	1.60E-35	2.95E-13	up
ENSMUSG00000028339	*Col15a1*	collagen, type XV, alpha 1	1.08E-08	1.10E-11	1.74E-26	8.15E-20	up
ENSMUSG00000022878	*Adipoq*	adiponectin, C1Q and collagen domain containing	1.28E-08	4.57E-14	3.90E-47	1.84E-18	up
ENSMUSG00000022225	*Cma1*	chymase 1, mast cell	3.89E-15	4.21E-33	6.27E-60	9.92E-08	up
ENSMUSG00000061780	*Cfd*	complement factor D (adipsin)	1.35E-07	1.04E-14	9.54E-30	3.97E-18	up
ENSMUSG00000026365	*Cfh*	complement component factor h	1.04E-10	3.33E-21	9.54E-59	4.46E-07	up
ENSMUSG00000055782	*Abcd2*	ATP-binding cassette, sub-family	5.89E-07	2.14E-11	4.51E-31	3.47E-15	up

		D (ALD), member 2					
ENSMUSG00000094686	*Ccl21a*	chemokine (C-C motif) ligand 21A	1.87E-14	3.33E-38	7.90E-60	1.40E-06	up
ENSMUSG00000001865	*Cpa3*	(serine) carboxypeptidase A3, mast cell	8.90E-13	5.30E-36	3.94E-98	5.37E-06	up
ENSMUSG00000050368	*Hp*	haptoglobin	2.43E-05	2.45E-09	1.12E-15	1.51E-10	up
ENSMUSG00000041559	*Fn1*	fibronectin 1	8.98E-08	4.02E-16	1.13E-61	8.84E-05	up
ENSMUSG00000060594	*Lbp*	lipopolysaccharide binding protein	2.12E-09	5.34E-36	6.36E-32	1.44E-04	up
ENSMUSG00000022371	*Col14a1*	collagen, type XIV, alpha 1	4.64E-14	4.41E-13	5.70E-41	5.14E-04	up
ENSMUSG00000025534	*Gxylt2*	glucoside xylosyltransferase 2	1.72E-13	1.04E-09	3.47E-14	1.74E-03	up

Supplementary Table S5. The ABCDEFGH groups have both the GO term and the KEGG path.

Enrichment project	Common term or path
GO	Negative or positive regulation of mast cell activation
	Attachment of a symbiont to a host
	Collagen or elastic fiber tissue
	Collagen metabolism (catabolism) process
KEGG	Complement and coagulation cascade
	ECM-receptor interaction
	PI3K-Akt signalling pathway
	Complement and coagulation cascade