Journal of the Serbian Chemical Society
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J. Serb. Chem. Soc. 86 (12) S437–S562 (2021) *Supplementary material*

SUPPLEMENTARY MATERIAL TO

Application of LC–MS/MS with ion mobility for chemical analysis of propolis extracts with antimicrobial potential

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J. Serb. Chem. Soc. 86 (12) (2021) 1205–1218

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TABLE S-I. The results of LC-ESI-MSMS analysis of representative ethanol extracts of propolis using MetaboScope 4.0 platform for characterization and identification of separated compounds

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
1	85.02828	84.02101	1.09	$C_4H_4O_2$	$[M+H]^+$	4-Hydroxy-2-butynal	Bruker MetaboBASE Personal Library 2.0_in-silico	3118	1288.5	1641	1115.25	0	1965.25	
2	271.09648	270.08921	3.02	$C_{16}H_{14}O_4$	$[M+H]^+$	Cardamonin	Bruker MetaboBASE Personal Library 3.0	2154.75	1013	873.75	2012.5	3633	2223.5	
3	179.07027	178.063	3.61	$C_{10}H_{10}O_3$	$[M+H]^+$	4-Hydroxy-3-methoxy cinnamaldehyde	Bruker MetaboBASE Personal Library 3.0	257	443	450.5	694.5	1021	2349.25	1
4	313.0704	312.06312	5.99	$C_{17}H_{12}O_6$	$[M+H]^+$	4-(3,4-dihydroxyphenyl)-6,7-dihydroxy naphthalene-2-carboxylic acid	MoNA-export-GNPS_QTOF.msp	617.25	0	1986	380.25	141.5	0	
5	163.07533	162.06806	6.01	$C_{10}H_{10}O_2$	$[M+H]^+$	Methyl cinnamate	Bruker MetaboBASE Personal Library 2.0_in-silico	0	58.5	73.75	122.25	122.75	12954.5	2
6	193.08588	192.0786	6.11	$C_{11}H_{12}O_3$	$[M+H]^+$	Methyl trans-p-methoxycinnamate	Bruker MetaboBASE Personal Library 2.0_in-silico	281.25	1383	1408.75	136.25	0	0	3
7	111.04404	110.03677	6.11	$C_6H_6O_2$	$[M+H]^+$	Pyrocatechol	Bruker MetaboBASE Personal Library 2.0	976.25	737.25	1329.75	881.75	0	117.5	
8	355.10262	354.09534	6.16	$C_{16}H_{18}O_9$	$[M+H]^+$	Chlorogenic acid	Bruker MetaboBASE Personal Library 2.0	643.75	213.5	2447	605.75	0	289.25	4
9	201.16381	200.15654	6.29	$C_{15}H_{20}$	$[M+H]^+$	alpha-Corocalene	Bruker MetaboBASE Personal Library 2.0_in-silico	7799.75	1012.5	2954.25	258.5	152	0	5
10	341.10199	340.09471	6.39	$C_{19}H_{16}O_6$	$[M+H]^+$	Ambanol	Bruker MetaboBASE Personal Library 2.0_in-silico	592.25	735.25	1010	2046.25	1654.75	2814	
11	169.04952	168.04225	6.64	$C_8H_8O_4$	$[M+H]^+$ $[M-H]^-$	Isovanillic acid	Bruker HMDB Metabolite Library_2.0	847.75	1075	817.75	1538.25	5315	5236	6
12	147.04399	146.03671	6.65	$C_9H_6O_2$	$[M+H]^+$	Coumarin	Bruker HMDB Metabolite Library_2.0	224	581	542.75	308.5	0	10090	7
13	565.15525	564.14798	6.77	$C_{26}H_{28}O_{14}$	$[M+H]^+$	5,7-dihydroxy-2-(4-hydroxyphenyl)-8-[3,4,5-trihydroxy-6-(hydroxymethyl)oxan-2-yl]-6-(3,4,5-trihydroxyoxan-2-yl)chromen-4-one	MoNA-export-GNPS_QTOF.msp	52.75	0	1921.75	0	0	0	

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
14	447.12919	446.12192	6.83	$C_{22}H_{22}O_{10}$	$[M+H]^+$	3-(4-hydroxyphenyl)-7-methoxy-5-[(3R,4S,5S,6R)-3,4,5-trihydroxy-6-(hydro-xymethyl)oxan-2-yl]oxy-chromen-4-one	MoNA-export-GNPS_QTOF.msp	226	1125.25	284.25	0	0	0	
15	325.10719	324.09992	6.87	$C_{19}H_{16}O_5$	$[M+H]^+$	Ambonane	Bruker MetaboBASE Personal Library 2.0_in-silico	0	312.75	104.75	1500.25	3725.75	2516.75	8
16	329.10199	328.09471	6.92	$C_{18}H_{16}O_6$	[M+H]+	Bryacarpene 4	Bruker MetaboBASE Personal Library 2.0_in-silico	375.75	927.25	715.5	1473.25	183.75	3661	9
17	641.17143	640.16415	6.99	$C_{28}H_{32}O_{17}$	$[M+H]^+$ $[M-H]^-$	Rhamnetin 3-sophoroside	Bruker MetaboBASE Personal Library 3.0	1496.75	3054	2442.75	2639	328	449.75	10
18	341.13838	340.13111	7.25	$C_{20}H_{20}O_5$	$[M+H]^+$	Crotin (chalcone)	Bruker MetaboBASE Personal Library 2.0_in-silico	261.75	282.25	260.25	371	830	1964	11
19	300.99903	302.0063	7.36	$C_{14}H_6O_8$	$[M-H]^-$ $[M+H]^+$	Ellagic acid	Bruker MetaboBASE Personal Library 3.0	1057	3724.25	1071.25	9020.5	59333.75	14818.5	12
20	151.11183	150.10456	7.39	$C_{10}H_{14}O$	$[M+H]^+$	Thymol	Bruker HMDB Metabolite Library_2.0	1906.5	747.75	933.75	238.25	0	0	13
21	343.11776	342.11049	7.55	$C_{19}H_{18}O_6$	$[M+H]^+$	1,3-Cyclobutanedicarboxylic acid, 2,4-bis(4-hydroxy-phenyl)-monomethyl ester (Thesine)	MoNA-export-GNPS_QTOF.msp	0	749.5	0	1750.5	0	18200	
22	175.11181	174.10454	7.56	$C_{12}H_{14}O$	$[M+H]^+$	2,4,6,8,10-dodecapentaenal	Bruker MetaboBASE Personal Library 2.0_in-silico	715.25	1272.5	1189	1151.75	0	0	
23	595.16623	594.15895	7.57	$C_{27}H_{30}O_{15}$	$[M+H]^+$ $[M-H]^-$	kaempferol-3-O-robinobioside	MoNA-export-GNPS_QTOF.msp	223.75	609.5	356.25	1427.5	18157.5	0	14
24	149.0608	150.06807	7.69	$C_9H_{10}O_2$	$[M-H]^-$ $[M+H]^+$	4-Vinylguaiacol	Bruker MetaboBASE Personal Library 2.0	3164	5378.25	3546.75	11503	11572.75	19940.5	15
25	231.0653	230.05803	7.73	$C_{13}H_{10}O_4$	$[M+H]^+$	Coriandrin	Bruker MetaboBASE Personal Library 2.0_in-silico	567.25	771.25	1106.5	1853.75	1118	1831.75	16
26	287.0914	286.08412	8.15	$C_{16}H_{14}O_5$	$[M+H]^+$	5-hydroxy-2-(4-hydroxyphenyl)-7-methoxy-2,3-dihydrochromen-4-one	MoNA-export-GNPS_QTOF.msp	1520.25	1139	1171.5	509	213.75	5163.75	

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
27	133.06472	132.05744	8.38	C_9H_8O	$[M+H]^+$	Cinnamaldehyde	Bruker HMDB Metabolite Library_2.0	438	423.75	483	949.25	2264.25	1831	17
28	491.1196	492.12687	8.45	$C_{23}H_{24}O_{12}$	$[M-H]^-$ $[M+H]^+$	5-hydroxy-2-(4-hydroxy-3-methoxyphenyl)-6-methoxy-7-[(2S,3R,4S,5S,6R)-3,4,5-trihydroxy-6-(hydroxymethyl)oxan-2-yl]oxychromen-4-one	MoNA-export-GNPS_QTOF.msp	0	318.75	0	0	4522.5	0	
29	549.16112	548.15384	8.54	$C_{26}H_{28}O_{13}$	$[M+H]^+$	Daidzein 7-O-apiosyl-(1->6)-glucoside	Bruker MetaboBASE Personal Library 2.0_in-silico	712	1603	1092.25	463.25	0	0	18
30	219.10166	218.09438	8.57	$C_{13}H_{14}O_3$	$[M+H]^+$	(R)-Bitalin A	Bruker MetaboBASE Personal Library 2.0_in-silico	4220.5	3023	4025.25	4857.75	4840	3668.25	19
31	345.09702	344.08975	8.68	$C_{18}H_{16}O_7$	$[M+H]^+$	Eupatorin	Bruker MetaboBASE Personal Library 3.0	20986.25	35769.5	18506.5	11833	1293.25	361.75	20
32	249.11196	248.10468	8.71	$C_{14}H_{16}O_4$	$[M+H]^+$	Prenyl caffeate	Bruker MetaboBASE Personal Library 2.0_in-silico	1213.25	776.25	1729.75	647.75	0	0	21
33	237.07591	236.06863	8.81	$C_{12}H_{12}O_5$	$[M+H]^+$	Radicinin	Bruker MetaboBASE Personal Library 2.0_in-silico	413	1032.25	402.25	5550.5	1983.5	10875.75	22
34	331.08137	330.0741	8.92	$C_{17}H_{14}O_7$	$[M+H]^+$	5,7-dihydroxy-2-(4-hydroxyphenyl)-3,6-dimethoxy-4H-chromen-4-one	MoNA-export-GNPS_QTOF.msp	87239.75	123792.5	91144.25	57934.25	14235	1922.25	
35	255.0652	254.05792	9.04	$C_{15}H_{10}O_4$	$[M+H]^+$	Chrysin	Bruker MetaboBASE Personal Library 2.0	2282.5	5062.25	4932	1547.5	461.25	0	23
36	433.11341	432.10613	9.11	$C_{21}H_{20}O_{10}$	$[M+H]^+$	5-hydroxy-2-(4-hydroxyphenyl)-7-[(2S,3R, 4S,5S, 6R)-3,4,5-trihydroxy-6-(hydroxymethyl)oxan-2-yl]oxychromen-4-one	MoNA-export-GNPS_QTOF.msp	4290.75	6801.5	8962.5	3998	134	0	
37	477.13962	476.13234	9.17	$C_{23}H_{24}O_{11}$	$[M+H]^+$	5-hydroxy-6,7-dimethoxy-2-[4-[(2S,3R,4S,5S,6R)-3,4,5-trihydroxy-6-(hydroxymethyl)oxan-2-yl]oxyphenyl]chromen-4-one	MoNA-export-GNPS_QTOF.msp	0	0	161.25	0	3676.75	4067.25	
38	329.10207	328.09479	9.28	$C_{18}H_{16}O_6$	$[M+H]^+$	Isotectorigenin 7-methyl ether	Bruker MetaboBASE Personal Library 3.0	3666.25	5592.25	2658.25	2153	451.75	290.5	

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
39	475.12404	474.11676	9.32	$C_{23}H_{22}O_{11}$	$[M+H]^+$, $[M-H]^-$	Genistin 6"-O-acetate	Bruker MetaboBASE Personal Library 2.0_in-silico	2095.5	1476.75	1852.5	532	159.25	796.5	24
40	221.08084	220.07356	9.36	$C_{12}H_{12}O_4$	$[M+H]^+$	Tubaic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	0	936.75	156.5	5743.25	4498.5	17156	25
41	317.0657	316.05842	9.39	$C_{16}H_{12}O_7$	$[M+H]^+$, $[M-H]^-$	3-O-methylquercetin	MoNA-export-GNPS_QTOF.msp	206779.25	247768	210248.25	177486.25	28120.75	18800.5	26
42	153.1274	152.12012	9.58	$C_{10}H_{16}O$	$[M+H]^+$	2,4-decadienal	Bruker MetaboBASE Personal Library 2.0_in-silico	1551.5	1024	2153	1296.5	0	82.25	27
43	343.15354	342.14627	9.77	$C_{20}H_{22}O_5$	$[M+H]^+$	Austrobailignan 7	Bruker MetaboBASE Personal Library 2.0_in-silico	0	0	0	0	0	2643.75	28
44	199.07536	198.06808	10.06	$C_{13}H_{10}O_2$	$[M+H]^+$	Splitomicin	Bruker MetaboBASE Personal Library 2.0	7513.5	6604	7935	5479.5	813.25	0	29
45	347.07626	346.06899	10.12	$C_{17}H_{14}O_8$	$[M+H]^+$	2-(3,4-dihydroxyphenyl)-5,7-dihydroxy-3,6-dimethoxychromen-4-one	MoNA-export-GNPS_QTOF.msp	2426.75	1434.25	1342.75	2517.5	17685.75	9739.25	30
46	489.15543	490.16271	10.46	$C_{28}H_{26}O_8$	$[M-H]^-$ $[M+H]^+$	Edulisin I	Bruker MetaboBASE Personal Library 2.0_in-silico	0	281.75	400.5	1432	7338.5	3874.5	31
47	201.16386	200.15659	10.5	$C_{15}H_{20}$	$[M+H]^+$	(S)-gamma-Calacorene	Bruker MetaboBASE Personal Library 2.0_in-silico	10148.25	2748.25	4191.75	833.5	350.5	295	32
48	151.11187	150.10459	10.5	$C_{10}H_{14}O$	$[M+H]^+$	2-trans-4-trans-7-cis-Decatrienal	Bruker MetaboBASE Personal Library 2.0_in-silico	3457.75	714	1351.75	491.75	315.5	105.5	33
49	241.08597	240.0787	10.73	$C_{15}H_{12}O_3$	$[M+H]^+$	Dihydroflavonol	Bruker MetaboBASE Personal Library 2.0_in-silico	2829.25	2366.75	2599.25	2035.5	251.75	132.75	34
50	273.11204	272.10476	10.79	$C_{16}H_{16}O_4$	$[M+H]^+$	6-O-Methylequol	Bruker MetaboBASE Personal Library 2.0_in-silico	517.25	686.75	686.25	2029.75	3326.25	5674	
51	361.09193	360.08466	11.19	$C_{18}H_{16}O_8$	$[M+H]^+$	Centaureidin	Bruker MetaboBASE Personal Library 3.0	4101.75	0	768	0	19306.25	9183.25	35
52	219.13805	218.13077	11.28	$C_{14}H_{18}O_2$	$[M+H]^+$	2-(3-Hydroxy-4-methyl-phenyl)-5-methyl-4-hexen-3-one	Bruker MetaboBASE Personal Library 2.0_in-silico	2331.25	1619.5	1646.75	923.5	113.75	0	36
53	295.13315	294.12587	11.36	$C_{19}H_{18}O_3$	$[M+H]^+$	Phenol, 2-methoxy-4-[3-methyl-5-[(1E)-1-propen-1-yl]-2-benzo furanyl]	MoNA-export-GNPS_QTOF.msp	0	43	1703.75	557.5	4094	0	37
54	175.14815	174.14087	11.37	$C_{13}H_{18}$	$[M+H]^+$	5,7alpha-Dihydro-1,4,4,7a-tetramethyl-4H-indene	Bruker MetaboBASE Personal Library 2.0_in-silico	3538.5	6239	4638.5	3959.25	161.25	1093.75	

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude samples			
								6E	9E	12E	4E	15E	16E	
55	135.11684	134.10956	11.38	$C_{10}H_{14}$	$[M+H]^+$	p-Mentha-1,3,8-triene	Bruker MetaboBASE Personal Library 2.0_in-silico	4350.75	6340	7754.75	5238.5	823.5	1761	38
56	133.10118	132.0939	11.52	$C_{10}H_{12}$	$[M+H]^+$	p-Mentha-1,3,5,8-tetraene	Bruker MetaboBASE Personal Library 2.0	1622.25	4084	1761	1881	329.5	501	
57	119.08561	118.07834	11.52	C_9H_{10}	$[M+H]^+$	4-Methylstyrene	Bruker MetaboBASE Personal Library 3.0	1538.5	3714.5	1716.75	1916	840.75	737.75	
58	251.16412	250.15685	11.54	$C_{15}H_{22}O_3$	$[M+H]^+$	13-Hydroxymarasmene	Bruker MetaboBASE Personal Library 2.0_in-silico	534.25	1089.5	1109.5	783.25	2551.5	0	39
59	203.07034	202.06307	11.6	$C_{12}H_{10}O_3$	$[M+H]^+$	3,4',5-Biphenyltriol	Bruker MetaboBASE Personal Library 2.0_in-silico	0	258.5	75.25	1561.25	4688.5	6208.5	40
60	79.05428	78.047	11.9	C_6H_6	$[M+H]^+$	Benzene	Bruker MetaboBASE Personal Library 2.0_in-silico	7792.25	5747.5	9238.75	5565.5	139	693.75	41
61	193.19508	192.1878	11.91	$C_{14}H_{24}$	$[M+H]^+$	5-Ethyl-7-methyl-3E,5E,7E-undecatriene	Bruker MetaboBASE Personal Library 2.0_in-silico	2166.25	3951.5	2653.25	2910.75	0	940	
62	361.09179	360.08452	12.07	$C_{18}H_{16}O_8$	$[M+H]^+$	2-(3,4-dihydroxyphenyl)-5-hydroxy-3,6,7-trimetho-xychromen-4-one	MoNA-export-GNPS_QTOF.msp	28319	610.75	5248.5	0	0	0	42
63	283.09647	282.0892	12.21	$C_{17}H_{14}O_4$	$[M+H]^+$	Castillene E	Bruker MetaboBASE Personal Library 2.0_in-silico	41852.25	25152.25	61949.25	28318.75	15957	18777.5	43
64	191.07022	190.06295	12.22	$C_{11}H_{10}O_3$	$[M+H]^+$	Hymecromone methyl ether (7-Methoxy-4-methylcoumarin)	Bruker MetaboBASE Personal Library 2.0_in-silico	0	802.75	601	4017	7542.5	7603	44
65	369.13336	368.12608	12.3	$C_{21}H_{20}O_6$	$[M+H]^+$	3'-Angeloyloxy-2',4'-dihy-droxy-6'-methoxychalcone	Bruker MetaboBASE Personal Library 2.0_in-silico	25749.25	21703.25	19218	10470.5	832.25	861.75	
66	345.09692	344.08965	12.34	$C_{18}H_{16}O_7$	$[M+H]^+$	5,7-dihydroxy-3,6-dime-thoxy-2-(4-methoxyphenyl)-4H-chromen-4-one	MoNA-export-GNPS_QTOF.msp	93970.75	125836.25	93336.25	61789.25	331526.75	209218.5	45
67	231.13812	230.13084	13.21	$C_{15}H_{18}O_2$	$[M+H]^+$	Dehydromyodesmone	Bruker MetaboBASE Personal Library 2.0_in-silico	908.5	871.75	2242	693.25	114.75	365.75	46
68	165.05462	164.04734	13.21	$C_9H_8O_3$	$[M+H]^+$	p-Coumaric acid	MoNA-export-GNPS_QTOF.msp	1776.75	2772.25	1604.25	2030.25	1779	1502.75	47
69	239.23715	238.22987	13.23	$C_{16}H_{30}O$	$[M+H]^+$	2-hexadecenal	Bruker MetaboBASE Personal Library 2.0	2686.75	4905	2603.75	1669.25	199.75	542.25	48
70	323.12871	324.13598	13.28	$C_{20}H_{20}O_4$	$[M-H]^-$ $[M+H]^+$	Moracin I	Bruker MetaboBASE Personal Library 2.0_in-silico	9958.75	6981.25	11319.5	5498.5	378.25	3281.25	49

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								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
71	273.07573	272.06846	13.39	$C_{15}H_{12}O_5$	$[M+H]^+$	Alternariol monomethyl ether_120111	MoNA-export-GNPS_QTOF.msp	52986	31580.75	33005.5	26242.25	4935.5	2133.25	50
72	389.12294	388.11566	13.48	$C_{20}H_{20}O_8$	$[M+H]^+$	7-Hydroxy-3',4',5,6,8-pentamethoxyflavone	Bruker MetaboBASE Personal Library 2.0_in-silico	0	0	0	0	0	3677.25	
73	223.20576	222.19848	13.53	$C_{15}H_{26}O$	$[M+H]^+$	(-)-Tamariscol	Bruker MetaboBASE Personal Library 2.0_in-silico	0	0	0	120.5	3089	0	51
74	177.05458	176.0473	13.99	$C_{10}H_8O_3$	$[M+H]^+$	1,4,5-Naphthalenetriol	Bruker MetaboBASE Personal Library 2.0_in-silico	1237.75	1421.25	333.5	4992.75	11567.75	18795	52
75	377.30548	376.2982	14.16	$C_{24}H_{40}O_3$	$[M+H]^+$	Allolithocholic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	0	0	0	0	3709.75	867.25	53
76	329.10195	328.09468	14.24	$C_{18}H_{16}O_6$	$[M+H]^+$	5-hydroxy-3,7-dimethoxy-2-(4-methoxyphenyl)-4H-chromen-4-one (Kaempferol 3,7,4'-trimethyl ether)	MoNA-export-GNPS_QTOF.msp	4698.25	3790	4918.5	1728.25	1992.5	55090.25	54
77	323.12783	322.12056	14.42	$C_{20}H_{18}O_4$	$[M+H]^+$	7-hydroxy-3-[4-hydroxy-3-(3-methylbut-2-enyl)phenyl]chromen-4-one	MoNA-export-GNPS_QTOF.msp	10884.5	6439.5	12544.5	4473.75	277.5	391.5	
78	287.09118	286.08391	15.03	$C_{16}H_{14}O_5$	$[M+H]^+$	(2R,3R)-3,7-dihydroxy-6-methoxy-2-phenyl-2,3-dihydrochromen-4-one	MoNA-export-GNPS_QTOF.msp	3273.25	2563	3505	2544	889.5	262.5	
79	237.18477	236.17749	15.74	$C_{15}H_{24}O_2$	$[M+H]^+$	(2E,6E)-1-Hydroxy-2,6,10-farnesatrien-9-one	Bruker MetaboBASE Personal Library 2.0_in-silico	1846.25	2721.75	1753	1420.25	0	2428.5	55
80	173.13249	172.12521	15.8	$C_{13}H_{16}$	$[M+H]^+$	1,2-Dihydro-1,1,6-trimethylnaphthalene	Bruker MetaboBASE Personal Library 2.0_in-silico	590.5	482.25	1106.5	2614	6101.25	14924.5	56
81	275.20052	274.19324	16.53	$C_{18}H_{26}O_2$	$[M+H]^+$	Empenthrin	Bruker MetaboBASE Personal Library 2.0_in-silico	1652	7013.25	2341	2783.5	223	571.25	
82	263.2006	262.19332	16.64	$C_{17}H_{26}O_2$	$[M+H]^+$	Acetylenic acids; 10,16-Heptadecadien-8-ynoic acid, (E)-	Bruker MetaboBASE Personal Library 2.0_in-silico	3041.5	12657.75	4168.5	4698	493	481.5	57
83	163.14814	162.14086	16.73	$C_{12}H_{18}$	$[M+H]^+$	1,3-Diisopropylbenzene	Bruker MetaboBASE Personal Library 2.0_in-silico	1160.75	2025.75	2356	1756.5	0	1546.75	58
84	339.15905	338.15178	17.06	$C_{21}H_{22}O_4$	$[M+H]^+$	Bergamottin	Bruker MetaboBASE Personal Library 2.0_in-silico	1399	2300.75	1058	1682	0	0	59
85	151.1117	150.10443	17.23	$C_{10}H_{14}O$	$[M+H]^+$	(-)-Isopiperitenone	Bruker MetaboBASE Personal Library 2.0_in-silico	1783.75	3137.25	2668.5	2112.75	0	421.25	60

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
86	71.04925	70.04197	17.27	C_4H_6O	$[M+H]^+$	Vinyl ether	Bruker MetaboBASE Personal Library 2.0_in-silico	108	401.25	146.25	0	9764	4998	
87	315.25326	314.24598	17.46	$C_{18}H_{34}O_4$	$[M+H]^+$	Octadecanedioic acid	Bruker HMDB Metabolite Library_2.0	2136	1373	2033.25	3330.5	1153	5496.75	61
88	449.28998	448.2827	17.53	$C_{26}H_{40}O_6$	$[M+H]^+$	16-Feruloyloxypalmitate	Bruker MetaboBASE Personal Library 2.0_in-silico	57.5	1175.5	0	6586.75	0	14028.75	
89	203.17939	202.17211	17.87	$C_{15}H_{22}$	$[M+H]^+$	alpha-curcumene	Bruker MetaboBASE Personal Library 2.0_in-silico	2369.5	4385.25	2421.75	3379.25	22803.25	15644.75	17
90	591.42537	590.41809	18.23	$C_{35}H_{58}O_7$	$[M+H]^+$	Hebevinoside IX	Bruker MetaboBASE Personal Library 2.0_in-silico	0	0	0	0	0	6024	62
91	469.40289	468.39561	18.29	$C_{32}H_{52}O_2$	$[M+H]^+$	Lupeol acetate	Bruker MetaboBASE Personal Library 3.0	351.75	0	385.5	1324.75	0	20650.25	63
92	297.27893	296.27166	18.43	$C_{19}H_{36}O_2$	$[M+H]^+$	Methyl oleate	Bruker MetaboBASE Personal Library 2.0	512.25	518.5	554	939.75	5546.75	2591.5	.
93	219.17416	218.16689	19.28	$C_{15}H_{22}O$	$[M+H]^+$	(E)-10,11-Dihydro-al-phaatlantone ((Z)-.alpha.-Atlantone)	Bruker MetaboBASE Personal Library 2.0_in-silico	896	0	241.5	213.5	74.25	2414.25	64
94	257.081	256.07372	19.58	$C_{15}H_{12}O_4$	$[M+H]^+$	5,7-dihydroxy-2-phenyl-2,3-dihydrochromen-4-one	MoNA-export-GNPS_QTOF.msp	724	1279.5	1113	683	0	0	
95	441.37281	440.36553	20.82	$C_{30}H_{48}O_2$	$[M+H]^+$	Sebiferic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	107	440.5	258.25	2392.25	30197	4287.75	65
96	271.09633	270.08905	0.77	$C_{16}H_{14}O_4$	$[M+H]^+$	(E)-1-(2,6-dihydroxy-4-methoxyphenyl)-3-phenylprop-2-en-1-one (Pinostrobin chalcone)	MoNA-export-GNPS_QTOF.msp	1812.5	600.75	1349.75	971	2672	1924.25	17
97	203.05256	180.06333	1.04	$C_6H_{12}O_6$	$[M+Na]^+$, $[M-H]^-$ $[M-H-H_2O]^-$ $[M+K]^+$	D-Tagatose	Bruker HMDB Metabolite Library_2.0	116120.75	60642.75	85301.25	72996.25	15154.75	103534	23
98	163.06004	162.05278	1.1	$C_6H_{10}O_5$	$[M+H]^+$ $[M-H_2O+H]^+$	3-hydroxy-3-methyl-Glutaric acid	Bruker MetaboBASE Personal Library 2.0	13633	6088.25	7559.5	4921.5	628.75	8749.75	66
99	127.03893	126.03166	1.1	$C_6H_6O_3$	$[M+H]^+$	Allomaltol	Bruker MetaboBASE Personal Library 2.0	3845.75	2565.5	2327.75	1971.75	88.5	3005.75	67
100	139.03898	138.0317	6.12	$C_7H_6O_3$	$[M+H]^+$	3,4-Dihydroxy-benzaldehyde	Bruker MetaboBASE Personal Library 2.0	6531	5672	15470.5	8060	2630.25	3936.75	68

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
101	167.07028	166.06301	6.28	$C_9H_{10}O_3$	$[M+H]^+$	Ethyl salicylate	Bruker MetaboBASE Personal Library 2.0_in-silico	77.5	203	0	0	3321.75	2193	69
102	163.0389	162.03163	6.29	$C_9H_6O_3$	$[M+H]^+$	Umbelliferone	Bruker MetaboBASE Personal Library 2.0_in-silico	843.75	961.25	2437	2566	516.75	1392.25	70
103	137.05967	136.05239	6.42	$C_8H_8O_2$	$[M+H]^+$ $[M-H]^-$	2-Hydroxyacetophenone	Bruker MetaboBASE Personal Library 3.0	956.75	1408.75	935.5	1207.75	0	1305.25	71
104	207.06506	206.05778	6.43	$C_{11}H_{10}O_4$	$[M+H]^+$	Scoparone	Bruker MetaboBASE Personal Library 2.0_in-silico	1012.75	1492.5	1346.5	1114.25	239.5	1228.75	72
105	177.01937	178.02664	6.56	$C_9H_6O_4$	$[M-H]^-$, $[M+H]^+$	Caffeoquinone	Bruker MetaboBASE Personal Library 2.0_in-silico	11144.5	12246	25554.5	13148.25	3580.25	9604.25	73
106	203.09151	202.08423	6.56	$C_9H_{14}O_5$	$[M+H]^+$	Diethyl Oxalpropionate	Bruker MetaboBASE Personal Library 2.0_in-silico	416	1897.75	343.75	1995.5	0	0	74
107	197.08083	196.07355	6.59	$C_{10}H_{12}O_4$	$[M+H]^+$	Orsellinic acid, ethyl ester	Bruker MetaboBASE Personal Library 2.0_in-silico	295.25	189.5	221.5	124	6869	5851.25	75
108	179.03504	180.04231	6.61	$C_9H_8O_4$	$[M-H]^-$ $[M+H]^+$	Caffeate	Bruker MetaboBASE Personal Library 3.0	145903.5	138837	209601.5	165106.25	51185.5	84103	76
109	135.04402	134.03675	6.6	$C_8H_6O_2$	$[M+H]^+$	6E-Octene-2,4-diynoic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	4680.25	4309	6643.25	5702	1224.25	2416	
110	137.05969	136.05242	6.64	$C_8H_8O_2$	$[M+H]^+$	p-Anisaldehyde	Bruker MetaboBASE Personal Library 3.0	228.25	0	0	291	0	16055	77
111	227.09143	226.08416	6.75	$C_{11}H_{14}O_5$	$[M+H]^+$	Ethyl syringate	Bruker MetaboBASE Personal Library 3.0	113.25	62.25	474.5	79.75	1253.25	2820	78
112	345.13344	344.12616	6.89	$C_{19}H_{20}O_6$	$[M+H]^+$	Dihydromilletenone methyl ether	Bruker MetaboBASE Personal Library 2.0_in-silico	1346.5	1225.75	2264	1829.25	2183.75	2665.75	
113	137.05967	136.05239	6.96	$C_8H_8O_2$	$[M+H]^+$	3,4-Dihydroxystyrene	Bruker MetaboBASE Personal Library 2.0_in-silico	693	1124.5	766	2702.5	2940.5	8381.25	79
114	121.02957	122.03685	7	$C_7H_6O_2$	$[M-H]^-$ $[M+H]^+$	Salicylaldehyde	Bruker MetaboBASE Personal Library 3.0	16703.25	24585.75	19838.5	20790.5	53852.5	32263	13
115	355.1176	354.11032	7.04	$C_{20}H_{18}O_6$	$[M+H]^+$	Elliptinol	Bruker MetaboBASE Personal Library 2.0_in-silico	886.5	951.5	1363	2617	3942.5	5353.75	80
116	239.0913	238.08403	7.18	$C_{12}H_{14}O_5$	$[M+H]^+$	3,4,5-Trimethoxycinnamic acid	Bruker HMDB Metabolite Library_2.0	145.5	306.75	0	1403.25	1890.75	2175.75	81

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude samples			
								6E	9E	12E	4E	15E	16E	
117	611.16111	610.15383	7.21	$C_{27}H_{30}O_{16}$	$[M+H]^+$ $[M-H]^-$	2-(3,4-dihydroxyphenyl)-5,7-dihydroxy-3-[(2S,3R,4S,5S,6R)-3,4,5-trihydroxy-6-[[(2R,3R,4R,5R,6S)-3,4,5-trihydroxy-6-methyloxan-2-yl]oxymethyl]oxan-2-yl]oxychromen-4-one	MoNA-export-GNPS_QTOF.msp	347	1943	4755	2687	12752.25	623	
118	343.08243	344.08971	7.23	$C_{18}H_{16}O_7$	$[M-H]^-$, $[M+H]^+$	Lathycarpin	Bruker MetaboBASE Personal Library 2.0_in-silico	4912.75	4801.75	6672	6491.5	0	1243	[8]
119	237.07587	236.0686	7.31	$C_{12}H_{12}O_5$	$[M+H]^+$	6H-2-Benzopyran-5-carboxaldehyde, 7,8-dihydro-7,8-dihydroxy-3,7-dimethyl-6-oxo-, (7R-trans)-	Bruker MetaboBASE Personal Library 3.0	274.5	239.5	102	537.5	4152.75	5301.5	[82]
120	207.0652	206.05792	7.33	$C_{11}H_{10}O_4$	$[M+H]^+$ $[M-H]^-$	Citropten	Bruker MetaboBASE Personal Library 2.0_in-silico	491.25	733.5	250.75	1012	2314.25	1866.25	[83]
121	119.04911	118.04183	7.38	C_8H_6O	$[M+H]^+$	Benzofuran	Bruker MetaboBASE Personal Library 2.0_in-silico	5279.5	5772.25	6221.25	7468.75	10497.25	9091.5	[84]
122	237.18501	236.17773	7.41	$C_{15}H_{24}O_2$	$[M+H]^+$	4E,7Z,10Z-Tridecatrienyl acetate	Bruker MetaboBASE Personal Library 2.0_in-silico	17271	6792	6369.75	3482.75	239.5	420.25	
123	303.05001	302.04273	7.42	$C_{15}H_{10}O_7$	$[M+H]^+$	2-(2,6-dihydroxyphenyl)-3,5,7-trihydroxychromen-4-one	MoNA-export-GNPS_QTOF.msp	682	1321.25	1807.75	1825.5	19146.75	4381.75	[85]
124	125.05965	124.05237	7.44	$C_7H_8O_2$	$[M+H]^+$	Guaiacol	Bruker HMDB Metabolite Library_2.0	3200.5	3440.25	6446.5	6574.25	20192.25	18348.5	[86]
125	153.05465	152.04738	7.44	$C_8H_8O_3$	$[M+H]^+$ $[M-H]^-$	Vanillin	MoNA-export-GNPS_QTOF.msp	16475.75	17521.5	33053.75	29388.5	92165.25	86765.5	[13]
126	611.16128	610.154	7.45	$C_{27}H_{30}O_{16}$	$[M+H]^+$	3-[(2S,3R,4S,5S,6R)-4,5-dihydroxy-6-(hydroxymethyl)-3-[(2S,3R,4S,5R)-3,4,5-trihydroxyoxan-2-yl]oxyoxan-2-yl]oxy-2-(3,4-dihydroxyphenyl)-5-hydroxy-7-methoxychromen-4-one	MoNA-export-GNPS_QTOF.msp	0	911.25	0	738.75	12408.5	0	

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
127	333.2062	350.20931	7.47	$C_{20}H_{30}O_5$	$[M-H_2O+H]^+$ $[M+H]^+$	Andrographolide	Bruker MetaboBASE Personal Library 2.0_in-silico	5553.5	7187.25	3534	3631.75	0	143.5	87
128	315.19549	314.18821	7.47	$C_{20}H_{26}O_3$	$[M+H]^+$	19-Oxo-9-cis-retinoic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	3226.75	3524	1793.25	1844	0	0	88
129	287.0914	286.08412	7.49	$C_{16}H_{14}O_5$	$[M+H]^+$	Calythropsin	Bruker MetaboBASE Personal Library 2.0_in-silico	887.5	1742.75	1652	432.75	122	0	89
130	217.15877	216.1515	7.54	$C_{15}H_{20}O$	$[M+H]^+$	(R)-ar-Turmerone	Bruker MetaboBASE Personal Library 2.0_in-silico	1716	3833.25	2901.75	3391.5	179.5	0	90
131	235.16932	234.16204	7.54	$C_{15}H_{22}O_2$	$[M+H]^+$	(Z)-alpha-Bergamotenoic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	2238	3654	3428.5	3448.5	213.25	295.75	
132	255.19551	254.18823	7.57	$C_{15}H_{26}O_3$	$[M+H]^+$	Prohydrojasmon	Bruker MetaboBASE Personal Library 2.0_in-silico	1758.25	44	723.5	0	0	0	91
133	247.1329	246.12562	7.56	$C_{15}H_{18}O_3$	$[M+H]^+$	2-Oxo-5,11(13)-eudesmadien-12,8-olide	Bruker MetaboBASE Personal Library 2.0_in-silico	1124.5	1906	1889.75	1410	0	282.75	
134	233.1537	232.14651	7.58	$C_{15}H_{20}O_2$	$[M+H]^+$ $[M-H_2O+H]^+$	Glechomanolide	Bruker MetaboBASE Personal Library 2.0_in-silico	2498.25	5517.5	3188	2374.25	242.5	723.75	92
135	449.10819	448.10091	7.57	$C_{21}H_{20}O_{11}$	$[M+H]^+$	(2R,3S)-2-[(3,4-dihydroxyphenyl)methyl]-2-hydroxy-3-[(E)-3-(3-hydroxy-4-methoxyphenyl)prop-2-enoyl]oxybutanedioic acid	MoNA-export-GNPS_QTOF.msp	149	175	380.75	98.5	2569	130	
136	183.06539	182.05811	7.58	$C_9H_{10}O_4$	$[M+H]^+$	3,4-Dihydroxy-hydrocinnamic acid	Bruker HMDB Metabolite Library_2.0	1323.25	1187	2589	1988.5	707	895.5	93
137	251.16421	250.15693	7.59	$C_{15}H_{22}O_3$	$[M+H]^+$	Procurcumadiol	Bruker MetaboBASE Personal Library 2.0_in-silico	2921.5	6340.75	3452.5	3159	161.25	683	94
138	303.08654	302.07927	7.59	$C_{16}H_{14}O_6$	$[M+H]^+$	Folerogenin	Bruker MetaboBASE Personal Library 3.0	258	842.75	183.25	0	0	3127.25	
139	195.06527	194.05799	7.71	$C_{10}H_{10}O_4$	$[M+H]^+$	Trans-Ferulic acid	Bruker HMDB Metabolite Library_2.0	18305.75	25645	35628	57289.75	63900.5	95214.25	47
140	177.05467	176.04739	7.7	$C_{10}H_8O_3$	$[M+H]^+$	4-Methylumbelliferone	Bruker MetaboBASE Personal Library 2.0_in-silico	76843.75	89762.75	123799.25	190414	223947.75	359675	72
141	303.05102	304.0583	7.73	$C_{15}H_{12}O_7$	$[M-H]^-$ $[M+H]^+$	Dihydroquercetin	MoNA-export-GNPS_QTOF.msp	4961.25	8615.25	6836	8188.25	19824	4442.75	95
142	285.04057	286.04785	7.72	$C_{15}H_{10}O_6$	$[M-H]^-$ $[M+H]^+$	Kaempferol	Bruker HMDB Metabolite Library_2.0	1484.5	2286.5	1711	2310	5235.75	902.5	96

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
143	285.0762	284.06892	7.77	$C_{16}H_{12}O_5$	$[M+H]^+$	Maackiain	Bruker MetaboBASE Personal Library 2.0_in-silico	1224.75	1744.75	1293.5	1314	739.75	1424	97
144	167.07046	166.06318	7.77	$C_9H_{10}O_3$	$[M+H]^+$	Apocynin	Bruker MetaboBASE Personal Library 2.0	853.25	1095	768.5	1988.75	1468.5	1448.5	98
145	359.11276	358.10548	7.79	$C_{19}H_{18}O_7$	$[M+H]^+$	Hypolaetin 7,8,3',4'-tetramethyl ether	Bruker MetaboBASE Personal Library 2.0_in-silico	1379.25	1241	2316	4196.75	2536.25	4015.25	8
146	447.09323	448.1005	7.85	$C_{21}H_{20}O_{11}$	$[M-H]^-$ $[M+H]^+$	kaempferol-7-O-hexoside	MoNA-export-GNPS_QTOF.msp	1689.75	3465.5	3292.25	3194.75	9452.25	1225	99
147	219.10161	218.09434	7.83	$C_{13}H_{14}O_3$	$[M+H]^+$	Propranolol glycol	Bruker MetaboBASE Personal Library 3.0	3528	2285.25	7847	1977.5	71.75	3182.25	100
148	237.11191	236.10463	7.83	$C_{13}H_{16}O_4$	$[M+H]^+$	3-Dimethylallyl-4-hydroxymandelic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	929.5	619.25	2555.5	134.25	0	599	101
149	177.05466	194.05821	7.85	$C_{10}H_{10}O_4$	$[M-H_2O+H]^+$ $[M+H]^+$ $[M+Na]^+$	Isoferulic acid	Bruker HMDB Metabolite Library_2.0	99099.75	132875.5	238944	227145.75	25695.5	36095.25	102
150	149.05972	148.05245	7.85	$C_9H_8O_2$	$[M+H]^+$	(E)-3-(2-Hydroxyphenyl)-2-propenal	Bruker MetaboBASE Personal Library 2.0_in-silico	3613	4298.25	9495.25	7247.75	0	0	103
151	479.11881	478.11149	7.86	$C_{22}H_{22}O_{12}$	$[M+H]^+$ $[M-H]^-$ $[M+Na]^+$	Isorhamnetin 3-glucoside	Bruker MetaboBASE Personal Library 3.0	1855.75	2116	1735	5250.25	57852.25	1662	104
152	317.06572	316.05844	7.87	$C_{16}H_{12}O_7$	$[M+H]^+$	Isorhamnetin	Bruker MetaboBASE Personal Library 3.0	1934.5	2434.5	1698.75	4284.25	41106.5	1351.25	105
153	341.10209	340.09481	7.87	$C_{19}H_{16}O_6$	$[M+H]^+$	Methylophiopogonone A	Bruker MetaboBASE Personal Library 2.0_in-silico	2405.25	2089.25	4003.5	5562.25	3563	4411.25	
154	279.08675	278.07947	7.93	$C_{14}H_{14}O_6$	$[M+H]^+$	planchol A	MoNA-export-GNPS_QTOF.msp	1928.75	3854.75	2345.25	16179.75	11597.25	37474.25	106
155	331.08129	330.07402	7.94	$C_{17}H_{14}O_7$	$[M+H]^+$	2-(3,4-dihydroxyphenyl)-5-hydroxy-6,7-dimethoxychromen-4-one	MoNA-export-GNPS_QTOF.msp	12464.75	18297	10350.25	5544.25	157.75	0	
156	431.13399	430.12672	7.92	$C_{22}H_{22}O_9$	$[M+H]^+$	3-(4-methoxyphenyl)-7-[(2S,3R,4S,5S,6R)-3,4,5-trihydroxy-6-(hydro-xymethyl)oxan-2-yl]oxy-chromen-4-one	MoNA-export-GNPS_QTOF.msp	1875.5	3982	2588	1224	0	0	107
157	435.12885	434.12157	8.01	$C_{21}H_{22}O_{10}$	$[M+H]^+$	Naringenin-7-O-Glucoside	Bruker MetaboBASE Personal Library 3.0	0	0	0	0	8401.5	3856.5	108

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
158	273.07585	272.06857	8	$C_{15}H_{12}O_5$	$[M+H]^+$	Naringenin	Bruker HMDB Metabolite Library_2.0	223	355.75	275.5	469.5	7308.5	3322.5	109
159	147.04513	148.05241	8.11	$C_9H_8O_2$	$[M-H]^-$ $[M+H]^+$ $[M-H_2O+H]^+$	4-Hydroxycinnamyl aldehyde	Bruker MetaboBASE Personal Library 2.0	3179	3017.5	3209.25	6091.25	69635	40150.5	110
160	249.1119	248.10462	8.15	$C_{14}H_{16}O_4$	$[M+H]^+$	Pyriculol	Bruker MetaboBASE Personal Library 2.0_in-silico	1884.25	1458.25	1623	1240.5	0	126.5	111
161	343.11746	342.11019	8.18	$C_{19}H_{18}O_6$	$[M+H]^+$	1,3-Cyclobutanedicarboxylic acid, 2,4-bis(4-hydroxyphenyl)-, monomethyl ester (Thesin)	MoNA-export-GNPS_QTOF.msp	0	429.5	145.75	1780	6249	4560.75	112
162	273.07547	272.06819	8.26	$C_{15}H_{12}O_5$	$[M+H]^+$	6,8-dihydroxy-3-(4-hydroxyphenyl)-3,4-dihydroisochromen-1-one	MoNA-export-GNPS_QTOF.msp	1071.25	3553.25	2362.75	2091	0	0	113
163	449.10878	448.10151	8.27	$C_{21}H_{20}O_{11}$	$[M+H]^+$	petunidin-3-O-arabinoside	Bruker MetaboBASE Personal Library 2.0	0	0	0	0	3277	0	114
164	313.10709	312.09981	8.28	$C_{18}H_{16}O_5$	$[M+H]^+$ $[M-H]^-$	Bryacarpene 5	Bruker MetaboBASE Personal Library 2.0_in-silico	359.75	1430.25	1849.75	2481.25	320	2269.5	9
165	285.07583	284.06856	8.29	$C_{16}H_{12}O_5$	$[M+H]^+$ $[M-H]^-$	7-hydroxy-3-(4-hydroxyphenyl)-5-methoxychromen-4-one	MoNA-export-GNPS_QTOF.msp	112955	91094.5	69549.75	58817.75	4544	1491.75	
166	169.08716	170.09444	8.3	$C_9H_{14}O_3$	$[M-H]^-$ $[M+H]^+$	cis-3-Hexenyl pyruvate	Bruker MetaboBASE Personal Library 2.0_in-silico	896.25	1808	1433.75	1235	761.5	987.75	
167	391.139	390.13173	8.37	$C_{20}H_{22}O_8$	$[M+H]^+$	Piceid	Bruker MetaboBASE Personal Library 3.0	0	182.25	0	1301.75	5125.75	4676.5	115
168	243.06517	242.0579	8.36	$C_{14}H_{10}O_4$	$[M+H]^+$	3-(2-Carboxyvinyl)naphthalene-2-carboxylic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	1232.75	1637.25	1889	1245.75	130	977.5	116
169	287.05616	288.06343	8.41	$C_{15}H_{12}O_6$	$[M-H]^-$ $[M+H]^+$	2,4,6-trihydroxy-2-[(4-hydroxyphenyl)methyl]-1-benzofuran-3-one	MoNA-export-GNPS_QTOF.msp	28191.5	36298	30146	26388	11574	25650	117
170	283.09643	282.08915	8.48	$C_{17}H_{14}O_4$	$[M+H]^+$	3,8-dimethoxyflavone	Bruker MetaboBASE Personal Library 2.0_in-silico	0	81.75	227.25	698.5	2972.25	5303	118
171	301.1073	300.10002	8.48	$C_{17}H_{16}O_5$	$[M+H]^+$	Astraciceran	Bruker MetaboBASE Personal Library 2.0_in-silico	170.75	120.75	183.5	753	2027.5	4079.5	119
172	433.1132	432.1059	8.5	$C_{21}H_{20}O_{10}$	$[M+H]^+$ $[M+Na]^+$	Apigetrin	MoNA-export-GNPS_QTOF.msp	28480.25	38989	34258.75	19703	168.75	0	120

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
173	271.06016	270.05288	8.49	$C_{15}H_{10}O_5$	$[M+H]^+$	Genistein	MoNA-export-GNPS_QTOF.msp	50217	70268	62400.5	37040	1512.25	560.25	121
174	315.08647	314.0792	8.53	$C_{17}H_{14}O_6$	$[M+H]^+$	Odoratin	MoNA-export-GNPS_QTOF.msp	27124	27298	16845.25	9530.25	1157	1267.5	122
175	163.07531	162.06803	8.53	$C_{10}H_{10}O_2$	$[M+H]^+$	Safrole	Bruker MetaboBASE Personal Library 2.0_in-silico	339.5	374	476.5	1600	1864	2731.75	123
176	221.18978	220.1825	8.6	$C_{15}H_{24}O$	$[M+H]^+$	Apritone	Bruker MetaboBASE Personal Library 2.0_in-silico	1404	2009.75	2122.25	893.5	1965.25	1475.75	124
177	279.08749	280.09477	8.62	$C_{14}H_{16}O_6$	$[M-H]^-$ $[M+Na]^+$ $[M-H_2O+H]^+$ $[M+H]^+$	Gravolenic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	2003	14314.5	1058.5	66663.25	147602.5	162272.5	
178	311.22186	310.21459	8.68	$C_{18}H_{30}O_4$	$[M+H]^+$	9S-hydroxy-12R,13S-epoxy-10E,15Z-octadecadienoic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	780.75	1482.5	1074.5	892.25	0	0	
179	319.08146	318.07418	8.68	$C_{16}H_{14}O_7$	$[M+H]^+$	Demethylsulochrin	Bruker MetaboBASE Personal Library 2.0_in-silico	878	1596	1364.5	2273.5	340.5	0	125
180	151.11185	150.10457	8.68	$C_{10}H_{14}O$	$[M+H]^+$	Verbenone	Bruker MetaboBASE Personal Library 2.0	731	1123.25	831.25	777	0	0	77
181	301.03542	302.04269	8.68	$C_{15}H_{10}O_7$	$[M-H]^-$ $[M+H]^+$	Tricetin	Bruker MetaboBASE Personal Library 2.0	1154.5	1459	1551.75	575	0	0	126
182	255.19545	254.18818	8.71	$C_{15}H_{26}O_3$	$[M+H]^+$	5-Acetoxydihydrothe-aespirane	Bruker MetaboBASE Personal Library 2.0_in-silico	1270.25	1900.25	1631.5	1126	202.5	0	
183	207.10144	206.09416	8.75	$C_{12}H_{14}O_3$	$[M+H]^+$	3-Dimethylallyl-4-hydroxybenzoate	Bruker MetaboBASE Personal Library 2.0_in-silico	410.25	567.75	905.5	525.5	0	1828.5	127
184	315.1229	314.11562	8.76	$C_{18}H_{18}O_5$	$[M+H]^+$	Matteucinol	Bruker MetaboBASE Personal Library 2.0_in-silico	0	286.5	0	991.5	2259.25	2181.5	128
185	149.05958	148.05231	8.8	$C_9H_8O_2$	$[M+H]^+$	Di-2-furanylmethane	Bruker MetaboBASE Personal Library 2.0_in-silico	273.75	524.5	0	1854.5	3490.5	4656.75	
186	301.07074	300.06347	8.78	$C_{16}H_{12}O_6$	$[M+H]^+$	Isokaempferide	MoNA-export-GNPS_QTOF.msp	101025.25	122693.25	82812.5	65568.5	7919	1901	129
187	167.07032	166.06305	8.82	$C_9H_{10}O_3$	$[M+H]^+$	3,4-Dimethoxy-benzaldehyde	Bruker MetaboBASE Personal Library 2.0	1977.5	1033.25	3661.75	1660.75	0	173.5	130
188	239.20067	238.19339	8.84	$C_{15}H_{26}O_2$	$[M+H]^+$	7Z,11Z-Tridecadienyl acetate	Bruker MetaboBASE Personal Library 2.0_in-silico	3111.75	4720.5	5675.75	3829.25	0	280.25	

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
189	247.09655	246.08927	8.84	$C_{14}H_{14}O_4$	$[M+H]^+$	Prenyletin	Bruker MetaboBASE Personal Library 2.0_in-silico	5070.25	5537	3947.75	3807.25	0	524.75	131
190	191.07033	208.07385	8.85	$C_{11}H_{12}O_4$	$[M-H_2O+H]^+$ $[M+H]^+$ $[M+Na]^+$	3-(3,4-Dimethoxyphenyl)-2-propenoic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	305202.25	206977.25	497484.25	271738	31520	52259.5	71
191	163.07542	162.06814	8.85	$C_{10}H_{10}O_2$	$[M+H]^+$	8Z-Decene-4,6-diynoic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	9578.75	6580.5	15123.25	8586.25	1705	2105.5	132
192	315.08641	314.07914	8.86	$C_{17}H_{14}O_6$	$[M+H]^+$	3-O-Methylalnusin	MoNA-export-GNPS_QTOF.msp	1783.25	1869.75	1012.25	759.5	0	351	133
193	301.10712	300.09984	8.87	$C_{17}H_{16}O_5$	$[M+H]^+$	Heliannone A	Bruker MetaboBASE Personal Library 2.0_in-silico	583.25	746	1043.25	3338.75	16102	21129.25	134
194	219.17447	218.16719	8.9	$C_{15}H_{22}O$	$[M+H]^+$	6,8,10,12-pentadecatetraenal	Bruker MetaboBASE Personal Library 2.0_in-silico	7711.25	9636.75	3743.75	4008.5	341.5	1974	135
195	229.12236	228.11508	8.86	$C_{15}H_{16}O_2$	$[M+H]^+$	(S)-Curzeone	Bruker MetaboBASE Personal Library 2.0_in-silico	1570.75	2300.5	1762	1283	0	119.25	136
196	327.12304	326.11576	8.86	$C_{19}H_{18}O_5$	$[M+H]^+$	1,5-bis(4-hydroxy-3-methoxyphenyl)-1,4-pentadien-3-one	Bruker MetaboBASE Personal Library 2.0_in-silico	1125	0	1772	451.5	0	1072.75	136
197	233.15369	232.14642	8.87	$C_{15}H_{20}O_2$	$[M+H]^+$	Eremofrullanolide	Bruker MetaboBASE Personal Library 2.0_in-silico	7825.75	16518.75	7100	7688.5	641.5	1886.25	137
198	215.14315	214.13587	8.9	$C_{15}H_{18}O$	$[M+H]^+$	Farfugin A	Bruker MetaboBASE Personal Library 2.0_in-silico	1697	2698.75	1538.5	1703.75	145.5	281.75	138
199	187.14825	186.14098	8.9	$C_{14}H_{18}$	$[M+H]^+$	7-Ethyl-5,6-dihydro-1,4-dimethylazulene	Bruker MetaboBASE Personal Library 2.0_in-silico	1158	2257.5	1097.75	1499.25	0	224	139
200	243.10163	242.09436	8.98	$C_{15}H_{14}O_3$	$[M+H]^+$	Thunalbene	MoNA-export-GNPS_QTOF.msp	0	0	0	112.25	3023	1443	140
201	287.05598	288.06325	9.06	$C_{15}H_{12}O_6$	$[M-H]^-$ $[M+H]^+$	Eriodictyol	Bruker MetaboBASE Personal Library 3.0	4011.5	4036.5	5490.75	8610.5	13085.25	13089.5	141
202	417.11825	416.11098	9.04	$C_{21}H_{20}O_9$	$[M+H]^+$ $[M-H]^-$	Daidzin	Bruker MetaboBASE Personal Library 3.0	29981.75	51343.5	48809.75	23610.5	2152.5	0	
203	247.13293	246.12566	9.06	$C_{15}H_{18}O_3$	$[M+H]^+$	α-Santonin	Bruker MetaboBASE Personal Library 2.0_in-silico	3187.5	1891.75	3255.75	2440.25	1791.5	1682.5	142
204	275.20074	274.19346	9.04	$C_{18}H_{26}O_2$	$[M+H]^+$	13-Octadecene-9,11-diyno-ic acid, (Z)- (Bolekic acid)	Bruker MetaboBASE Personal Library 2.0_in-silico	2008	3967.25	938.5	2225.25	0	132.25	143

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude samples			
								6E	9E	12E	4E	15E	16E	
205	219.13809	218.13081	9.05	$C_{14}H_{18}O_2$	$[M+H]^+$	C14:5n-1,3,5,7,9 (5,7,9, 11,13-tetradecapentaenoic acid)	Bruker MetaboBASE Personal Library 2.0_in-silico	3729	2970.75	1688.75	2960.25	299	399.5	144
206	311.22178	310.21451	9.06	$C_{18}H_{30}O_4$	$[M+H]^+$	trans-EKODE-(E)-Ib	Bruker MetaboBASE Personal Library 2.0	1771.5	2436	1271.25	1861.25	0	0	145
207	257.0808	256.07353	9.1	$C_{15}H_{12}O_4$	$[M+H]^+$	Pinocembrin	MoNA-export-GNPS_QTOF.msp	3376.75	4441.25	3260	2865.75	0	202.25	109
208	301.03546	302.04273	9.13	$C_{15}H_{10}O_7$	$[M-H]^-$ $[M+H]^+$	Quercetin	Bruker HMDB Metabolite Library_2.0	68108.75	79927.25	88469.5	77594.5	42977.5	51133.25	109
209	357.16969	356.16241	9.17	$C_{21}H_{24}O_5$	$[M+H]^+$	Fragransol C	Bruker MetaboBASE Personal Library 2.0_in-silico	0	0	0	0	0	5459.75	146
210	209.15367	208.14639	9.14	$C_{13}H_{20}O_2$	$[M+H]^+$	(3R,8E)-3-Hydroxy-5,8-megastigmadien-7-one	Bruker MetaboBASE Personal Library 2.0_in-silico	1140	1216.75	997.75	961	752	970	147
211	375.18038	374.1731	9.16	$C_{21}H_{26}O_6$	$[M+H]^+$	Hexahydrocurcumin	Bruker MetaboBASE Personal Library 2.0_in-silico	0	0	0	0	0	3220.5	148
212	399.144	398.13673	9.17	$C_{22}H_{22}O_7$	$[M+H]^+$	Dulxanthone E	Bruker MetaboBASE Personal Library 2.0_in-silico	0	0	0	193	224.25	2355	149
213	275.20068	274.1934	9.19	$C_{18}H_{26}O_2$	$[M+H]^+$	9-Octadecene-12,14,16-triynoic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	2141.5	5950.5	1225	2412.75	450.75	624.5	150
214	195.06521	194.05794	9.2	$C_{10}H_{10}O_4$	$[M+H]^+$	Dimethyl phthalate	Bruker MetaboBASE Personal Library 2.0_in-silico	492	1168.75	355.25	4715.75	332.5	10881.5	
215	293.2113	292.20402	9.22	$C_{18}H_{28}O_3$	$[M+H]^+$	13-keto-9Z,11E,15Z-octadecatrienoic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	9871.75	32818.75	5121	12330.25	433.75	606	
216	303.08634	302.07907	9.29	$C_{16}H_{14}O_6$	$[M+H]^+$	2-(3,4-dihydroxyphenyl)-5-hydroxy-7-methoxy-2,3-dihydrochromen-4-one	MoNA-export-GNPS_QTOF.msp	216.75	582.5	156.5	2474	32327.25	1601	151
217	419.13398	418.1267	9.37	$C_{21}H_{22}O_9$	$[M+H]^+$	Liquiritin	Bruker MetaboBASE Personal Library 3.0	198.25	124.5	2802.25	316.5	0	0	152
218	241.086	240.07872	9.43	$C_{15}H_{12}O_3$	$[M+H]^+$ $[M-H]^-$	Flavidin	Bruker MetaboBASE Personal Library 2.0_in-silico	65675.75	58843.75	56223.25	39584.5	3768.75	1521.25	153
219	213.09105	212.08378	9.43	$C_{14}H_{12}O_2$	$[M+H]^+$	Benzyl benzoate	Bruker MetaboBASE Personal Library 2.0_in-silico	7289.25	6415.75	6575.5	4693.5	819	0	13
220	177.05465	176.04738	9.47	$C_{10}H_8O_3$	$[M+H]^+$	Herniarin	Bruker MetaboBASE Personal Library 2.0_in-silico	434.75	3777.75	0	19047.75	26161.75	52215.25	72
221	247.0964	246.08913	9.49	$C_{14}H_{14}O_4$	$[M+H]^+$	Torachrysone	Bruker MetaboBASE Personal Library 2.0_in-silico	0	0	0	224.5	671	2162.25	154

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
222	315.08641	314.07914	9.5	$C_{17}H_{14}O_6$	$[M+H]^+$	Gnaphaliin	Bruker MetaboBASE Personal Library 3.0	1563.5	2228.25	2471.75	1333.5	560.75	313.75	155
223	281.08081	280.07353	9.52	$C_{17}H_{12}O_4$	$[M+H]^+$	Neodunol	Bruker MetaboBASE Personal Library 2.0_in-silico	3074.75	3222	3136	2413.25	0	1242.25	156
224	255.19557	254.1883	9.55	$C_{15}H_{26}O_3$	$[M+H]^+$	5-Acetoxydihydrothe-aespirane (6-acet-oxydihydrotheaspirane)	Bruker MetaboBASE Personal Library 2.0_in-silico	1514	1311.75	1382.25	1722	593.5	892.75	
225	207.06627	208.07355	9.58	$C_{11}H_{12}O_4$	$[M-H]^-$ $[M+H]^+$	2,5-Dimethoxycinnamic acid	Bruker MetaboBASE Personal Library 3.0	74502.5	29851.75	65855.75	22564.25	99.75	18228.5	157
226	231.10161	230.09433	9.62	$C_{14}H_{14}O_3$	$[M+H]^+$	Osthenol	Bruker MetaboBASE Personal Library 2.0_in-silico	1613	3897.25	604.5	1579.25	0	0	158
227	131.04913	148.05243	9.67	$C_9H_8O_2$	$[M-H_2O+H]^+$ $[M+H]^+$ $[M-H]^-$	Cinnamic acid	Bruker HMDB Metabolite Library_2.0	16430	23421	26672.25	15542.25	6365.25	6843.5	47
228	233.15363	232.14635	9.66	$C_{15}H_{20}O_2$	$[M+H]^+$	Furoeremophilone 1	Bruker MetaboBASE Personal Library 2.0_in-silico	2181.5	5868	2417	2412.75	0	317.75	159
229	195.06526	194.05799	9.65	$C_{10}H_{10}O_4$	$[M+H]^+$ $[M-H]^-$	Methyl 2,5-dihydroxycinnamate	Bruker MetaboBASE Personal Library 2.0_in-silico	2167.25	2112.75	2216	3275.25	748.25	4942.5	160
230	293.17444	292.16717	9.66	$C_{17}H_{24}O_4$	$[M+H]^+$	Acetylvalerenolic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	0	544.75	601	1138.5	1403.25	3439.75	161
231	481.11332	480.10604	9.68	$C_{25}H_{20}O_{10}$	$[M+H]^+$	2,3-Dehydrosilychristin	Bruker MetaboBASE Personal Library 2.0_in-silico	2848.25	2289.75	3521.25	1506	120.75	0	162
232	161.05971	178.06301	9.7	$C_{10}H_{10}O_3$	$[M-H_2O+H]^+$ $[M+H]^+$	4-Methoxycinnamic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	47067.5	49463.75	111749	65930.75	8739.25	42694.75	163
233	261.11214	260.10486	9.73	$C_{15}H_{16}O_4$	$[M+H]^+$	Kanzonol Q	Bruker MetaboBASE Personal Library 2.0_in-silico	1992.5	2782.75	2121.75	1453.75	491	350	164
234	269.08086	268.07359	9.81	$C_{16}H_{12}O_4$	$[M+H]^+$ $[M-H]^-$	6-hydroxy-5-methoxy-2-phenylchromen-4-one	MoNA-export-GNPS_QTOF.msp	465366.5	447774.75	351345.5	249969.25	21251.5	13094.5	165
235	447.12938	446.1221	9.92	$C_{22}H_{22}O_{10}$	$[M+H]^+$	Prunetin 5-O-glucoside	Bruker MetaboBASE Personal Library 3.0	4838.5	5085	5688.5	3016.5	0	0	166
236	231.06513	230.05786	9.93	$C_{13}H_{10}O_4$	$[M+H]^+$	4-methoxy-7-methyl-furo[3,2-g]chromen-5-one	MoNA-export-GNPS_QTOF.msp	0	238.25	40	561	1971	4090.5	167
237	367.1178	384.12113	9.96	$C_{21}H_{20}O_7$	$[M-H_2O+H]^+$ $[M+H]^+$	Calebin A	Bruker MetaboBASE Personal Library 2.0_in-silico	323.5	7345.25	361	38081.75	77101.5	97277	
238	279.23198	278.22471	9.95	$C_{18}H_{30}O_2$	$[M+H]^+$	4E,6E,11Z-Hexadecatrienyl acetate	Bruker MetaboBASE Personal Library 2.0_in-silico	2624	2570.25	2497.25	2006	1067.25	114.25	

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
239	401.15963	400.15235	10.02	$C_{22}H_{24}O_7$	$[M+H]^+$	Isoyatein	Bruker MetaboBASE Personal Library 2.0_in-silico	0	0	0	0	0	13133.5	168
240	223.16936	222.16209	10	$C_{14}H_{22}O_2$	$[M+H]^+$	Isokobusone	Bruker MetaboBASE Personal Library 3.0	1644.75	2217.25	4910.25	2529	461.5	815.25	169
241	121.06484	120.05756	9.99	C_8H_8O	$[M+H]^+$	Phenylacetaldehyde	Bruker HMDB Metabolite Library_2.0	2083	1532.75	2671.25	1826.5	0	181	170
242	549.17583	548.16855	10.01	$C_{30}H_{28}O_{10}$	$[M+H]^+$	3,4-Dihydroxyrottlerin	Bruker MetaboBASE Personal Library 2.0_in-silico	0	249.25	84.25	1423.75	4459.75	6240.5	
243	227.07032	226.06305	10.05	$C_{14}H_{10}O_3$	$[M+H]^+$	Oroselone	Bruker MetaboBASE Personal Library 2.0_in-silico	35070.25	29699	36637.25	24497	1510	874.5	171
244	253.17982	252.17255	10.04	$C_{15}H_{24}O_3$	$[M+H]^+$	Dendrobane A	Bruker MetaboBASE Personal Library 2.0_in-silico	1083.25	940	644.75	680	3799.75	1862	172
245	177.05464	176.04736	10.11	$C_{10}H_8O_3$	$[M+H]^+$	2-Propenal, 3-(1,3-benzodioxol-5-yl)-	Bruker MetaboBASE Personal Library 3.0	4469.75	15559.5	3392.25	45620.25	59998	137147.25	173
246	373.12839	372.12112	10.09	$C_{20}H_{20}O_7$	$[M+H]^+$	6,7,2',4',5'-Penta-methoxyisoflavone	Bruker MetaboBASE Personal Library 2.0_in-silico	43626	32210	33053	18046	3034	18148.5	174
247	287.22182	286.21455	10.13	$C_{16}H_{30}O_4$	$[M+H]^+$	Hexadecanedioic acid	Bruker HMDB Metabolite Library_2.0	0	0	0	0	0	5566.5	175
248	271.0965	270.08922	10.15	$C_{16}H_{14}O_4$	$[M+H]^+$	Alpinetin	MoNA-export-GNPS_QTOF.msp	273466.25	208158.5	265600.75	156823.5	17843.25	7103.5	176
249	359.11263	358.10536	10.13	$C_{19}H_{18}O_7$	$[M+H]^+$	Penduletin 4'-methyl ether	MoNA-export-GNPS_QTOF.msp	2828.75	6429	2561	2505	347	156.75	177
250	287.09156	286.08429	10.31	$C_{16}H_{14}O_5$	$[M+H]^+$	Quinquangulin	Bruker MetaboBASE Personal Library 2.0_in-silico	347	817	263.75	650	3019	2193.5	178
251	285.112	284.10473	10.33	$C_{17}H_{16}O_4$	$[M+H]^+$	DL-Propylene glycol dibenzoate	Bruker MetaboBASE Personal Library 2.0_in-silico	359.75	340	325	762	2305.5	2265.5	
252	271.06011	270.05284	10.32	$C_{15}H_{10}O_5$	$[M+H]^+$	Naringenin	MoNA-export-GNPS_QTOF.msp	9018.5	9872	15664.75	5953.75	0	0	109
253	291.15889	290.15161	10.33	$C_{17}H_{22}O_4$	$[M+H]^+$ $[M-H]^-$	1-Dehydro-[6]-gingerdione	Bruker MetaboBASE Personal Library 2.0_in-silico	82.75	0	67.25	971.5	1306.75	3839.75	179
254	205.15872	204.15144	10.34	$C_{14}H_{20}O$	$[M+H]^+$	4'-tert-Butyl-2',6'-dimethylacetophenone	Bruker MetaboBASE Personal Library 3.0	1080.75	1714	1469	1262.25	0	381.5	
255	313.23724	312.22997	10.36	$C_{18}H_{32}O_4$	$[M+H]^+$	8,13-dihydroxy-9,11-octadecadienoic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	938.25	1465.25	1026.5	982.5	0	69.75	
256	195.0653	194.05803	10.38	$C_{10}H_{10}O_4$	$[M+H]^+$	Ferulic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	1635.5	1165.75	1462.25	1186.5	0	0	47

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
257	345.09653	344.08926	10.43	$C_{18}H_{16}O_7$	$[M+H]^+$	Pachypodol	MoNA-export-GNPS_QTOF.msp	6955	16294.25	8405.25	5036.25	2822.25	1609	180
258	251.20062	250.19332	10.55	$C_{16}H_{26}O_2$	$[M+H]^+$ $[M-H_2O+H]^+$	3E,8Z,11Z-Tetradecatrienyl acetate	Bruker MetaboBASE Personal Library 2.0_in-silico	0	87.5	0	0	126	13806	
259	409.12721	408.11993	10.56	$C_{23}H_{20}O_7$	$[M+H]^+$	Dehydroamorphigenin	Bruker MetaboBASE Personal Library 2.0_in-silico	2099	1274.5	1718.25	1135.5	315.75	157	181
260	165.05454	164.04727	10.58	$C_9H_8O_3$	$[M+H]^+$	Caffeic aldehyde	Bruker MetaboBASE Personal Library 2.0_in-silico	1298.25	840	0	655.25	266.25	3247.25	182
261	193.08601	192.07873	10.6	$C_{11}H_{12}O_3$	$[M+H]^+$	Ethyl-*p*-coumarate	Bruker MetaboBASE Personal Library 2.0	4270.75	2629.75	4105.25	3841.25	880.25	11262.5	108
262	87.04395	86.03668	10.64	$C_4H_6O_2$	$[M+H]^+$	Diacetyl (2,3-Butanedione)	Bruker MetaboBASE Personal Library 2.0_in-silico	709.5	1108.75	1308.5	752.5	123.75	0	183
263	383.11275	382.10548	10.69	$C_{21}H_{18}O_7$	$[M+H]^+$	Sarothranol	Bruker MetaboBASE Personal Library 2.0_in-silico	796.25	1374	397.75	9324.25	11388.5	25365	184
264	329.10207	328.09488	10.72	$C_{18}H_{16}O_6$	$[M+H]^+$ $[M+Na]^+$	5,8-Dihydroxy-7-methoxyflavanone 8-O-acetate	Bruker MetaboBASE Personal Library 2.0_in-silico	101632	94462.5	87372	66007.5	7402.75	3287.75	185
265	297.18515	296.17787	10.73	$C_{20}H_{24}O_2$	$[M+H]^+$	Crocetindial	Bruker MetaboBASE Personal Library 2.0_in-silico	0	0	0	162.5	2292.25	5387	
266	357.2645	358.27178	10.75	$C_{20}H_{38}O_5$	$[M-H]^-$ $[M+H]^+$	13,14-dihydro Prostaglandin F1α	Bruker MetaboBASE Personal Library 3.0	1463	2216	1074.75	605.25	0	0	
267	223.09659	222.08931	10.77	$C_{12}H_{14}O_4$	$[M+H]^+$	Ferulic acid ethylester	Bruker MetaboBASE Personal Library 3.0	1351.25	916.75	1497	1320.25	338.5	4838.75	186
268	387.14405	386.13677	10.77	$C_{21}H_{22}O_7$	$[M+H]^+$ $[M-H]^-$	Peucenidin	Bruker MetaboBASE Personal Library 2.0_in-silico	23391	18287.5	13442.5	7938.5	649	513.5	187
269	223.16945	222.16217	10.79	$C_{14}H_{22}O_2$	$[M+H]^+$	7E,9Z,11-Dodecatrienyl acetate	Bruker MetaboBASE Personal Library 2.0_in-silico	157.25	0	0	399	2588.75	1415.75	188
270	271.2268	270.21953	10.87	$C_{16}H_{30}O_3$	$[M+H]^+$	7-keto palmitic acid (2-oxopalmitic acid)	Bruker MetaboBASE Personal Library 2.0_in-silico	0	0	0	0	190.25	9009.5	189
271	317.06567	316.05839	10.85	$C_{16}H_{12}O_7$	$[M+H]^+$	Rhamnetin	Bruker MetaboBASE Personal Library 2.0	87221.5	109741.5	128084.25	103041.75	21993	19674.25	105
272	315.08642	314.07914	10.91	$C_{17}H_{14}O_6$	$[M+H]^+$	Luteolin 3',4'-dimethyl ether	Bruker MetaboBASE Personal Library 3.0	17728.25	19961	12428.75	7591.25	84355	52928.25	190
273	157.06479	174.0681	10.95	$C_{11}H_{10}O_2$	$[M-H_2O+H]^+$ $[M-H]^-$ $[M+H]^+$	Juarezic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	113591.5	95722.25	146095.5	53698	7774.5	19764.75	191

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
274	309.20615	308.19886	10.99	$C_{18}H_{28}O_4$	$[M+H]^+$ $[M-H_2O+H]^+$	Corchorifatty acid D	Bruker MetaboBASE Personal Library 2.0_in-silico	11290.75	21903.5	12001	9016.75	496.5	661.25	192
275	231.13795	230.13067	11.02	$C_{15}H_{18}O_2$	$[M+H]^+$	3-(1,2,3,4-Tetrahydro-6-hydroxy-2-naphthyl)-cyclopentanone	Bruker MetaboBASE Personal Library 2.0_in-silico	671	1923.25	807.25	843.5	214	309.75	
276	249.14852	248.14124	10.99	$C_{15}H_{20}O_3$	$[M+H]^+$	1,2-Dihydrosantonin	Bruker MetaboBASE Personal Library 2.0_in-silico	1404	5118	1934.25	2090.25	2301.75	877.75	
277	325.20207	326.20935	11	$C_{18}H_{30}O_5$	$[M-H]^-$ $[M+H]^+$	2,3-dinor Prostaglandin E1	Bruker MetaboBASE Personal Library 2.0	4095	8497.5	4008.5	3957.25	1186.5	80.5	
278	293.21112	292.20385	11.03	$C_{18}H_{28}O_3$	$[M+H]^+$	9-hydroxy-10E,14Z-octadecadien-12-ynoic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	4282.5	4276.75	4766	2702.25	3055	257.75	
279	181.12237	180.1151	11.03	$C_{11}H_{16}O_2$	$[M+H]^+$	Norecasantalic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	1187.25	865.5	1472.25	1097	2290.5	1691.25	193
280	233.15368	232.1464	11.04	$C_{15}H_{20}O_2$	$[M+H]^+$	Turmeronol A	Bruker MetaboBASE Personal Library 2.0_in-silico	2665.5	4612	3074	1987.25	3111	1028	194
281	339.25331	338.24604	11.05	$C_{20}H_{34}O_4$	$[M+H]^+$	Aphidicolin	Bruker MetaboBASE Personal Library 2.0_in-silico	797.5	1451.75	1425.25	438	0	0	
282	357.26388	356.25661	11.09	$C_{20}H_{36}O_5$	$[M+H]^+$ $[M-H]^-$	13,14-dihydro-15(R)-Prostaglandin E1	Bruker MetaboBASE Personal Library 2.0	975	2143.25	1030.75	651	0	0	
283	345.09692	344.08965	11.09	$C_{18}H_{16}O_7$	$[M+H]^+$	Eupatilin	Bruker MetaboBASE Personal Library 3.0	2103.25	1645	1332	497	44284.5	24472.5	195
284	317.21116	316.20388	11.14	$C_{20}H_{28}O_3$	$[M+H]^+$	19-Hydroxy-13-cis-retinoic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	106.5	320.75	102	1963.75	3338	10962.25	
285	303.08642	302.07914	11.14	$C_{16}H_{14}O_6$	$[M+H]^+$	Hesperetin	Bruker MetaboBASE Personal Library 2.0_in-silico	0	0	0	1300.75	3066.25	3189.75	196
286	301.10708	300.09981	11.19	$C_{17}H_{16}O_5$	$[M+H]^+$	Coelogin	Bruker MetaboBASE Personal Library 2.0_in-silico	14468.25	13902	9621.5	7337.5	3965.5	4530.75	197
287	297.24247	296.23517	11.23	$C_{18}H_{32}O_3$	$[M+H]^+$ $[M-H_2O+H]^+$	7-Methoxy-9-methyl-hexadeca-4E,8E-dienoic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	17697.25	39579	15160	18966	1028.5	611.25	
288	313.23845	314.24572	11.24	$C_{18}H_{34}O_4$	$[M-H]^-$ $[M+H]^+$ $[M+Na]^+$	(±)12,13-DiHOME	Bruker MetaboBASE Personal Library 3.0	23790.5	51379.5	18733.75	23159.75	2960.25	492	
289	261.22154	260.21427	11.23	$C_{18}H_{28}O$	$[M+H]^+$	6-[5]-ladderane-1-hexanol	Bruker MetaboBASE Personal Library 2.0_in-silico	3364.25	8161.25	3032.5	3065.5	805	274.5	

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
290	291.19564	290.18836	11.21	$C_{18}H_{26}O_3$	$[M+H]^+$	8-hydroxy-17-octadecene-10,12-diynoic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	4511.75	10565.25	3611.25	5179	1923	1803.5	198
291	189.09101	188.08373	11.23	$C_{12}H_{12}O_2$	$[M+H]^+$	Trigoforin	Bruker MetaboBASE Personal Library 2.0_in-silico	0	0	0	0	363	2241.75	199
292	311.22179	310.21447	11.32	$C_{18}H_{30}O_4$	$[M+H]^+$ $[M-H_2O+H]^+$ $[M-H]^-$	9(S)-HpOTrE	Bruker MetaboBASE Personal Library 2.0	17679.5	31960.5	15819.75	17693	1544.25	646.75	
293	263.09147	262.08419	11.32	$C_{14}H_{14}O_5$	$[M+H]^+$	Dorsteniol	Bruker MetaboBASE Personal Library 2.0_in-silico	3440.5	56604.5	1898.25	245847.75	645616.25	610795.75	
294	205.19518	204.18791	11.35	$C_{15}H_{24}$	$[M+H]^+$ $[M+NH_4]^+$	Aristolene	Bruker MetaboBASE Personal Library 3.0	37211	48455	69051.5	49193	4608.5	12638.5	.
295	231.13804	230.13073	11.37	$C_{15}H_{18}O_2$	$[M+H]^+$ $[M-H_2O+H]^+$	8,12-Epoxy-4(15),7,11-eudesmatrien-1-one	Bruker MetaboBASE Personal Library 2.0_in-silico	25575	43918.25	30510	26586	1868.75	5092	
296	221.15369	220.14641	11.37	$C_{14}H_{20}O_2$	$[M+H]^+$ $[M-H_2O+H]^+$	Oblongolide	Bruker MetaboBASE Personal Library 2.0_in-silico	5901	9529.75	6386.5	6150.25	942	1412.75	200
297	249.14858	248.1413	11.38	$C_{15}H_{20}O_3$	$[M+H]^+$	Istanbulin B	Bruker MetaboBASE Personal Library 2.0_in-silico	11476.25	21131.25	12900.5	12286.25	984.25	3170.75	201
298	149.1325	148.12523	11.36	$C_{11}H_{16}$	$[M+H]^+$	Ectocarpen	Bruker MetaboBASE Personal Library 2.0_in-silico	15296.25	21912.5	32938.25	21525	2026.5	5623	
299	175.07533	174.06805	11.37	$C_{11}H_{10}O_2$	$[M+H]^+$	Menadiol	Bruker MetaboBASE Personal Library 2.0_in-silico	2385	3447.75	2664	2261.25	419	737.5	202
300	121.06478	120.05751	11.37	C_8H_8O	$[M+H]^+$ $[M-H]^-$	Lentialexin	Bruker MetaboBASE Personal Library 2.0_in-silico	2984.5	5539	4096.75	3117.75	261.25	430.75	203
301	123.11681	122.10953	11.36	C_9H_{14}	$[M+H]^+$	Santene	Bruker MetaboBASE Personal Library 2.0_in-silico	8411.75	11813.75	12105.5	10404.25	1440.25	3577.5	204
302	205.15873	204.15146	11.37	$C_{14}H_{20}O$	$[M+H]^+$ $[M-H]^-$	2,4-di-tert-butylphenol	Bruker MetaboBASE Personal Library 2.0_in-silico	1439.5	2016	1634	1516	202	106.25	205
303	315.19586	314.18858	11.39	$C_{20}H_{26}O_3$	$[M+H]^+$	all-trans-4-oxoretinoic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	0	0	0	202.25	1418	3127	
304	357.13319	356.12591	11.43	$C_{20}H_{20}O_6$	$[M+H]^+$	5-Deoxykievitol	Bruker MetaboBASE Personal Library 2.0_in-silico	608.75	542.25	922.75	881.5	2472.25	3405.75	206
305	355.1178	354.11053	11.41	$C_{20}H_{18}O_6$	$[M+H]^+$	Albanin A	Bruker MetaboBASE Personal Library 2.0_in-silico	6348.75	3979.25	3969.75	2276.5	2252.5	2364.5	207
306	315.15914	314.15186	11.44	$C_{19}H_{22}O_4$	$[M+H]^+$	7-[(6-Hydroxy-3,7-dimethyl-2,7-octadienyl)oxy]-2H-1-benzopyran-2-one	Bruker MetaboBASE Personal Library 2.0_in-silico	2771.75	826.25	2256.75	286.5	0	0	

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								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
307	299.09143	298.08416	11.47	$C_{17}H_{14}O_5$	$[M+H]^+$	Coumafuryl	Bruker MetaboBASE Personal Library 2.0_in-silico	1345.25	2762.5	911.5	9536.25	17611.75	21435.5	
308	181.04957	180.04227	11.49	$C_9H_8O_4$	$[M+H]^+$ $[M-H_2O+H]^+$	Caffeic acid	Bruker HMDB Metabolite Library_2.0	75988.75	45336.5	88463.5	52345.75	4813	6696.25	208
309	161.05969	160.05242	11.53	$C_{10}H_8O_2$	$[M+H]^+$ $[M-H_2O+H]^+$	2,6-Dihydroxynaphthalene	Bruker MetaboBASE Personal Library 2.0	38529.5	18602.5	50752.5	27188.25	10676.25	15272.5	
310	469.33155	468.3242	11.52	$C_{30}H_{44}O_4$	$[M+H]^+$ $[M-H_2O+H]^+$	3-oxoglycyrrhetinic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	7452.25	41188.75	5981	7819.25	116.75	149.75	209
311	271.09628	270.08913	11.53	$C_{16}H_{14}O_4$	$[M+H]^+$ $[M-H_2O+H]^+$	Isoliquiritigenin 4-methyl ether	Bruker MetaboBASE Personal Library 2.0_in-silico	12518.5	4302.25	16948.25	7391	2636.25	2656.5	210
312	487.34234	486.33507	11.52	$C_{30}H_{46}O_5$	$[M+H]^+$	Bridgesigenin A	MoNA-export-GNPS_QTOF.msp	1566.75	11526.75	1208.5	1053.75	388	202.75	211
313	225.09102	224.08374	11.53	$C_{15}H_{12}O_2$	$[M+H]^+$	2-Propenoic acid, 2,3-diphenyl- (α-Phenylcinnamic acid)	Bruker MetaboBASE Personal Library 3.0	2899.5	1390.75	3729.25	2361.25	876.75	1261.75	
314	381.13341	380.12613	11.5	$C_{22}H_{20}O_6$	$[M+H]^+$	Glabrachromene I	Bruker MetaboBASE Personal Library 2.0_in-silico	0	535.5	89	2302.75	5268	5194.25	212
315	373.12846	372.12119	11.54	$C_{20}H_{20}O_7$	$[M+H]^+$	Sigmoidin D	Bruker MetaboBASE Personal Library 2.0_in-silico	3053.75	1569.75	2260.75	1136.5	374	0	213
316	329.10198	328.09471	11.56	$C_{18}H_{16}O_6$	$[M+H]^+$	Betagarin	Bruker MetaboBASE Personal Library 2.0_in-silico	1719.75	978.5	2194	3084	9089.5	13849.5	214
317	255.06522	254.05794	11.59	$C_{15}H_{10}O_4$	$[M+H]^+$	5,7-dihydroxy-2-phenylchromen-4-one	MoNA-export-GNPS_QTOF.msp	225150.25	345864.5	234362.25	1227562	230067.25	314435	
318	277.21623	276.20895	11.63	$C_{18}H_{28}O_2$	$[M+H]^+$	Stearidonic Acid	Bruker MetaboBASE Personal Library 2.0	18042.75	34894.5	14979.25	18556.5	0	0	215
319	285.07576	284.06848	11.62	$C_{16}H_{12}O_5$	$[M+H]^+$	Acacetin	Bruker MetaboBASE Personal Library 3.0	107822.25	123263.25	82459.5	149121	0	0	208
320	309.20612	308.19885	11.61	$C_{18}H_{28}O_4$	$[M+H]^+$	Corchorifatty acid A	Bruker MetaboBASE Personal Library 2.0_in-silico	3609.25	6124	4309	5106.25	152.5	91.5	
321	139.07535	138.06808	11.67	$C_8H_{10}O_2$	$[M+H]^+$	1,2-Dimethoxybenzene	Bruker MetaboBASE Personal Library 2.0_in-silico	2807.5	2167.5	2209	3294.75	109.75	748.75	77
322	203.10667	202.09939	11.68	$C_{13}H_{14}O_2$	$[M+H]^+$	3-(3-Methylbutylidene)-1(3H)-isobenzofuranone	Bruker MetaboBASE Personal Library 2.0_in-silico	23016	23081	22344.75	35745	1915.25	4451.5	
323	345.09688	344.0896	11.75	$C_{18}H_{16}O_7$	$[M+H]^+$	Morin 3,2',4'-trimethyl ether	Bruker MetaboBASE Personal Library 2.0_in-silico	130.75	175.75	701.5	78	813	29678.5	216

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
324	311.09142	310.08415	11.74	$C_{18}H_{14}O_5$	$[M+H]^+$	Hoslundal	Bruker MetaboBASE Personal Library 2.0_in-silico	4123.75	3079.5	6233.75	4134.5	3518.25	5566.5	217
325	263.20068	280.20398	11.73	$C_{17}H_{28}O_3$	$[M-H_2O+H]^+$ $[M+H]^+$	Methyl (2E,6E,10R,11S)-10,11-epoxy-3,7,11-trimethyltrideca-2,6-dienoate	Bruker MetaboBASE Personal Library 2.0_in-silico	1473	3727.5	678	2595	0	0	
326	363.21694	362.20966	11.74	$C_{21}H_{30}O_5$	$[M+H]^+$	Hydrocortisone	MoNA-export-GNPS_QTOF.msp	0	456.25	0	2721.75	882.5	1429.75	
327	285.07571	284.06843	11.75	$C_{16}H_{12}O_5$	$[M+H]^+$	Genkwanin	Bruker MetaboBASE Personal Library 2.0	237289.5	134332.5	123476	222583	0	0	218
328	325.10707	324.09979	11.78	$C_{19}H_{16}O_5$	$[M+H]^+$	Neoraunone	Bruker MetaboBASE Personal Library 2.0_in-silico	893	865.25	1463	2514	9950	6380	219
329	325.23745	324.23014	11.83	$C_{19}H_{32}O_4$	$[M+H]^+$ $[M-H_2O+H]^+$ $[M+Na]^+$	Methyl-10-hydroperoxy-8E,12Z,15Z-octadecatrienoate	Bruker MetaboBASE Personal Library 2.0_in-silico	2526.5	7700.25	2101.25	3658.25	0	0	
330	375.10755	374.10027	11.84	$C_{19}H_{18}O_8$	$[M+H]^+$	Chrysosplenol E	Bruker MetaboBASE Personal Library 2.0_in-silico	0	0	0	0	0	5772.25	220
331	271.06	270.05273	11.83	$C_{15}H_{10}O_5$	$[M+H]^+$ $[M-H]^-$	3,5,7-trihydroxy-2-phenylchromen-4-one	MoNA-export-GNPS_QTOF.msp	674429	605289.75	672793.5	544246.75	70230.25	19863.75	47
332	205.1948	204.18753	11.84	$C_{15}H_{24}$	$[M+H]^+$	(+)-endo-beta-Bergamotene	Bruker MetaboBASE Personal Library 2.0_in-silico	2662.25	3624	5065	4656	1057.25	2306.5	
333	381.20627	380.199	11.85	$C_{24}H_{28}O_4$	$[M+H]^+$	Conferone	Bruker MetaboBASE Personal Library 2.0_in-silico	2053.25	4197.25	1617.5	1983.25	0	0	221
334	253.21631	252.20901	11.87	$C_{16}H_{28}O_2$	$[M+H]^+$ $[M-H_2O+H]^+$	11-Methyl-9Z,12-tridecadienyl acetate	Bruker MetaboBASE Personal Library 2.0_in-silico	1007	851	809.5	4338.75	2629.75	11222	
335	271.22657	288.22999	11.87	$C_{16}H_{32}O_4$	$[M-H_2O+H]^+$ $[M+H]^+$	9,10-dihydroxy-hexadecanoic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	0	208.75	0	3802.5	2374.25	9279.25	
336	285.11211	284.1048	11.91	$C_{17}H_{16}O_4$	$[M+H]^+$ $[M-H_2O+H]^+$	Phenethyl Caffeiate	Bruker MetaboBASE Personal Library 3.0	53763	30541	68561.75	40815.25	2349.5	4783.75	222
337	105.06964	104.06236	11.9	C_8H_8	$[M+H]^+$	Styrene	Bruker MetaboBASE Personal Library 3.0	63997	49360.5	73423.25	36581	1280.5	2735.25	13
338	95.08547	94.07819	11.91	C_7H_{10}	$[M+H]^+$	2-Methyl-1,3-cyclohexadiene	Bruker MetaboBASE Personal Library 2.0_in-silico	1585	3104.25	2226.5	1520	0	216.25	223
339	239.20051	238.19323	11.92	$C_{15}H_{26}O_2$	$[M+H]^+$	14-Pentadecynoic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	1816	6286	4724.5	3462.5	230.5	722.25	
340	269.08083	268.07356	11.94	$C_{16}H_{12}O_4$	$[M+H]^+$	3-hydroxy-6-methoxy-2-phenylchromen-4-one	MoNA-export-GNPS_QTOF.msp	69233.75	26738	24979	18406.25	2306.25	2314.75	

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
341	293.21129	292.20396	11.94	$C_{18}H_{28}O_3$	$[M+H]^+$ $[M-H]^-$ $[M-H_2O+H]^+$	9-OxoOTrE	Bruker MetaboBASE Personal Library 3.0	47871.25	52686	33370.75	39098.25	3679.5	5753.75	224
342	167.03385	166.02657	11.96	$C_8H_6O_4$	$[M+H]^+$	Benzoquinoneacetic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	79640.5	35959.75	26321	30847	5718.25	3875.25	
343	287.09141	286.08414	11.97	$C_{16}H_{14}O_5$	$[M+H]^+$	5-Methoxynaringenin	MoNA-export-GNPS_QTOF.msp	121416.25	65478	60597.75	57999	10267.5	8006.5	225
344	331.08125	330.07398	12	$C_{17}H_{14}O_7$	$[M+H]^+$	Remerin	Bruker MetaboBASE Personal Library 2.0_in-silico	82366.25	96813.75	90317	61600.5	143491.75	77535.5	226
345	139.04008	140.04736	11.98	$C_7H_8O_3$	$[M-H]^-$ $[M+H]^+$	2-methoxyresorcinol	Bruker MetaboBASE Personal Library 3.0	8932.75	4061.25	3314	4614	1901.25	1213	227
346	313.10709	312.09982	12.02	$C_{18}H_{16}O_5$	$[M+H]^+$	1,4,5-Trihydroxy-3-prenylxanthone	Bruker MetaboBASE Personal Library 2.0_in-silico	1804.75	1344.25	1625.25	0	294	0	228
347	453.33651	452.32924	12.09	$C_{30}H_{44}O_3$	$[M+H]^+$	3-Oxo-12,18-ursadien-28-oic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	5874.75	15705	11001	7966.75	1994.5	2759.25	
348	335.21948	312.23007	12.12	$C_{18}H_{32}O_4$	$[M+Na]^+$ $[M+H]^+$	10S,11S-epoxy-9S-hydroxy-12Z-octadecenoic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	2917.5	3784	2477	2584.25	167.25	559	
349	299.20056	298.19328	12.13	$C_{20}H_{26}O_2$	$[M+H]^+$	19-Norethindrone-68-22-4	MoNA-export-GNPS_QTOF.msp	77.5	467	362.25	3250.25	16416.25	43587.5	
350	293.21129	292.20401	12.11	$C_{18}H_{28}O_3$	$[M+H]^+$	(-)-8-hydroxy-11E,17-octadecadien-9-ynoic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	37525	61963	21773.25	26666.5	1416.5	1152.75	
351	285.07568	284.0684	12.15	$C_{16}H_{12}O_5$	$[M+H]^+$	Izalpinin	Bruker MetaboBASE Personal Library 3.0	558337.5	415818.75	480346.25	87217.25	29282.75	20028.25	229
352	325.20093	324.19365	12.15	$C_{18}H_{28}O_5$	$[M+H]^+$	Dinor-PGE2	Bruker MetaboBASE Personal Library 2.0_in-silico	950.25	1720.25	1290.5	962.5	108.75	65.25	
353	341.23225	340.22498	12.15	$C_{19}H_{32}O_5$	$[M+H]^+$	Idebenone Metabolite (1,4-Benzenediol, 2-(10-hydroxydecyl)-5,6-dimethoxy-3-methyl-)	Bruker MetaboBASE Personal Library 2.0_in-silico	0	0	0	1011	203.5	2479.75	230
354	353.26869	352.26142	12.18	$C_{21}H_{36}O_4$	$[M+H]^+$	Ebelactone B	Bruker MetaboBASE Personal Library 3.0	1027.75	3109.5	0	2364	0	0	
355	249.11309	250.12037	12.22	$C_{14}H_{18}O_4$	$[M-H]^-$ $[M+H]^+$	Di-n-propylphthalate	Bruker MetaboBASE Personal Library 2.0_in-silico	44432	41899.5	46063.75	102275.5	3228.75	10641.75	
356	177.09104	176.08376	12.24	$C_{11}H_{12}O_2$	$[M+H]^+$	Prenylbenzoquinone	Bruker MetaboBASE Personal Library 2.0_in-silico	0	0	84.5	142.75	4169.75	1636.5	231

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
357	309.24255	308.23527	12.28	$C_{19}H_{32}O_3$	$[M+H]^+$	Methyl 12,13-epoxy-9,15-octadecadienoate	Bruker MetaboBASE Personal Library 2.0_in-silico	1082.25	2470.75	698.25	1074.75	134	274.5	
358	293.08179	294.08906	12.15	$C_{18}H_{14}O_4$	$[M-H]^-$ $[M+H]^+$	6-Methoxy-[2",3":7,8]furanoflavanone	Bruker MetaboBASE Personal Library 2.0_in-silico	9551.25	6149	17100	10969.25	13026.25	7250	232
359	291.23185	290.22457	12.28	$C_{19}H_{30}O_2$	$[M+H]^+$	11beta-Hydroxy-5alpha-androstan-17-one	Bruker MetaboBASE Personal Library 2.0_in-silico	1067.25	3261.75	910.75	1318.25	0	107.25	
360	159.08054	158.07326	12.27	$C_{11}H_{10}O$	$[M+H]^+$	2-Methoxynaphthalene	Bruker MetaboBASE Personal Library 2.0	0	189.5	118	0	2978.75	809	
361	353.1019	352.09462	12.32	$C_{20}H_{16}O_6$	$[M+H]^+$	Bavacoumestan B	Bruker MetaboBASE Personal Library 2.0_in-silico	4216.25	1370	4235.75	2918.75	513.5	529.5	233
362	233.15343	232.14615	12.35	$C_{15}H_{20}O_2$	$[M+H]^+$	Alantolactone	Bruker MetaboBASE Personal Library 2.0_in-silico	2604.25	4690	3182.75	4026.75	351.5	0	234
363	295.09739	296.10467	12.43	$C_{18}H_{16}O_4$	$[M-H]^-$ $[M-H_2O+H]^+$ $[M+H]^+$	Demethoxyegonol	Bruker MetaboBASE Personal Library 2.0_in-silico	351209	414601.5	405024.75	369880	52206.75	48108.75	235
364	251.10662	250.09934	12.41	$C_{17}H_{14}O_2$	$[M+H]^+$	Flindersiachromone	Bruker MetaboBASE Personal Library 2.0_in-silico	4800.5	4270.75	6036.75	3332	338	0	
365	253.08685	254.09413	12.43	$C_{16}H_{14}O_3$	$[M-H]^-$ $[M-H_2O+H]^+$ $[M+H]^+$	Obtusaquinone	Bruker MetaboBASE Personal Library 2.0_in-silico	69949	72008.5	63262.5	179358.75	789810.25	554479.25	
366	299.0914	298.08412	12.45	$C_{17}H_{14}O_5$	$[M+H]^+$	3-hydroxy-3',4'-dimethoxyflavone	Bruker MetaboBASE Personal Library 3.0	31658.5	35193	24468.25	11657.5	2793.25	2196	236
367	209.09611	208.08884	12.43	$C_{15}H_{12}O$	$[M+H]^+$	1-Methoxyphenanthrene	Bruker MetaboBASE Personal Library 2.0_in-silico	129	101.25	317.5	1063	5181.25	3295.25	
368	295.22687	294.21959	12.48	$C_{18}H_{30}O_3$	$[M+H]^+$	9-OxoODE	Bruker MetaboBASE Personal Library 2.0	90412	182657.75	45522.25	114690.25	2494.75	4487	
369	231.10248	232.10976	12.58	$C_{14}H_{16}O_3$	$[M-H]^-$ $[M+H]^+$	Encecalin	Bruker MetaboBASE Personal Library 2.0_in-silico	119632	156849.75	87849	100313.25	6327.5	26258.25	1
370	157.08592	156.07864	12.48	$C_8H_{12}O_3$	$[M+H]^+$	5-oxo-7-octenoic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	8297.5	18574.75	4431.5	11307.25	0	323	
371	197.15368	196.1464	12.48	$C_{12}H_{20}O_2$	$[M+H]^+$	Allyl cyclohexylpropionate	Bruker MetaboBASE Personal Library 2.0_in-silico	3706	7728	1882.5	5045	0	111.25	237
372	219.17437	236.17774	12.52	$C_{15}H_{24}O_2$	$[M-H_2O+H]^+$ $[M+Na]^+$	Capsidiol	Bruker MetaboBASE Personal Library 3.0	9496.25	12708.5	11266	8960	5764	4912.75	238
373	227.20077	226.19349	12.53	$C_{14}H_{26}O_2$	$[M+H]^+$	Myristoleic acid	Bruker MetaboBASE Personal Library 2.0	0	206.25	0	1663.75	2862	6368	239

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
374	119.04903	118.04176	12.56	C_8H_6O	$[M+H]^+$ $[M-H]^-$	2,4,6-Octatriyn-1-ol	Bruker MetaboBASE Personal Library 2.0_in-silico	7560.25	8098	5466.75	4491	788.5	1943.25	
375	187.11164	186.10437	12.61	$C_{13}H_{14}O$	$[M+H]^+$	(all-E)-3,5,7-Tridecatriene-9,11-diyn-1-ol	Bruker MetaboBASE Personal Library 2.0_in-silico	6939	15113.25	3591.75	6461.75	131	1189.25	
376	151.03882	150.03155	12.61	$C_8H_6O_3$	$[M+H]^+$	Piperonal	Bruker MetaboBASE Personal Library 2.0	6152	4722	8008.75	12116	21563.5	19683.75	240
377	283.0974	284.10468	12.61	$C_{17}H_{16}O_4$	$[M-H]^-$ $[M+H]^+$ $[M-H_2O+H]^+$	3,4-dimethoxydalbergione	Bruker MetaboBASE Personal Library 2.0_in-silico	11615	6642	16017.5	36550.75	132702.75	109671.25	241
378	267.19552	266.18825	12.68	$C_{16}H_{26}O_3$	$[M+H]^+$	4-Hydroxy-3-methoxy-2,10-bisaboladien-9-one	Bruker MetaboBASE Personal Library 2.0_in-silico	2542.75	4554.5	1389	1950.75	1393.75	1903.75	
379	249.18486	248.17758	12.69	$C_{16}H_{24}O_2$	$[M+H]^+$	C16:4n-2,5,9,12	Bruker MetaboBASE Personal Library 2.0_in-silico	1933	3517	1198	2186.75	109.5	430	
380	343.24786	342.24058	12.69	$C_{19}H_{34}O_5$	$[M+H]^+$	methyl 9,12-dihydroxy-13-oxo-10-octadecenoate	Bruker MetaboBASE Personal Library 2.0_in-silico	389	528.25	0	1524.25	13245.5	0	
381	457.33147	456.32419	12.76	$C_{29}H_{44}O_4$	$[M+H]^+$	Callystatin A	Bruker MetaboBASE Personal Library 2.0_in-silico	2165.25	94.75	671.5	497	5173	13424.75	
382	245.11721	244.10994	12.78	$C_{15}H_{16}O_3$	$[M+H]^+$	Osthol	Bruker MetaboBASE Personal Library 3.0	4728.25	4397.75	4178	3669.75	1438.5	648	
383	287.09135	286.08407	12.85	$C_{16}H_{14}O_5$	$[M+H]^+$	Naringenin 5-methyl ether	Bruker MetaboBASE Personal Library 3.0	10643.5	12211.75	11200.5	5549.5	1268.75	0	242
384	291.19544	290.18816	12.82	$C_{18}H_{26}O_3$	$[M+H]^+$	8-oxo-9,11-octadecadiynoic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	6754.25	9470	6006	6226	4847.75	3543.75	243
385	271.09645	270.08918	12.87	$C_{16}H_{14}O_4$	$[M+H]^+$	Alpinetin	Bruker MetaboBASE Personal Library 3.0	36115.5	37739.25	17011.25	13291.5	1540.5	1209.5	244
386	203.14312	202.13585	12.87	$C_{14}H_{18}O$	$[M+H]^+$	(±)-Anisoxide	Bruker MetaboBASE Personal Library 2.0_in-silico	1592.25	478	1011.25	746.25	0	0	245
387	329.10197	328.09469	12.91	$C_{18}H_{16}O_6$	$[M+H]^+$	Isotectorigenin, 7-methyl ether	Bruker MetaboBASE Personal Library 3.0	3591.5	5544.5	3548.75	2181.5	22196.75	11091.5	
388	299.1278	298.1205	12.94	$C_{18}H_{18}O_4$	$[M+H]^+$ $[M-H_2O+H]^+$	5,7-Dimethoxy-6-C-methylflavanone	Bruker MetaboBASE Personal Library 2.0_in-silico	23170.5	15710.25	27780.75	11509.75	3989.25	4190.75	246
389	335.25821	352.26148	13.02	$C_{21}H_{36}O_4$	$[M-H_2O+H]^+$ $[M+H]^+$	Montanol	Bruker MetaboBASE Personal Library 2.0_in-silico	3853	19532.25	591	10212	0	0	247
390	303.23183	302.22456	12.99	$C_{20}H_{30}O_2$	$[M+H]^+$	Sandaracopimaric acid	Bruker MetaboBASE Personal Library 3.0	1007	283	7417.5	1201.25	144	1318.25	248

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude samples			
								6E	9E	12E	4E	15E	16E	
391	247.09665	246.08938	12.99	$C_{14}H_{14}O_4$	$[M+H]^+$	Aegelinol	Bruker MetaboBASE Personal Library 2.0_in-silico	0	97.5	0	173.5	3096.5	1818.25	249
392	345.09689	344.08962	13.02	$C_{18}H_{16}O_7$	$[M+H]^+$	3,5-Dihydroxy-6,7,8-trimethoxyflavone	Bruker MetaboBASE Personal Library 2.0_in-silico	33140.75	10018.5	11790.5	5288.5	5924.75	12209.75	250
393	263.12865	264.13593	13.03	$C_{15}H_{20}O_4$	$[M-H]^-$ $[M+H]^+$	2-Methyl-1-[2,4,6-trihydroxy-3-(3-methyl-2-butenyl)phenyl]-1-propanone	Bruker MetaboBASE Personal Library 2.0_in-silico	17846.25	19299.25	16131.75	13265.25	1455.75	5867.25	
394	341.10207	340.09479	13.04	$C_{19}H_{16}O_6$	$[M+H]^+$	Methyl 2-(5-hydroxy-4-oxo-2-phenylchromen-7-yl)oxypropanoate	Bruker MetaboBASE Personal Library 3.0	5610.5	4364	4357.25	4753.75	359.25	0	
395	181.04956	180.04228	13.03	$C_9H_8O_4$	$[M+H]^+$	trans-2,3-Dihydroxycinnamate	Bruker MetaboBASE Personal Library 2.0_in-silico	2993	2828.75	2911.75	2184	0	1055.5	109
396	329.2687	328.26143	13.04	$C_{19}H_{36}O_4$	$[M+H]^+$	MG(16:1(9Z)/0:0/0:0)	Bruker MetaboBASE Personal Library 2.0_in-silico	1805	1973	1030	1163.25	1841	10401.5	
397	357.13333	356.12605	13.06	$C_{20}H_{20}O_6$	$[M+H]^+$	Kenusanone J	Bruker MetaboBASE Personal Library 2.0_in-silico	4419	6898.5	4669.5	3089.25	773.75	675	251
398	191.03385	190.02657	13.08	$C_{10}H_6O_4$	$[M+H]^+$	8H-1,3-Dioxolo[4,5-h][1]benzopyran-8-one	Bruker MetaboBASE Personal Library 2.0_in-silico	2464.5	1737.5	3586	1793.75	1000.75	1400.5	
399	353.23255	352.22528	13.17	$C_{20}H_{32}O_5$	$[M+H]^+$ $[M-H]^-$	Prostaglandin I2	Bruker MetaboBASE Personal Library 3.0	3723.5	7061.25	3642.75	4528.75	665.5	0	
400	217.15861	216.15134	13.14	$C_{15}H_{20}O$	$[M+H]^+$	Furanodiene	Bruker MetaboBASE Personal Library 2.0_in-silico	0	644	0	107.5	5168.5	2009	252
401	313.10706	312.09979	13.17	$C_{18}H_{16}O_5$	$[M+H]^+$	Helilandin A	Bruker MetaboBASE Personal Library 2.0_in-silico	4125.75	2593.25	3570.75	2589.75	2136.25	4553.5	253
402	443.35207	442.3448	13.21	$C_{29}H_{46}O_3$	$[M+H]^+$	Camellenodiol	Bruker MetaboBASE Personal Library 2.0_in-silico	1961	0	518.25	203.25	1249.5	16875.25	254
403	335.22147	334.2142	13.21	$C_{20}H_{30}O_4$	$[M+H]^+$	15(S)-HpEPE	Bruker MetaboBASE Personal Library 2.0_in-silico	1519.75	2617.75	1631.75	1798	555.75	1909	
404	291.23193	308.23523	13.23	$C_{19}H_{32}O_3$	$[M-H_2O+H]^+$ $[M+H]^+$	methyl 9,10-epoxy-12,15-octadecadienoate	Bruker MetaboBASE Personal Library 2.0_in-silico	3425.5	14648	2099.75	6246.75	0	63	
405	279.10252	280.10979	13.27	$C_{18}H_{16}O_3$	$[M-H]^-$, $[M+H]^+$	6-hydroxy-7Z,9E-Octadecadiene-11,13,15,17-tetraynoic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	166468.25	207941.5	137062.75	190695	15425.5	29875.75	
406	239.20059	238.19332	13.29	$C_{15}H_{26}O_2$	$[M+H]^+$	(Z)-3-Nonenyl (E)-2-hexenoate	Bruker MetaboBASE Personal Library 2.0_in-silico	2148	8871	3759.5	2945	0	0	

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
407	253.21634	252.20906	13.32	$C_{16}H_{28}O_2$	$[M+H]^+$	(E)-3,7-Dimethyl-2,6-octadienyl hexanoate	Bruker MetaboBASE Personal Library 2.0_in-silico	197.25	905.5	307	1144.25	6893.75	63081	
408	271.22687	270.2196	13.33	$C_{16}H_{30}O_3$	$[M+H]^+$	7-keto palmitic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	0	616.25	0	638.5	2753.75	42270.5	
409	133.10109	132.09382	13.31	$C_{10}H_{12}$	$[M+H]^+$	Dicyclopentadiene	Bruker MetaboBASE Personal Library 2.0_in-silico	520.75	1331.5	1039	264.25	672.25	2610.25	255
410	179.14317	178.1359	13.33	$C_{12}H_{18}O$	$[M+H]^+$	Geijerone	Bruker MetaboBASE Personal Library 2.0_in-silico	497.25	511.75	165.25	401	740.5	3237.5	
411	235.16926	234.16199	13.33	$C_{15}H_{22}O_2$	$[M+H]^+$	Confertifoline	Bruker MetaboBASE Personal Library 2.0_in-silico	24972.75	36046.25	28823.5	21101.25	5572.75	3393.75	256
412	165.1273	164.12002	13.35	$C_{11}H_{16}O$	$[M+H]^+$	5-Phenyl-1-pentanol	Bruker MetaboBASE Personal Library 2.0_in-silico	358	589	502	288	654.25	2950.25	
413	369.26379	368.25651	13.38	$C_{21}H_{36}O_5$	$[M+H]^+$	gamma-Eudesmol rhamnoside	Bruker MetaboBASE Personal Library 2.0_in-silico	1006.5	3064	0	6059.75	42992	1929	257
414	195.06518	194.0579	13.38	$C_{10}H_{10}O_4$	$[M+H]^+$	Piperonyl acetate	Bruker MetaboBASE Personal Library 2.0_in-silico	1509.5	1410.25	1550.25	2185.25	2835.5	2213.5	
415	187.07535	186.06808	13.43	$C_{12}H_{10}O_2$	$[M+H]^+$ $[M-H2O+H]^+$	2-Naphthylacetic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	6622	6881.75	10574.5	9636	1509	1850.75	
416	207.06518	206.05788	13.42	$C_{11}H_{10}O_4$	$[M+H]^+$ $[M-H_2O+H]^+$	3-Methoxy-4,5-methyl-enedioxycinnamaldehyde	Bruker MetaboBASE Personal Library 2.0_in-silico	4152.75	4047	6062.75	6295	1402.25	1174.75	258
417	355.11755	354.11027	13.43	$C_{20}H_{18}O_6$	$[M+H]^+$	Isolicoflavonol	Bruker MetaboBASE Personal Library 2.0_in-silico	46419	27671.75	28968	19384.25	2430.25	2483.5	259
418	293.21053	292.20325	13.41	$C_{18}H_{28}O_3$	$[M+H]^+$	12,13S-epoxy-9Z,11,15Z-octadecatrienoic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	9895	8708.75	4764.75	6004.5	2792.75	15246.75	
419	249.18498	248.17771	13.45	$C_{16}H_{24}O_2$	$[M+H]^+$	16:4(6Z,9Z,12Z,15Z) (6Z,9Z,12Z,15Z-hexadecatetraenoic acid)	Bruker MetaboBASE Personal Library 2.0_in-silico	4372.75	15648.25	3429	5151.25	341.25	338.75	
420	311.22182	310.21454	13.46	$C_{18}H_{30}O_4$	$[M+H]^+$	13S-HpOTrE	Bruker MetaboBASE Personal Library 2.0_in-silico	14064	17119.75	8402.75	9950.5	2049.25	1341.5	
421	383.22187	382.21459	13.5	$C_{24}H_{30}O_4$	$[M+H]^+$	Gummosin	Bruker MetaboBASE Personal Library 3.0	18399	32873.5	18036.25	13826.75	0	507.25	260
422	269.21136	268.20396	13.53	$C_{16}H_{28}O_3$	$[M+H]^+$ $[M-H_2O+H]^+$	(1S,2S)-3-oxo-2-pentyl-cyclopentanehexanoic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	0	342.75	178.75	1501.25	14758.5	1958	

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
423	357.2789	374.28203	13.55	$C_{24}H_{38}O_3$	$[M-H2O+H]^+$ $[M+H]^+$	1α,24-dihydroxy-25,26,27-trinorvitamin D3 / 1α,24-dihydroxy-25,26,27-trinorcholecalciferol	Bruker MetaboBASE Personal Library 2.0_in-silico	433.5	299.75	0	252.25	13720.25	8563	
424	301.10699	300.09971	13.52	$C_{17}H_{16}O_5$	[M+H]+	Kukulkanin A	Bruker MetaboBASE Personal Library 2.0_in-silico	30089	35206.25	39087	18667	7904.75	32705.25	261
425	457.25868	456.25152	13.6	$C_{27}H_{36}O_6$	$[M+H]^+$ $[M-H_2O+H]^+$	Lucidenic acid F	Bruker MetaboBASE Personal Library 2.0_in-silico	9192.25	9213.75	6414.5	8555.5	1268	88.25	262
426	313.14341	312.13613	13.58	$C_{19}H_{20}O_4$	$[M+H]^+$	Gancaonin V	Bruker MetaboBASE Personal Library 2.0_in-silico	1046.75	2498.75	2142.25	2148.25	210.5	1002.75	263
427	291.23188	290.22461	13.61	$C_{19}H_{30}O_2$	$[M+H]^+$	Epietiocholanolone	Bruker HMDB Metabolite Library_2.0	2440.75	3350	1868.5	2098.25	325.5	967.75	
428	305.24765	304.24037	13.61	$C_{20}H_{32}O_2$	$[M+H]^+$	(-)-Cladielline	Bruker MetaboBASE Personal Library 2.0_in-silico	1169	164.5	3746	1550.75	5404.75	4457.25	
429	321.24343	322.25071	13.63	$C_{20}H_{34}O_3$	$[M-H]^-$ $[M+H]^+$	8(S)-HETrE	Bruker MetaboBASE Personal Library 2.0_in-silico	3021	1603.75	11002.25	4411.25	13934	11232.5	
430	373.29512	372.28785	13.67	$C_{21}H_{40}O_5$	$[M+H]^+$	1-Glyceryl ricinoleate	Bruker MetaboBASE Personal Library 3.0	7033.5	2456	6647.5	3362	0	375.5	
431	271.09633	270.08905	13.67	$C_{16}H_{14}O_4$	$[M+H]^+$	(E)-1-(2,6-dihydroxy-4-methoxyphenyl)-3-phenylprop-2-en-1-one	MoNA-export-GNPS_QTOF.msp	611881.5	661345.25	655435	464812.5	73173.75	215456	
432	337.23707	336.22979	13.69	$C_{20}H_{32}O_4$	$[M+H]^+$	15-epi-PGA1	Bruker MetaboBASE Personal Library 2.0	2543	6931.5	3669.5	3397	0	179.5	
433	355.24857	354.24129	13.68	$C_{20}H_{34}O_5$	$[M+H]^+$ $[M-H]^-$	11β-13,14-dihydro-15-keto PGF2α	Bruker MetaboBASE Personal Library 2.0_in-silico	0	3554	2587.5	0	0	0	
434	355.28422	354.27695	13.69	$C_{21}H_{38}O_4$	$[M+H]^+$	2-Linoleoyl Glycerol	Bruker MetaboBASE Personal Library 3.0	7055.5	4531.25	6458.25	5539.75	10069	0	
435	339.25296	338.2458	13.74	$C_{20}H_{34}O_4$	$[M+H]^+$, $[M+Na]^+$	(±)8,9-DHET	Bruker MetaboBASE Personal Library 2.0_in-silico	6688.5	17903.5	12599	7016.25	0	169.5	
436	191.07024	190.06296	13.71	$C_{11}H_{10}O_3$	$[M+H]^+$	Hymecromone methyl ether	Bruker MetaboBASE Personal Library 2.0_in-silico	12630.5	9924.25	11446.75	8133.75	2223.75	1544.25	
437	209.08085	208.07357	13.72	$C_{11}H_{12}O_4$	$[M+H]^+$	DL-Benzylsuccinic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	3040.25	2164.25	3015.25	2275.75	838.25	208	
438	281.24749	280.24022	13.73	$C_{18}H_{32}O_2$	$[M+H]^+$	11-Hexadecynyl acetate	Bruker MetaboBASE Personal Library 2.0_in-silico	3286.25	2074.75	3458.75	2556.75	2971.25	2700.75	

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
439	205.12232	204.11504	13.77	$C_{13}H_{16}O_2$	$[M+H]^+$	Cinnamyl butyrate	Bruker MetaboBASE Personal Library 2.0_in-silico	1038	1425.75	5278.5	638.75	0	4042	264
440	231.1379	230.13063	13.76	$C_{15}H_{18}O_2$	$[M+H]^+$	Eremanthin	MoNA-export-GNPS_QTOF.msp	3848.75	5095.75	4032.25	3001.25	1021	1097	265
441	159.08033	158.07306	13.77	$C_{11}H_{10}O$	$[M+H]^+$	(2-Naphthyl)methanol	Bruker MetaboBASE Personal Library 2.0_in-silico	0	571.75	2130.5	0	0	1523.25	
442	319.2259	318.21863	13.78	$C_{20}H_{30}O_3$	$[M+H]^+$	Galanal A	Bruker MetaboBASE Personal Library 2.0_in-silico	2777.5	4779.75	3097.25	2754	0	936.75	266
443	279.23183	278.22456	13.79	$C_{18}H_{30}O_2$	$[M+H]^+$	Pinolenic Acid	Bruker MetaboBASE Personal Library 3.0	11388.75	15414	9622	12137.25	0	0	267
444	295.22775	296.23502	13.83	$C_{18}H_{32}O_3$	$[M-H]^-$ $[M+H]^+$	Leukotoxin a (9,10-eode)	Bruker MetaboBASE Personal Library 3.0	20789	34391.5	17638.75	16000.25	5060.25	0	
445	387.27472	386.26744	13.85	$C_{21}H_{38}O_6$	$[M+H]^+$	3-methoxy Prostaglandin F1α	Bruker MetaboBASE Personal Library 2.0_in-silico	0	0	0	0	0	2947.25	
446	473.32652	472.31925	13.86	$C_{29}H_{44}O_5$	$[M+H]^+$	Hecogenin acetate	Bruker MetaboBASE Personal Library 3.0	0	0	0	0	2577.5	1554.75	
447	315.2531	314.24583	13.95	$C_{18}H_{34}O_4$	$[M+H]^+$	9,13-dihydroxy-11-octadecenoic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	1837.25	1925.75	1128.5	1205.75	0	304	268
448	271.22774	272.23502	13.97	$C_{16}H_{32}O_3$	$[M-H]^-$ $[M+H]^+$	2-hydroxyhexadecanoic acid	Bruker MetaboBASE Personal Library 3.0	31419.75	30652.5	21920.5	19471	8718.5	47883.75	269
449	237.22139	254.22472	13.97	$C_{16}H_{30}O_2$	$[M-H_2O+H]^+$ $[M+H]^+$	cis-7-Hexadecenoic Acid	Bruker MetaboBASE Personal Library 2.0	28260	29836.25	22857.25	19799	9481.25	73522.25	270
450	219.21081	218.20353	13.97	$C_{16}H_{26}$	$[M+H]^+$	(3E,7E)-4,8,12-Trimethyl-1,3,7,11-tridecatetraene	Bruker MetaboBASE Personal Library 2.0_in-silico	11873.25	13280.5	9300.5	6403.5	4546.5	32821.25	271
451	171.13792	170.13065	13.99	$C_{10}H_{18}O_2$	$[M+H]^+$	delta-Decalactone	Bruker MetaboBASE Personal Library 3.0	1323.25	1295.5	1063	953.75	439.5	2855.5	272
452	301.23758	300.23031	13.99	$C_{17}H_{32}O_4$	$[M+H]^+$	MG(0:0/14:1(9Z)/0:0) (2-myristoleoyl-glycerol)	Bruker MetaboBASE Personal Library 2.0_in-silico	0	624.75	0	2768.75	10846	12397.25	
453	199.16935	198.16208	14.01	$C_{12}H_{22}O_2$	$[M+H]^+$	cis-5-dodecenoic acid	Bruker MetaboBASE Personal Library 3.0	1445.75	1174	1070.25	1398.5	762.25	3140	273
454	313.27393	312.26659	14.04	$C_{19}H_{36}O_3$	$[M+H]^+$ $[M-H_2O+H]^+$	Ricinoleic Acid methyl ester	Bruker MetaboBASE Personal Library 3.0	4022.25	6992.5	3931.5	3102.25	757.75	1352.5	274
455	253.25277	252.2455	14.03	$C_{17}H_{32}O$	$[M+H]^+$	7-Ethyl-4-pentadecen-6-one	Bruker MetaboBASE Personal Library 2.0_in-silico	2343.75	5090.25	1584.25	1584.75	0	87	275
456	545.38374	544.37646	14.05	$C_{33}H_{52}O_6$	$[M+H]^+$	Ganoderic acid Mi	Bruker MetaboBASE Personal Library 2.0_in-silico	117	880.75	0	108.5	6072	3724	276

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
457	293.10211	292.09484	14.03	$C_{15}H_{16}O_6$	$[M+H]^+$	trans-Grandmarin	Bruker MetaboBASE Personal Library 2.0_in-silico	0	0	0	1442.25	2590.25	3522.5	277
458	165.05445	164.04717	14.03	$C_9H_8O_3$	$[M+H]^+$	m-Coumaric acid	Bruker MetaboBASE Personal Library 2.0_in-silico	1255.25	1721	787.5	812.25	203.5	978	218
459	387.12264	386.11536	14.05	$C_{24}H_{18}O_5$	$[M+H]^+$ $[M-H]^-$	8-Cinnamoyl-3,4-dihydro-5,7-dihydroxy-4-phenylcoumarin	Bruker MetaboBASE Personal Library 2.0_in-silico	1458	2291.5	1511.5	1099	0	0	
460	317.2688	316.26135	14.08	$C_{18}H_{36}O_4$	$[M+H]^+$ $[M-H_2O+H]^+$	7,8-dihydroxy stearic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	0	198	0	1926.75	1536	10149.25	
461	199.07535	198.06808	14.08	$C_{13}H_{10}O_2$	$[M+H]^+$	Dehydrosafynol	Bruker MetaboBASE Personal Library 2.0_in-silico	2571.75	1872	2135	1579.5	265.5	107.5	
462	297.24244	296.23517	14.1	$C_{18}H_{32}O_3$	$[M+H]^+$	12S,13R-EpOME	Bruker MetaboBASE Personal Library 2.0_in-silico	304	1626.5	0	1866.25	1075.25	2041.25	
463	505.35249	504.34522	14.11	$C_{30}H_{48}O_6$	$[M+H]^+$	Theasapogenol E	Bruker MetaboBASE Personal Library 2.0_in-silico	0	0	0	0	8336.5	5945.5	278
464	329.23338	330.24065	14.14	$C_{18}H_{34}O_5$	$[M-H]^-$ $[M+H]^+$	9,10,18-trihydroxy-12-octadecenoic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	0	0	0	1431	2665.75	5036.5	279
465	323.25816	322.25085	14.14	$C_{20}H_{34}O_3$	$[M+H]^+$ $[M-H_2O+H]^+$	Austroinulin	Bruker MetaboBASE Personal Library 2.0_in-silico	5356	16110.5	12120.75	6611.75	0	0	280
466	351.25315	368.25664	14.14	$C_{21}H_{36}O_5$	$[M-H_2O+H]^+$ $[M+Na]^+$ $[M+H]^+$	PGF2α methyl ester	Bruker MetaboBASE Personal Library 2.0_in-silico	11192.75	12064.25	6957.75	9237	2056	810.75	
467	275.20074	274.19346	14.14	$C_{18}H_{26}O_2$	$[M+H]^+$	3,6,9,12,15-octadeca-pentaenoic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	5812.5	24393.5	4674.75	9307	2140.75	658.5	
468	341.26877	340.2615	14.13	$C_{20}H_{36}O_4$	$[M+H]^+$	PGF2α Alcohol	Bruker MetaboBASE Personal Library 2.0_in-silico	4844.5	13979.75	10695.5	5720.75	0	0	
469	219.21085	218.20357	14.16	$C_{16}H_{26}$	$[M+H]^+$	7-Ethyl-3,11-dimethyl-dodeca-1,3,6,10-tetraene	Bruker MetaboBASE Personal Library 2.0_in-silico	412.75	291	1426.25	1893.5	4577	23155.5	
470	475.24807	474.24079	14.15	$C_{30}H_{34}O_5$	$[M+H]^+$	Poinsettifolin B	Bruker MetaboBASE Personal Library 2.0_in-silico	1939	5328	1049.25	2061.75	0	0	281
471	237.22149	236.21422	14.16	$C_{16}H_{28}O$	$[M+H]^+$	5-Cyclohexadecen-1-one	Bruker MetaboBASE Personal Library 3.0	3442	1557.5	1223.75	3272.25	11102.75	18571.5	
472	279.23182	278.22454	14.2	$C_{18}H_{30}O_2$	$[M+H]^+$	(E,E)-3,7,11-Trimethyl-2,6,10-dodecatrienyl propionate	Bruker MetaboBASE Personal Library 2.0_in-silico	9248.5	14604.25	8284.75	7727.25	543	3301	

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
473	389.13821	388.13093	14.16	$C_{24}H_{20}O_5$	$[M+H]^+$	Calomelanol D-1	Bruker MetaboBASE Personal Library 2.0_in-silico	1512.5	1893	720.5	1327.25	0	0	282
474	317.21078	316.2035	14.17	$C_{20}H_{28}O_3$	$[M+H]^+$	Pisiferic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	436.5	1456.25	1186.5	4833.25	5211.75	17448.5	283
475	405.13333	404.12606	14.24	$C_{24}H_{20}O_6$	$[M+H]^+$	Calomelanol C	Bruker MetaboBASE Personal Library 2.0_in-silico	55863.25	64157.5	64036.5	81470.75	5087.5	1873.25	284
476	261.22133	260.21405	14.26	$C_{18}H_{28}O$	$[M+H]^+$	5-(1-oxopropan-2-yl)isolongifol-5-ene	Bruker MetaboBASE Personal Library 2.0_in-silico	2086	1763	2157	924.5	506.75	986.75	
477	301.21625	300.20898	14.3	$C_{20}H_{28}O_2$	$[M+H]^+$	6,9,12-Eicosatriynoic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	84	973	547.25	1945.75	2892.75	13098.5	
478	401.30556	400.29829	14.3	$C_{26}H_{40}O_3$	$[M+H]^+$	(17E)-1α,25-dihydroxy-17,20-didehydro-21-norvitamin D3	Bruker MetaboBASE Personal Library 2.0_in-silico	6507.5	843.25	1210.25	0	1419.75	5331.75	
479	299.0914	298.08413	14.29	$C_{17}H_{14}O_5$	$[M+H]^+$	7-hydroxy-8,4'-dimethoxyisoflavone	Bruker MetaboBASE Personal Library 3.0	101773.75	84437.5	90295.25	53274.25	6401.25	4000.75	285
480	299.25819	298.25091	14.36	$C_{18}H_{34}O_3$	$[M+H]^+$	4-keto stearic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	1374	153.5	1433.25	1201.75	1159.25	2079.75	
481	221.1536	220.14632	14.4	$C_{14}H_{20}O_2$	$[M+H]^+$	2-Methyl-1-phenyl-2-propanyl butyrate	Bruker MetaboBASE Personal Library 2.0_in-silico	1387.75	851.5	830.25	969.75	334	339.25	
482	455.352	454.34475	14.42	$C_{30}H_{46}O_3$	$[M+H]^+$ $[M-H_2O+H]^+$	Dehydro (11,12) ursolic acid lactone	Bruker MetaboBASE Personal Library 3.0	9505.75	11411.75	9150	7792.75	14946.25	13766.5	
483	321.24216	338.2457	14.44	$C_{20}H_{34}O_4$	$[M-H_2O+H]^+$ $[M+Na]^+$ $[M-H]^-$	11-deoxy-PGE1	Bruker MetaboBASE Personal Library 3.0	10526.75	26903.75	20005.75	9793	0	3325	
484	293.2475	292.24023	14.49	$C_{19}H_{32}O_2$	$[M+H]^+$	(E,E)-3,7,11-Trimethyl-2,6,10-dodecatrienyl butyrate	Bruker MetaboBASE Personal Library 2.0_in-silico	2164.25	5881.75	1563.75	2328.25	291.5	465.5	
485	207.17434	206.16706	14.53	$C_{14}H_{22}O$	$[M+H]^+$	9Z,11E,13-Tetradecatrienal	Bruker MetaboBASE Personal Library 2.0_in-silico	4714.75	6511.75	3255.5	3971.5	12071.5	4850.75	
486	387.28909	386.28181	14.52	$C_{25}H_{38}O_3$	$[M+H]^+$	Testosterone isocaproate	Bruker MetaboBASE Personal Library 2.0_in-silico	0	0	0	0	19794	3598.5	
487	387.12269	386.11541	14.51	$C_{24}H_{18}O_5$	$[M+H]^+$	Calomelanol J	Bruker MetaboBASE Personal Library 2.0_in-silico	972	2146	0	1322	0	0	286
488	339.25321	338.24594	14.53	$C_{20}H_{34}O_4$	$[M+H]^+$	(±)14,15-DHET	Bruker MetaboBASE Personal Library 2.0_in-silico	3308.75	7598.5	3133	3116	0	0	

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
489	415.31994	414.31266	14.52	$C_{27}H_{42}O_3$	$[M+H]^+$	(22E)-(24R)-24,25-dihydroxy-22,23-didehydrovitamin D3	Bruker MetaboBASE Personal Library 2.0_in-silico	165	61	84.25	0	3156.25	1893	
490	253.21622	270.21953	14.52	$C_{16}H_{30}O_3$	$[M-H_2O+H]^+$ $[M+H]^+$	9-Hexadecenoic acid, 12-hydroxy-, (Z)-(+)-	Bruker MetaboBASE Personal Library 2.0_in-silico	1066.75	1098.5	632.75	397.75	389.25	10939.25	
491	225.2213	224.21402	14.54	$C_{15}H_{28}O$	$[M+H]^+$	8E,10Z-Pentadecadien-1-ol	Bruker MetaboBASE Personal Library 2.0_in-silico	131.25	0	311.25	184.5	362.25	2645	
492	257.2113	256.20403	14.58	$C_{15}H_{28}O_3$	$[M+H]^+$	Lyngbic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	2386	3531.5	1221.25	1564.75	2574.25	1801.5	
493	545.38391	544.37663	14.6	$C_{33}H_{52}O_6$	$[M+H]^+$	11α-Hemiglutaryloxy-1,25-dihydroxyvitamin D3	Bruker MetaboBASE Personal Library 2.0_in-silico	241	359.25	61.75	0	11396.75	5801.75	
494	263.23706	262.22976	14.61	$C_{18}H_{30}O$	$[M+H]^+$ $[M-H_2O+H]^+$	Farnesyl acetone	Bruker MetaboBASE Personal Library 3.0	78895.5	89342.75	67287.5	71669.75	7502.25	3171.75	
495	281.24763	280.24035	14.61	$C_{18}H_{32}O2$	$[M+H]^+$	Linoleic acid	Bruker HMDB Metabolite Library_2.0	55538.75	61807.75	48993.5	49519.75	5253.75	3305	17
496	297.2434	298.25067	14.79	$C_{18}H_{34}O_3$	$[M-H]^-$ $[M+H]^+$	6R,7S-epoxy-octadecanoic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	15956.75	27655	13092.25	18014	72278.5	6672.75	
497	197.15358	196.1463	14.62	$C_{12}H_{20}O_2$	$[M+H]^+$	Artemisia alcohol acetate	Bruker MetaboBASE Personal Library 2.0_in-silico	1701.25	2612.25	2232	2581.75	212.75	0	287
498	221.22649	220.21921	14.62	$C_{16}H_{28}$	$[M+H]^+$	4,8,12-Trimethyl-1,3E,7E,11-tridecatetraene	Bruker MetaboBASE Personal Library 2.0_in-silico	1893.5	1830.5	1892.75	1968.75	0	0	288
499	211.16934	210.16206	14.62	$C_{13}H_{22}O_2$	$[M+H]^+$	2-Propenyl cyclohexanebutanoate	Bruker MetaboBASE Personal Library 2.0_in-silico	2986.25	3156.25	2733.75	2716.25	146.5	115.75	
500	185.1536	184.14632	14.61	$C_{11}H_{20}O_2$	$[M+H]^+$	6E-Nonenyl acetate	Bruker MetaboBASE Personal Library 2.0_in-silico	2250.25	2485	2032.5	2030	454	0	
501	473.36273	472.35545	14.63	$C_{30}H_{48}O_4$	$[M+H]^+$	26,27-diethyl-1α,25-dihydroxy-20,21-didehydro-23-oxavitamin D3	Bruker MetaboBASE Personal Library 2.0_in-silico	1827.25	3060.5	3222	2834.5	47559.75	24519.25	
502	325.10703	324.09976	14.65	$C_{19}H_{16}O_5$	$[M+H]^+$	2,3-dehydro-UWM6	Bruker MetaboBASE Personal Library 2.0_in-silico	1700.75	1679.5	2717.25	494.25	281.5	757.25	
503	157.10109	156.09381	14.66	$C_{12}H_{12}$	$[M+H]^+$	2,6-Dimethylnaphthalene	Bruker MetaboBASE Personal Library 2.0	1062.5	2786.25	2678	1812.75	291	647.75	
504	307.22679	306.21958	14.67	$C_{19}H_{30}O_3$	$[M+H]^+$ $[M-H_2O+H]^+$ $[M-H]^-$	Androst-5-ene-3beta,17beta,19-triol	Bruker MetaboBASE Personal Library 2.0_in-silico	2053.75	3435.25	1143	1169	0	87.75	

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude samples			
								6E	9E	12E	4E	15E	16E	
505	475.37787	474.3706	14.68	C30H50O4	[M+H]+	Priverogenin B	Bruker MetaboBASE Personal Library 2.0_in-silico	0	541	205.25	585.5	32349.25	19314.75	289
506	179.14301	178.13574	14.69	C12H18O	[M+H]+	Quinceoxepine	Bruker MetaboBASE Personal Library 2.0_in-silico	2087.75	3136.5	1170.25	1806	2987.75	1383.75	
507	443.35165	442.34437	14.72	C29H46O3	[M+H]+	(22E)-1α,25-dihydroxy-26,27-dimethyl-22,23-didehydrocholecalciferol	Bruker MetaboBASE Personal Library 2.0_in-silico	11990.25	1527.25	2692.25	623.25	4148.75	7526.75	
508	269.24768	268.24033	14.77	C17H32O2	[M+H]+ [M-H2O+H]+	cis-7-Hexadecenoic Acid methyl ester	Bruker MetaboBASE Personal Library 3.0	7687.75	9465.75	8771.5	6481.75	1443.5	618.75	
509	283.22689	282.21953	14.78	C17H30O3	[M+H]+ [M-H]- [M-H2O+H]+	Acetylenic acids; 10-Heptadecen-8-ynoic acid, 7-hydroxy-	Bruker MetaboBASE Personal Library 2.0_in-silico	1784	5726	1276.25	2521.75	0	108.25	290
510	233.22638	232.2191	14.78	C17H28	[M+H]+	6,8-Diethyl-4-methyl-3E,5E,7E,9E-dodecatetraene	Bruker MetaboBASE Personal Library 2.0_in-silico	2875.5	3420.25	3416.5	2561.5	560.25	129.25	
511	281.24762	298.25095	14.8	C18H34O3	[M-H2O+H]+ [M+H]+	(9Z,12R)-12-Hydroxyoctadec-9-enoic acid	Bruker MetaboBASE Personal Library 3.0	10438.5	14659.5	7699.5	23381.75	108412.25	8476	
512	327.28956	326.28227	14.84	C20H38O3	[M+H]+ [M-H2O+H]+	2-oxophytanic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	13642	17346	16108	9312.5	834.25	1030.5	
513	345.30004	344.29277	14.84	C20H40O4	[M+H]+	11,12-dihydroxy arachidic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	2514.25	4260.75	3194.25	2130.75	0	317.5	

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
514	225.18496	224.17768	14.84	C14H24O2	[M+H]+	Neryl butyrate	Bruker MetaboBASE Personal Library 2.0_in-silico	2958.75	11184.5	5025	5079	1786.75	1131	291
515	263.23704	262.22977	14.88	C18H30O	[M+H]+	6,10,14-Trimethyl-5,9,13-pentadecatrien-2-one	Bruker MetaboBASE Personal Library 2.0_in-silico	11384.25	25190.25	7640.5	8510.25	46412	8467.25	292
516	391.28446	390.27719	14.92	C24H38O4	[M+H]+	Nutriacholic acid	Bruker HMDB Metabolite Library_2.0	0	0	0	0	6021.75	1949.75	293
517	277.21629	294.21968	14.94	C18H30O3	[M-H2O+H]+ [M+H]+ [M+Na]+ [M+NH4]+	9(S)-HOTrE	Bruker MetaboBASE Personal Library 3.0	648286	513315.25	535754.5	637242.25	35031.75	93474.25	
518	207.13791	206.13064	14.94	C13H18O2	[M+H]+	Etrogol	Bruker MetaboBASE Personal Library 2.0_in-silico	3201.25	4627	2683.75	3497.5	401.75	475	294
519	457.36769	456.36041	15.06	C30H48O3	[M+H]+	Soyasapogenol E	Bruker MetaboBASE Personal Library 2.0_in-silico	1087.5	1130.75	0	2232.5	76346.75	35733.75	295
520	499.37788	498.37061	15.07	C32H50O4	[M+H]+	Oleanolic acid acetate	Bruker MetaboBASE Personal Library 3.0	0	0	0	99.25	14361.25	7457.5	296
521	587.39461	586.38733	15.13	C35H54O7	[M+H]+	Ganoderic acid Md	Bruker MetaboBASE Personal Library 2.0_in-silico	0	0	0	0	5366.25	2397.5	276
522	253.2528	252.24552	15.24	C17H32O	[M+H]+	13-heptadecyn-1-ol	Bruker MetaboBASE Personal Library 2.0_in-silico	5102.25	1040.75	6303.75	2270.75	0	1065.75	297
523	331.26321	330.25593	15.24	C22H34O2	[M+H]+	7Z, 10Z, 13Z, 16Z, 19Z-docosapentaenoic acid (n-3 docosapentaenoic acid)	Bruker MetaboBASE Personal Library 2.0_in-silico	0	0	0	0	23640.5	5024.5	298

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
524	205.19508	204.1878	15.22	C15H24	[M+H]+	sesquisabinene	Bruker MetaboBASE Personal Library 2.0_in-silico	14646.25	28761.75	27858	23212.25	3711.75	8128.75	299
525	279.15909	278.15181	15.25	C16H22O4	[M+H]+	Diisobutyl phthalate	Bruker MetaboBASE Personal Library 3.0	4777.25	3078.25	4029	3987.25	5521.5	3996	17
526	205.08592	204.07865	15.27	C12H12O3	[M+H]+	3-Butylidene-7-hydroxyphthalide	Bruker MetaboBASE Personal Library 2.0_in-silico	7458	5367.75	6084	6428.75	4686.5	5094.25	300
527	411.27438	410.26713	15.3	C23H38O6	[M+H]+ [M+Na]+ [M-H2O+H]+	PGF2α-11-acetate methyl ester	Bruker MetaboBASE Personal Library 2.0_in-silico	2274.75	7480.5	1569	3216.25	0	0	
528	109.10107	108.09379	15.27	C8H12	[M+H]+	4-Vinylcyclohexene	Bruker MetaboBASE Personal Library 2.0_in-silico	1445	3554.5	3093.75	2656.5	2328.25	1181.75	
529	177.09095	176.08368	15.34	C11H12O2	[M+H]+	3-(4-Methoxyphenyl)-2-methyl-2-propenal	Bruker MetaboBASE Personal Library 2.0_in-silico	0	5165.5	60.5	2030.5	0	0	
530	485.36252	484.35524	15.35	C31H48O4	[M+H]+	1-Hydroxyprevitamin D3 diacetate	Bruker MetaboBASE Personal Library 2.0_in-silico	951.5	73	0	0	11659.75	5852.75	
531	255.23203	254.22475	15.38	C16H30O2	[M+H]+	11Z-hexadecenoic acid	Bruker MetaboBASE Personal Library 2.0	2443.75	3995.75	3068	2075	0	4290.5	301
532	477.39371	476.38643	15.42	C30H52O4	[M+H]+	Panaxatriol	Bruker MetaboBASE Personal Library 2.0_in-silico	80	1123.75	245.5	4229	0	16218.25	302
533	357.27945	356.27287	15.43	C24H36O2	[M+H]+, [M-H2O+H]+	4,8,12,15,19,21-tetracosahexaenoic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	323	0	334	1549	344337.5	106819.75	

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
534	297.24251	296.23518	15.5	C18H32O3	[M+H]+ [M+NH4]+ [M+Na]+ [M-H2O+H]+	13(R)-HODE	Bruker MetaboBASE Personal Library 3.0	124031.5	225428.25	99084.75	109842.25	2551.25	15166.25	
535	473.36265	472.35537	15.52	C30H48O4	[M+H]+	Momordicin I	Bruker MetaboBASE Personal Library 2.0_in-silico	0	0	0	439.5	47103.5	29170.25	303
536	283.26333	282.25602	15.59	C18H34O2	[M+H]+ [M-H2O+H]+	Petroselinic acid	Bruker MetaboBASE Personal Library 3.0	31455	28278.75	34576.25	26185.5	5227.25	7044.25	304
537	273.24251	272.23524	15.58	C16H32O3	[M+H]+	3-hydroxy-hexadecanoic acid	Bruker MetaboBASE Personal Library 2.0	0	138.25	0	1853.25	0	9290.25	
538	431.31563	430.30933	15.68	C27H42O4	[M+H]+ [M+HCOOH-H]- [M-H]-, [M+Na]+	3β-Hydroxy-5α,6α-epoxy-9-oxo-9,10-seco-5-cholest-7-en-11-al	Bruker MetaboBASE Personal Library 2.0_in-silico	163	458.5	138.25	727	28708	14998.5	
539	201.185	200.17772	15.66	C12H24O2	[M+H]+	Lauric acid	Bruker MetaboBASE Personal Library 3.0	701	888	575.25	3259.5	6733.75	7190.25	305
540	205.19511	204.18784	15.69	C15H24	[M+H]+	sesquisabinene	Bruker MetaboBASE Personal Library 2.0_in-silico	68292	3238	25012.75	4385	4962.25	1022	299
541	471.38323	470.37595	15.67	C31H50O3	[M+H]+	Momoridcin	Bruker MetaboBASE Personal Library 2.0_in-silico	0	0	0	0	9020.5	1353.25	

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
542	371.14896	370.14169	15.67	C21H22O6	[M+H]+	2',4'-Dihydroxy-3'-isovaleryloxy-6'-methoxychalcone	Bruker MetaboBASE Personal Library 2.0_in-silico	12874.75	10340.25	13338	7559.75	1603	470.5	
543	253.25272	252.24545	15.66	C17H32O	[M+H]+	7-Ethyl-4-pentadecen-6-one	Bruker MetaboBASE Personal Library 2.0_in-silico	5842.75	6072.75	4508.25	3489	0	442.75	
544	149.1325	148.12523	15.69	C11H16	[M+H]+	Ectocarpen	Bruker MetaboBASE Personal Library 2.0_in-silico	9810	718.25	3883.75	448	1907	0	
545	475.37794	474.37067	15.67	C30H50O4	[M+H]+	26,27-diethyl-1α,25-dihydroxy-22-oxavitamin D3 / 26,27-diethyl-1α,25-dihydroxy-22-oxacholecalciferol	Bruker MetaboBASE Personal Library 2.0_in-silico	1723	624.75	1024.25	492.25	38543	23248.25	
546	457.36771	456.36043	15.72	C30H48O3	[M+H]+	(20S)-20-butyl-1α,25-dihydroxy-16,17-didehydro-21-norvitamin D3	Bruker MetaboBASE Personal Library 2.0_in-silico	3388.75	485.25	1075	1150	43163	12480.5	
547	191.17943	190.17215	15.76	C14H22	[M+H]+	7-Ethyl-3,5-dimethyl-2E,4E,6E,8E-decatetraene	Bruker MetaboBASE Personal Library 2.0_in-silico	0	112.75	0	0	10943	6126	
548	329.26879	328.26152	15.81	C19H36O4	[M+H]+	MG(0:0/16:1(9Z)/0:0)	Bruker MetaboBASE Personal Library 2.0_in-silico	840.5	1207	422.75	2406.75	6769.5	8330.5	
549	301.21638	300.2091	15.8	C20H28O2	[M+H]+ [M-H]-	Dehydroabietic acid	Bruker MetaboBASE Personal Library 3.0	772.25	544.5	1019.75	2176.75	5772	12527.5	129
550	491.37337	490.36583	15.86	C30H50O5	[M+H]+ [M-H2O+H]+	Alisol A	Bruker MetaboBASE Personal Library 3.0	5363.5	5056.5	10342.25	4389	220866.75	164891.25	

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
551	309.24258	308.23531	15.87	C19H32O3	[M+H]+ [M+Na]+ [M-H2O+H]+	3-Methyl-5-pentyl-2-furannonanoic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	11538	42539	9443.5	13573	0	756.5	
552	321.2423	320.23502	15.86	C20H32O3	[M+H]+	Crispane	Bruker MetaboBASE Personal Library 2.0_in-silico	1703	2877.75	2908	2022	2234	371	306
553	281.2472	280.23992	15.86	C18H32O2	[M+H]+	Stearolic acid	Bruker MetaboBASE Personal Library 3.0	2196.5	2869.25	2761.75	2551.25	422.25	0	307
554	339.25353	338.24626	15.89	C20H34O4	[M+H]+	Zoapatanol	Bruker MetaboBASE Personal Library 2.0_in-silico	3022	5329.5	5605.25	0	0	0	308
555	381.30005	380.29277	15.95	C23H40O4	[M+H]+	Isopersin	Bruker MetaboBASE Personal Library 2.0_in-silico	1957.75	901.25	1631.25	958	0	10337	309
556	269.24757	268.24029	15.99	C17H32O2	[M+H]+	12E-Pentadecenyl acetate	Bruker MetaboBASE Personal Library 2.0_in-silico	2468	2849	2954.75	1875.25	0	0	
557	457.3676	456.36029	16.02	C30H48O3	[M+H]+ [M-H2O+H]+	Olean-12-en-28-oic acid, 3-hydroxy-, (3beta,5xi,9xi,18xi)-	MoNA-export-GNPS_QTOF.msp	4248.25	2866	2556.25	15711	250894.25	190914.5	310
558	369.3	368.29273	16.04	C22H40O4	[M+H]+ [M+Na]+ [M-H2O+H]+ [M-H]-	FAHFA 22:1; FAHFA 2:0/20:1; [M-H]-	MSDIAL-LipidDBs-VS34.msp	6477.75	9944.25	4346.75	4026.25	0	0	
559	441.37275	440.36554	16.05	C30H48O2	[M+H]+ [M-H2O+H]+	3beta-3-Hydroxy-18-lupen-21-one	Bruker MetaboBASE Personal Library 2.0_in-silico	12034.75	5814.75	3817.75	3592.75	177216	88245.25	

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
560	355.2845	354.2772	16.08	C21H38O4	[M+H]+ [M+Na]+	PGF2α Alcohol methyl ether	Bruker MetaboBASE Personal Library 2.0_in-silico	4802.25	13520	1328.5	8661	0	0	
561	337.2738	336.26652	16.06	C21H36O3	[M+H]+	3-Methyl-5-pentyl-2-furanundecanoic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	4516	13228.25	1106.75	7734.75	0	0	311
562	267.26837	266.26111	16.08	C18H34O	[M+H]+ [M-H2O+H]+	13E-Octadecenal	Bruker MetaboBASE Personal Library 2.0_in-silico	52272.5	22727.25	59715.25	35956.25	2510.25	5024	
563	327.28967	326.28229	16.08	C20H38O3	[M+H]+ [M-H2O+H]+	11-Eicosenoic acid, 14-hydroxy-, [R-(E)]-	Bruker MetaboBASE Personal Library 2.0_in-silico	44347	19552	51148	28179.75	1997.25	4313.25	
564	309.24268	308.23534	16.09	C19H32O3	[M+H]+ [M-H2O+H]+	methyl 12,13-epoxy-9,15-octadecadienoate	Bruker MetaboBASE Personal Library 2.0_in-silico	244.75	616.5	0	621.5	43694.25	0	
565	345.30023	344.29295	16.08	C20H40O4	[M+H]+	11,12-dihydroxy arachidic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	15089.25	3331.75	16359.5	5896	0	484	312
566	291.26831	290.26103	16.08	C20H34O	[M+H]+	(-)-Dilophol	Bruker MetaboBASE Personal Library 2.0_in-silico	7352.25	3184	8061.75	4528	550.25	1012.25	313
567	327.25356	326.24629	16.09	C19H34O4	[M+H]+	Avocadyne 4-acetate	Bruker MetaboBASE Personal Library 3.0	0	0	0	117	4655.25	0	314
568	531.36826	530.36099	16.09	C32H50O6	[M+H]+	Acinospesigenin A	Bruker MetaboBASE Personal Library 2.0_in-silico	0	0	0	0	24427.75	18135	315
569	323.12787	322.12059	16.12	C20H18O4	[M+H]+	7-hydroxy-3-[4-hydroxy-3-(3-methylbut-2-enyl)-phenyl]chromen-4-one	MoNA-export-GNPS_QTOF.msp	5730.75	2960	5262.5	1997.75	668	151.5	316

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
570	277.21624	276.20896	16.09	C18H28O2	[M+H]+	Stearidonic Acid	Bruker MetaboBASE Personal Library 2.0	5344.5	10270.5	3889	5483.25	21101	751.5	215
571	315.25306	314.24578	16.13	C18H34O4	[M+H]+	Octadecanedioic acid	Bruker HMDB Metabolite Library_2.0	0	2682.25	0	1029	0	0	317
572	271.1904	270.18313	16.15	C15H26O4	[M+H]+	Ethylene brassylate	Bruker MetaboBASE Personal Library 3.0	0	59	0	1620.25	376.75	4827	318
573	475.37819	474.37091	16.15	C30H50O4	[M+H]+	Priverogenin B	Bruker MetaboBASE Personal Library 2.0_in-silico	7894.5	8293	11819	5481.75	663127.25	371166.5	289
574	301.21613	300.20885	16.15	C20H28O2	[M+H]+	ent-6,16-Kauradien-19-oic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	544.75	212.75	2140.5	566.5	530	376.25	
575	359.2943	358.28702	16.17	C24H38O2	[M+H]+	Hyrtial	Bruker MetaboBASE Personal Library 2.0_in-silico	883.5	114	0	0	61239.5	13378.5	
576	429.33605	428.32877	16.19	C28H44O3	[M+H]+	Ergosterol Peroxide_120246	MoNA-export-GNPS_QTOF.msp	226.5	90	0	1532	8421.5	7456.75	
577	311.25812	310.25084	16.2	C19H34O3	[M+H]+ [M-H]-	Methoprene (S)	Bruker MetaboBASE Personal Library 2.0	2778.25	8869.5	2068.25	3781	0	0	
578	357.30007	356.2926	16.24	C21H40O4	[M+H]+ [M-H2O+H]+	MG(0:0/18:1(9Z)/0:0)	Bruker MetaboBASE Personal Library 2.0_in-silico	9714	3792.25	0	20120.75	545.75	11569	
579	283.26321	282.25594	16.23	C18H34O2	[M+H]+	Petroselinic acid	Bruker MetaboBASE Personal Library 3.0	4653.75	4688.25	8319.75	8766	740.5	754.25	319
580	247.24218	246.2349	16.22	C18H30	[M+H]+	5,7-Diethyl-9-methyl-3E, 5E, 7E,9E-tridecatetraene	Bruker MetaboBASE Personal Library 2.0_in-silico	1502.5	1353	2892.75	2537	106.25	391	
581	349.27387	348.26659	16.24	C22H36O3	[M+H]+	CP 47,497-C8-homolog C-8-hydroxy metabolite	Bruker MetaboBASE Personal Library 2.0	1070.75	4415.25	482.5	2694	0	514.5	

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
582	269.24764	268.24036	16.26	C17H32O2	[M+H]+	cis-7-Hexadecenoic Acid methyl ester	Bruker MetaboBASE Personal Library 2.0	7510.5	4588.5	1591.25	2123.5	6279.25	9982.25	
583	237.22138	236.2141	16.27	C16H28O	[M+H]+	10,12-hexadecadienal	Bruker MetaboBASE Personal Library 2.0_in-silico	3037	1609	399.5	1362.75	2802.25	4187	320
584	297.24202	296.23474	16.28	C18H32O3	[M+H]+	Avenoleic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	268.25	1457.25	1451	3678	1722.5	2423.25	321
585	297.27902	296.27174	16.34	C19H36O2	[M+H]+	Methyl oleate	Bruker MetaboBASE Personal Library 2.0	1354.75	1548.5	1387.5	2496	0	136.75	322
586	475.248	474.24075	16.36	C30H34O5	[M+H]+ [M-H2O+H]+	Rubraflavone B	Bruker MetaboBASE Personal Library 2.0_in-silico	5054.5	15254.25	5289.5	6978.75	0	1497.5	
587	487.37839	504.38167	16.36	C31H52O5	[M-H2O+H]+ [M+H]+	1α,25-dihydroxy-2β-(4-hydroxybutoxy)vitamin D3 / 1α,25-dihydroxy-2β-(4-hydroxybutoxy)cholecalciferol	Bruker MetaboBASE Personal Library 2.0_in-silico	0	60	0	0	48218.25	5892.75	
588	611.45178	610.44451	16.36	C35H62O8	[M+H]+	Trilobalicin	Bruker MetaboBASE Personal Library 2.0_in-silico	0	0	0	1459.5	4920.5	5465.25	323
589	345.27897	344.27169	16.37	C23H36O2	[M+H]+	plastoquinol-1	Bruker MetaboBASE Personal Library 2.0_in-silico	0	0	0	190.75	8725.75	1013.75	324
590	279.2683	278.26102	16.36	C19H34O	[M+H]+	9S,10R-Epoxy-3Z,6Z-nonadecadiene	Bruker MetaboBASE Personal Library 2.0_in-silico	807	1404.75	1101.25	504.5	0	275.25	
591	307.22691	306.21963	16.37	C19H30O3	[M+H]+	10-HODTA methyl ester	Bruker MetaboBASE Personal Library 2.0_in-silico	3632.75	3874.25	535.5	1088.25	0	0	

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
592	469.33133	468.32406	16.46	C30H44O4	[M+H]+	3-oxoglycyrrhetinic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	830.25	690	0	1217	15990	30746.25	325
593	261.22128	260.214	16.44	C18H28O	[M+H]+	5-(1-oxopropan-2-yl)isolongifol-5-ene	Bruker MetaboBASE Personal Library 2.0_in-silico	1468.5	3005.75	3147.75	1834.25	348.5	0	
594	587.39251	586.38524	16.44	C35H54O7	[M+H]+	Ganoderic acid Md	Bruker MetaboBASE Personal Library 2.0_in-silico	0	0	0	0	9099	1534.5	326
595	469.36743	468.36015	16.47	C31H48O3	[M+H]+	Methyl 3-oxo-12-oleanen-28-oate	Bruker MetaboBASE Personal Library 2.0_in-silico	0	0	0	0	35666	3857.75	
596	415.32092	414.31365	16.49	C27H42O3	[M+H]+	16-Dehydroepicalcitriol	Bruker MetaboBASE Personal Library 2.0_in-silico	2374.5	676.25	0	185.5	27721.5	16827.75	
597	489.22738	488.2201	16.49	C30H32O6	[M+H]+ [M-H]-	Epilumaflavanone B	Bruker MetaboBASE Personal Library 2.0_in-silico	7877.25	19103.25	5627.75	10460.25	123	1088	327
598	357.27925	374.28231	16.53	C24H38O3	[M-H2O+H]+ [M+H]+	1α,24-dihydroxy-25,26,27-trinorvitamin D3 / 1α,24-dihydroxy-25,26,27-trinorcholecalciferol	Bruker MetaboBASE Personal Library 2.0_in-silico	0	0	0	0	50609	5773.5	
599	325.23754	324.23026	16.54	C19H32O4	[M+H]+	Avocadynone acetate	Bruker MetaboBASE Personal Library 2.0_in-silico	121.75	916	0	5549.75	12970	26770.5	
600	471.34658	470.3393	16.54	C30H46O4	[M+H]+	Dicyclopenta[a,i]phenanthrene-3a(1H)-carboxylic acid, 10-formyloctadecahydro-9-hydroxy-5a,5b,8,8,10a-pentamethyl-1-(1-methylethenyl)-	MoNA-export-GNPS_QTOF.msp	8331	1123.75	1624.5	0	9601.75	5520.25	328

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
601	307.26319	306.25591	16.54	C20H34O2	[M+H]+	(E,E)-3,7,11-Trimethyl-2,6,10-dodecatrienyl pentanoate	Bruker MetaboBASE Personal Library 2.0_in-silico	14412.75	19527.5	15873.75	7655	124	372.5	
602	399.31124	398.30396	16.55	C23H42O5	[M+H]+	1-Oleoyl-2-acetyl-sn-glycerol	Bruker MetaboBASE Personal Library 2.0	2204.25	1454.75	2325.75	3962	0	0	
603	455.35201	472.35514	16.62	C30H48O4	[M-H2O+H]+ [M+H]+	(2alpha,3beta,5xi,9xi,18xi)-2,3-Dihydroxyolean-12-en-28-oic acid	MoNA-export-GNPS_QTOF.msp	2574.25	3517.75	2229.5	18358.25	190859.25	57649.5	
604	491.37345	490.36618	16.66	C30H50O5	[M+H]+	Camelliagenin C	Bruker MetaboBASE Personal Library 2.0_in-silico	5611.25	3681.25	4761.75	3105.5	257776	170100.75	329
605	263.23706	262.22978	16.68	C18H30O	[M+H]+	6,10,14-Trimethyl-5,9,13-pentadecatrien-2-one	Bruker MetaboBASE Personal Library 2.0_in-silico	8381.75	6441.5	1838.25	2977.75	6873.25	906.25	
606	323.25811	322.25083	16.67	C20H34O3	[M+H]+	Austroinulin	Bruker MetaboBASE Personal Library 2.0_in-silico	3964.5	6589.25	9234.5	13968.5	39051.5	3636	330
607	337.14351	336.13623	16.7	C21H20O4	[M+H]+	Licoagrochalcone B	Bruker MetaboBASE Personal Library 2.0_in-silico	7495.5	3872.5	9438.25	2287	0	0	331
608	277.21625	276.20898	16.72	C18H28O2	[M+H]+	(9Z,14Z)-octadeca-9,14-dien-6-ynoic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	61308	69921.75	13529	25800.75	5454.25	3037	
609	453.33669	452.32941	16.75	C30H44O3	[M+H]+	(22E,24E)-3-Oxo-9,19-cyclolanosta-22,24-dien-26-oic acid	MoNA-export-GNPS_QTOF.msp	4460	1577	827.75	10021	28585.75	39199.75	
610	185.11713	184.10986	16.74	C10H16O3	[M+H]+	4,5-Dihydro-5,5-dimethyl-4-(3-oxobutyl)furan-2(3H)-one	Bruker MetaboBASE Personal Library 2.0_in-silico	3671	3828	757.5	1424.75	0	0	

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude samples			
								6E	9E	12E	4E	15E	16E	
611	337.23742	336.23015	16.73	C20H32O4	[M+H]+	1-Naphthalenepentanoic acid, 5-carboxydecahydro-beta,5,8a-trimethyl-2-methylene-	MoNA-export-GNPS_QTOF.msp	1252.5	3783.5	6140	2116.5	0	0	332
612	291.19539	290.18811	16.73	C18H26O3	[M+H]+	8-hydroxy-17-octadecene-10,12-diynoic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	1051.75	3622.75	4130	2104.25	152.5	98.25	198
613	289.25273	288.24545	16.74	C20H32O	[M+H]+	3,7,11,15-tetramethyl-2E,6E,10E,14-hexadecatetraenal	Bruker MetaboBASE Personal Library 2.0_in-silico	426.5	268.75	701.75	777.5	4190.75	4271.75	
614	295.2633	294.25603	16.78	C19H34O2	[M+H]+	Methyl linoleate	Bruker MetaboBASE Personal Library 2.0	16968.75	13960.75	6767.5	7815.5	4407	1666	1
615	297.24179	296.23452	16.78	C18H32O3	[M+H]+	7-Methoxy-9-methyl-hexadeca-4E,8E-dienoic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	2337.5	2686.5	1642	1740.5	0	847.5	
616	473.36264	472.35528	16.83	C30H48O4	[M+H]+ [M-H2O+H]+	Momordicin I	Bruker MetaboBASE Personal Library 2.0_in-silico	2817.25	2839.25	8253.75	4992.25	255972.5	112234.75	
617	471.34738	470.3401	16.8	C30H46O4	[M+H]+	Pomonic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	15381.5	1784.75	3209.5	1381.5	11142.75	4851.5	333
618	219.17433	218.16705	16.84	C15H22O	[M+H]+ [M-H2O+H]+	beta-Atlantone	Bruker MetaboBASE Personal Library 2.0_in-silico	1397	837.25	1305.5	341.5	2497.75	24485	334
619	237.18478	236.17751	16.84	C15H24O2	[M+H]+	4E,7Z,10Z-Tridecatrienyl acetate	Bruker MetaboBASE Personal Library 2.0_in-silico	1175.5	191.5	268.25	314.75	1834.25	17001.5	

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
620	441.37265	440.36537	16.82	C30H48O2	[M+H]+	11-Oxo-beta-amyrin	Bruker MetaboBASE Personal Library 2.0_in-silico	6860.5	3765.75	2223	13492.75	102694.75	55772.25	335
621	281.24767	280.24039	16.83	C18H32O2	[M+H]+	10E,12Z-Octadecadienoic acid	Bruker MetaboBASE Personal Library 3.0	0	0	171.75	373	14792	851.5	
622	313.27387	312.2666	16.85	C19H36O3	[M+H]+	Ricinoleic Acid methyl ester	Bruker MetaboBASE Personal Library 3.0	2301.75	2939.5	550	1249.75	21319.75	0	
623	323.29446	322.28718	16.88	C21H38O2	[M+H]+ [M-H]-	Isopropyl linoleate	Bruker MetaboBASE Personal Library 3.0	5088.25	1445.25	4146.25	2152.5	0	448.75	336
624	357.30088	358.30815	16.9	C21H42O4	[M-H]- [M+H]+	1-Stearoyl-rac-glycerol	Bruker MetaboBASE Personal Library 3.0	37563.75	9715.75	39094.25	17723.5	1036.25	4751	337
625	305.28392	304.27664	16.9	C21H36O	[M+H]+	3-pentadecylphenol	Bruker MetaboBASE Personal Library 2.0_in-silico	2635.5	674.25	2272	1138.75	0	0	338
626	281.2841	280.27682	16.89	C19H36O	[M+H]+	2-methyl-7R,8S-Epoxy-17-octadecene	Bruker MetaboBASE Personal Library 2.0_in-silico	20088	5430.75	19600.25	8857	125	2044.5	
627	467.33781	468.34509	16.91	C27H48O6	[M-H]- [M+H]+	5β-Cholestane-2β,3α,7α,12α,26,27-hexol	Bruker MetaboBASE Personal Library 2.0_in-silico	0	0	0	244.75	6457	108.5	
628	283.26329	300.26661	16.9	C18H36O3	[M-H2O+H]+ [M+H]+	(R)-10-hydroxystearic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	52354.25	59507	90198.5	37758.75	1205.75	268400	
629	457.36728	456.36001	16.92	C30H48O3	[M+H]+ [M-H]-	(22E)-1α,25-dihydroxy-26,27-dimethyl-22,23-didehydro-24a-homo-20-epivitamin D3	Bruker MetaboBASE Personal Library 2.0_in-silico	2784.25	3458.25	4315.25	4768.75	68375.75	45245.25	
630	439.35708	438.3498	16.98	C30H46O2	[M+H]+	Thujyl 19-trachylobanoate	Bruker MetaboBASE Personal Library 2.0_in-silico	8946.5	5483	12021.25	9388.75	65748.25	39396.25	

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
631	517.38905	516.38178	16.96	C32H52O5	[M+H]+	22-Acetylpriverogenin B	Bruker MetaboBASE Personal Library 2.0_in-silico	1066.75	302.75	0	2183	59165.75	28581.5	
632	265.25261	264.24533	16.97	C18H32O	[M+H]+	9S,10R-Epoxy-6Z-octadecene	Bruker MetaboBASE Personal Library 2.0_in-silico	468	110.5	166	0	1658	18028.5	
633	397.3101	396.30277	17.01	C27H40O2	[M+H]+ [M-H2O+H]+	alpha-Micropteroxanthin B	Bruker MetaboBASE Personal Library 2.0_in-silico	155	161.5	0	0	42251	16087.75	
634	447.34698	446.3397	17.02	C28H46O4	[M+H]+ [M-H2O+H]+	(20S)-1α,25-dihydroxy-20-methoxyvitamin D3 / (20S)-1α,25-dihydroxy-20-methoxycholecalciferol	Bruker MetaboBASE Personal Library 2.0_in-silico	169.75	233.25	0	0	30572.25	13179.75	
635	415.32072	414.31344	17.02	C27H42O3	[M+H]+ [M-H]-	25-hydroxy-23-oxovitamin D3	Bruker MetaboBASE Personal Library 2.0_in-silico	118	0	0	168	15026.5	7594.5	
636	321.27862	320.27134	17.04	C21H36O2	[M+H]+	(E,E)-3,7,11-Trimethyl-2,6,10-dodecatrienyl hexanoate	Bruker MetaboBASE Personal Library 2.0_in-silico	1062.5	3395.75	1997.25	1568.25	0	0	
637	387.2894	386.28212	17.07	C25H38O3	[M+H]+	Testosterone isocaproate	Bruker MetaboBASE Personal Library 2.0_in-silico	0	0	0	0	10460	471.25	
638	299.25817	298.251	17.11	C18H34O3	[M+H]+ [M+Na]+	14-oxo-octadecanoic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	3422.25	3506.25	5975.75	2445	0	31677.75	339
639	253.21617	252.20889	17.11	C16H28O2	[M+H]+	(Z)-3-Decenyl (E)-3-hexenoate	Bruker MetaboBASE Personal Library 2.0_in-silico	1871.75	2966	4876.75	2352.75	259.5	18663.75	
640	271.2267	270.21942	17.11	C16H30O3	[M+H]+	7-keto palmitic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	982.75	1079	2114.25	1193.25	0	7438.25	

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
641	397.33156	396.32429	17.11	C24H44O4	[M+H]+ [M-H]-	FAHFA 24:1; FAHFA 2:0/22:1; [M-H]-	MSDIAL-LipidDBs-VS34.msp	1801.75	3523.5	1651.25	1506.75	0	0	
642	477.39378	476.38651	17.14	C30H52O4	[M+H]+	Panaxatriol	Bruker MetaboBASE Personal Library 2.0_in-silico	2329.75	2161.75	3123	1980.75	213039.25	105034.5	
643	487.34176	486.33448	17.11	C30H46O5	[M+H]+ [M-H]-	Olean-12-en-28-oic acid, 3,15,21,29-tetrahydroxy-, 28,15-lactone, (3β,15β,20β,21β)- (9CI)	MoNA-export-GNPS_QTOF.msp	0	0	0	0	5781.25	4239	
644	255.23187	254.22461	17.15	C16H30O2	[M+H]+ [M-H2O+H]+	11Z-hexadecenoic acid	Bruker MetaboBASE Personal Library 2.0	564.5	899.75	1314	3055.5	565.75	10863	340
645	499.37808	498.3708	17.24	C32H50O4	[M+H]+	Oleanolic acid acetate	Bruker MetaboBASE Personal Library 3.0	1076.25	387	461.75	1204.75	36239.25	41548.5	
646	249.22141	248.21413	17.23	C17H28O	[M+H]+	Avocadenofuran	Bruker MetaboBASE Personal Library 2.0_in-silico	4234.25	7764	6309	5638.25	112.5	1049.75	
647	281.24748	280.24021	17.26	C18H32O2	[M+H]+	14-Octadecynoic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	0	0	773	3282.25	3224.25	39564	
648	309.27903	308.27175	17.26	C20H36O2	[M+H]+	Linoleic Acid ethyl ester	Bruker MetaboBASE Personal Library 2.0	66082	68459.75	112866.5	56232.5	123	6456.75	341
649	125.09585	124.08857	17.25	C8H12O	[M+H]+	5,7-octadienal	Bruker MetaboBASE Personal Library 2.0_in-silico	668.75	1057	231.25	748.75	10991.75	6628.75	
650	453.37244	452.36517	17.25	C31H48O2	[M+H]+	Phyllohydroquinone	Bruker MetaboBASE Personal Library 2.0_in-silico	0	0	224.75	167	63024.5	7258.5	
651	143.10656	142.09929	17.25	C8H14O2	[M+H]+	3Z-Hexenyl acetate	Bruker MetaboBASE Personal Library 2.0_in-silico	455.5	192.5	0	378.25	42699.75	17169.75	342

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
652	425.3271	424.31982	17.31	C25H44O5	[M+H]+	Unoprostone isopropyl ester	Bruker MetaboBASE Personal Library 2.0	1678.5	397	1276.75	1064	0	0	
653	425.37646	424.36918	17.33	C30H48O	[M+H]+	Lupenone	Bruker MetaboBASE Personal Library 3.0	4905.25	1878.75	3470	5165.25	9708	12946	343
654	439.35693	438.34965	17.33	C30H46O2	[M+H]+	alpha,gamma-Onoceradienedione	Bruker MetaboBASE Personal Library 2.0_in-silico	26076.5	8460	8722.25	6198	637816.75	371487	344
655	309.27895	326.28239	17.38	C20H38O3	[M-H2O+H]+ [M+Na]+ [M+H]+	2-oxophytanic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	33507.5	68752.75	51599	35728.5	0	2926.5	
656	397.3101	396.30282	17.39	C27H40O2	[M+H]+	beta-Micropteroxanthin	Bruker MetaboBASE Personal Library 2.0_in-silico	516.25	0	144.25	420.25	19494.25	14352.5	
657	475.3782	474.37093	17.4	C30H50O4	[M+H]+	1α,25-dihydroxy-26,27-dimethyl-24a,24b-dihomo-22-oxa-20-epivitamin D3	Bruker MetaboBASE Personal Library 2.0_in-silico	13388.75	9693	20105.5	5467	1109816.75	617379.25	
658	281.2475	280.24023	17.41	C18H32O2	[M+H]+	11-Hexadecynyl acetate	Bruker MetaboBASE Personal Library 2.0_in-silico	2210.75	2524.5	3988	9875.75	0	3585.5	
659	455.35184	454.34455	17.45	C30H46O3	[M+H]+ [M-H2O+H]+	(3beta,5xi,9xi,13alpha,17alpha,18xi)-3-Hydroxy-13,28-epoxyurs-11-en-28-one	MoNA-export-GNPS_QTOF.msp	32173	3267.5	7585.5	12530.75	74560.5	79868	
660	285.22123	284.21395	17.47	C20H28O	[M+H]+	Retinal	Bruker HMDB Metabolite Library_2.0	1166.25	522.25	1092	1069.5	1440.5	4295	
661	255.23201	254.22474	17.44	C16H30O2	[M+H]+	cis-7-Hexadecenoic Acid	Bruker MetaboBASE Personal Library 3.0	715	502.75	1105.5	1785.5	1809.25	6827.25	

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
662	109.10103	108.09375	17.52	C8H12	[M+H]+	4-Vinylcyclohexene	Bruker MetaboBASE Personal Library 2.0_in-silico	98	0	0	56	4929	1397.75	
663	257.21107	256.20379	17.49	C15H28O3	[M+H]+	Lyngbic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	1136.25	3511.25	994	1326.25	0	0	
664	441.37161	440.36433	17.49	C30H48O2	[M+H]+ [M-H]-	Sebiferic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	18835	10182.25	9822	37920.25	67979	77833.75	
665	383.3158	382.30853	17.61	C23H42O4	[M+H]+	MG(0:0/20:2(11Z,14Z)/0:0)	Bruker MetaboBASE Personal Library 2.0_in-silico	8583.75	11541.5	9595	9399.75	0	2474.25	
666	233.22642	232.21915	17.6	C17H28	[M+H]+	Aplotaxene	Bruker MetaboBASE Personal Library 2.0_in-silico	943.5	1359	2020.25	813.75	75.5	0	
667	297.27903	296.27175	17.61	C19H36O2	[M+H]+	Phytomonic Acid	Bruker MetaboBASE Personal Library 3.0	13589.75	20131	35688.75	9951.5	2223.5	1903.75	
668	251.23705	250.22977	17.59	C17H30O	[M+H]+	8,11-Heptadecadienal	Bruker MetaboBASE Personal Library 2.0_in-silico	1269	2722	4396.5	1585.25	0	175.5	345
669	335.29455	334.28728	17.57	C22H38O2	[M+H]+	(E,E)-3,7,11-Trimethyl-2,6,10-dodecatrienyl heptanoate	Bruker MetaboBASE Personal Library 2.0_in-silico	4759.75	4156.25	2697	2072.75	0	108	
670	325.27395	324.26534	17.63	C20H36O3	[M+H]+ [M+Na]+ [M+NH4]+	14,15-EE-5(Z)-E	Bruker MetaboBASE Personal Library 3.0	118781.25	273020.75	183072.5	130213	0	17797	
671	355.32092	354.31355	17.64	C22H42O3	[M+H]+ [M-H2O+H]+	3-oxo-docosanoic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	58889.25	22061.75	56118.5	43230	2766.75	4138.25	

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
672	295.29976	294.29249	17.64	C20H38O	[M+H]+ [M-H2O+H]+	9R,10S-Epoxy-6Z-eicosene	Bruker MetaboBASE Personal Library 2.0_in-silico	54867.75	18772	48164.5	37184.5	1302.25	2380.25	
673	279.23154	278.22443	17.63	C18H30O2	[M+H]+ [M-H2O+H]+	(E,E)-3,7,11-Trimethyl-2,6,10-dodecatrienyl propionate	Bruker MetaboBASE Personal Library 2.0_in-silico	20079.25	49464.75	31729.25	21391.75	862.25	3739.25	
674	373.33162	372.32435	17.63	C22H44O4	[M+H]+	13,14-dihydroxy-docosanoic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	12237	2949.75	10316.75	5613.25	0	0	
675	311.29509	310.28781	17.67	C20H38O2	[M+H]+	14(Z)-Eicosenoic Acid	Bruker MetaboBASE Personal Library 2.0	2208.5	999.25	2332.75	1733.75	0	0	346
676	305.24746	304.24018	17.69	C20H32O2	[M+H]+	omega-3 Arachidonic Acid	Bruker MetaboBASE Personal Library 2.0	7019	19768	16564.25	8136.75	1026.75	235.75	
677	409.34614	408.33887	17.69	C29H44O	[M+H]+	24-Norursa-3,12-dien-11-one	Bruker MetaboBASE Personal Library 3.0	412	0	0	580.75	2989.25	9326	
678	235.16927	234.16199	17.69	C15H22O2	[M+H]+	Dihydroisoalantolactone	Bruker MetaboBASE Personal Library 2.0_in-silico	2589.25	4120.75	2599.75	3164.25	3202.75	5110.75	347
679	267.2318	266.22453	17.7	C17H30O2	[M+H]+	8E,10E-Pentadecadienyl acetate	Bruker MetaboBASE Personal Library 2.0_in-silico	696.5	748	1724	819.25	0	102.25	
680	461.39811	460.39083	17.72	C30H52O3	[M+H]+	Taraxastane-3beta,16beta,20beta-triol	Bruker MetaboBASE Personal Library 2.0_in-silico	0	1353	213.5	5837	0	7856	
681	385.2737	384.26643	17.75	C25H36O3	[M+H]+	Persicachrome	Bruker MetaboBASE Personal Library 2.0_in-silico	10782	9052.25	12429	7271.75	2078.75	1535.5	348
682	291.23192	290.22465	17.75	C19H30O2	[M+H]+	11beta-Hydroxy-5alpha-androstan-17-one	Bruker MetaboBASE Personal Library 2.0_in-silico	7539.75	32841.75	13542.5	10597	0	1096.75	

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								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
683	277.25246	276.24519	17.81	C19H32O	[M+H]+	5-(1-hydroxybutan-2-yl)isolongifol-5-ene	Bruker MetaboBASE Personal Library 2.0_in-silico	916.5	2323.5	1960.75	1187.75	118.75	193.5	
684	337.30605	336.29877	17.81	C22H40O2	[M+H]+	Butyl 9,12-octadecadienoate	Bruker MetaboBASE Personal Library 3.0	0	1762.25	4894.25	0	0	0	
685	405.35161	404.34434	17.88	C30H44	[M+H]+	4,4'-Diapo-zeta-carotene	Bruker MetaboBASE Personal Library 2.0_in-silico	271.5	323	134	0	7182.75	5335.5	
686	205.15864	204.15136	17.88	C14H20O	[M+H]+	2-Benzylidene-1-heptanol	Bruker MetaboBASE Personal Library 2.0_in-silico	258.75	477.5	192.25	117.75	6950	4877	349
687	245.1899	244.18263	17.89	C17H24O	[M+H]+	Falcarinol	Bruker MetaboBASE Personal Library 2.0_in-silico	131	213.25	0	0	5151	3645	350
688	263.20052	262.19324	17.96	C17H26O2	[M+H]+	Acetylenic acids; 10,16-Heptadecadien-8-ynoic acid, (E)-	Bruker MetaboBASE Personal Library 2.0_in-silico	374.5	2142.5	339.75	1274.5	1979	974.5	
689	459.38225	458.37498	17.97	C30H50O3	[M+H]+	Longispinogenin	Bruker MetaboBASE Personal Library 2.0_in-silico	2222.75	2087.5	770.75	3117.75	51857.25	29365.75	351
690	513.39318	512.3859	18.01	C33H52O4	[M+H]+	Methyl 3b-hydroxy-13(18)-oleanen-28-oate	Bruker MetaboBASE Personal Library 2.0_in-silico	531	1920.75	197.75	1206.75	17136.75	2332.75	
691	355.26374	372.26685	17.96	C24H36O3	[M-H2O+H]+ [M+H]+	cholacalcioic acid / 25,26,27-trinorvitamin D3 24-carboxylic acid / 25,26,27-trinorcholecalciferol 24-carboxylic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	0	0	0	0	0	6912.25	352
692	415.32157	416.32885	17.99	C27H44O3	[M-H]- [M+H]+	Octadecyl cis-p-coumarate	Bruker MetaboBASE Personal Library 2.0_in-silico	3955.75	1626.75	1360	4564	1516	953.75	

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								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
693	397.30997	414.31354	18	C27H42O3	[M-H2O+H]+ [M+H]+	Calicoferol B	Bruker MetaboBASE Personal Library 2.0_in-silico	0	0	0	0	4673	2386	
694	519.40465	518.39692	18.05	C32H54O5	[M+H]+ [M-H2O+H]+	(20R)-24-Hydroxygemini-vitamin D3	Bruker MetaboBASE Personal Library 2.0_in-silico	2070.5	3009.75	12638.25	1735.25	1345.25	142285.25	
695	459.34743	458.34016	18.04	C29H46O4	[M+H]+	3aH-Cyclopenta[a]chrysene-3a-carboxylic acid, 1-acetyleicosahydro-9-hydroxy-5a,5b,8,8,11a-pentamethyl-, (1R,3aS,5aR,5bR,9S,11aR)-	MoNA-export-GNPS_QTOF.msp	0	0	0	0	10973	6517.5	
696	287.23693	286.22965	18.09	C20H30O	[M+H]+	Helicallenal	Bruker MetaboBASE Personal Library 2.0_in-silico	447.5	851.25	790	3237	1531.75	6729.75	
697	425.37749	442.3809	18.16	C30H50O2	[M-H2O+H]+ [M+H]+	9,19-Cyclolanost-25-ene-3,24-diol	Bruker MetaboBASE Personal Library 3.0	3778.25	2901.25	3222.75	692.5	139714.25	78258.25	
698	407.36715	406.35987	18.16	C30H46	[M+H]+	4,4'-Diapophytofluene	Bruker MetaboBASE Personal Library 2.0_in-silico	1785.5	991.5	1217	666.25	37875.5	21362	353
699	281.24743	280.24016	18.21	C18H32O2	[M+H]+	11Z,14E-Hexadecadienyl acetate	Bruker MetaboBASE Personal Library 2.0_in-silico	3577.25	3347.25	6244.25	3996.75	3344.25	4226	
700	205.19503	204.18775	18.2	C15H24	[M+H]+	(2Z,4E,6E)-2,4,6,10-Farnesatetraene	Bruker MetaboBASE Personal Library 2.0_in-silico	753.25	257.75	496.5	477.25	4364.25	180	
701	379.28496	378.27768	18.27	C23H38O4	[M+H]+	[12]-Gingerol	Bruker MetaboBASE Personal Library 2.0_in-silico	3623.5	683.75	4811.25	234.5	704	474.5	354

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								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
702	277.21629	294.21961	18.33	C18H30O3	[M-H2O+H]+ [M+H]+	13(S)-HOTrE	Bruker MetaboBASE Personal Library 3.0	20554.5	78203.5	15903.5	39136.5	2268.25	1819.25	355
703	613.4677	612.46043	18.3	C35H64O8	[M+H]+	Annomuricin A	Bruker MetaboBASE Personal Library 2.0_in-silico	0	978	0	5352	4570.5	6601.5	356
704	309.31529	308.30802	18.32	C21H40O	[M+H]+	9R,10S-Epoxy-6Z-heneicosene	Bruker MetaboBASE Personal Library 2.0_in-silico	10840.75	3832	10129.75	4481.5	0	0	
705	281.24866	282.25593	18.53	C18H34O2	[M-H]- [M+H]+	Elaidic acid	Bruker MetaboBASE Personal Library 3.0	4309	2979.25	5115.5	4770.25	2084	1140.75	357
706	487.37847	486.37119	18.39	C31H50O4	[M+H]+ [M-H]-	3,7-Dihydroxy-25-methoxycucurbita-5,23-dien-19-al	Bruker MetaboBASE Personal Library 2.0_in-silico	0	0	0	0	66304	5296	358
707	441.39403	440.38675	18.41	C27H52O4	[M+H]+	MG(0:0/24:1(15Z)/0:0)	Bruker MetaboBASE Personal Library 2.0_in-silico	21889.5	7240	15629.25	0	12488.5	2742.25	
708	309.27897	308.2717	18.48	C20H36O2	[M+H]+	5(Z),14(Z)-Eicosadienoic Acid	Bruker MetaboBASE Personal Library 2.0	2409	3674.75	6687	3308	0	301.75	
709	339.32578	338.3185	18.51	C22H42O2	[M+H]+	13(Z)-Docosenoic Acid	Bruker MetaboBASE Personal Library 2.0	2688.25	1989.5	2074.25	2031.5	0	195.75	359
710	369.33663	368.32935	18.65	C23H44O3	[M+H]+	22-oxo-tricosanoic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	7397.5	1217.75	1830.5	2449	365.25	0	
711	339.29051	340.29779	18.67	C21H40O3	[M-H]-, [M+H]+	Glycidyl stearate	Bruker MetaboBASE Personal Library 2.0_in-silico	2840.25	3807.75	3789.5	3641.75	0	462	
712	441.37269	440.36542	18.85	C30H48O2	[M+H]+	30:6(12Z,15Z,18Z,21Z,24Z,27Z)	Bruker MetaboBASE Personal Library 2.0_in-silico	2588.75	1525.75	3453	7635	4411	7964.25	

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude samples			
								6E	9E	12E	4E	15E	16E	
713	385.33151	384.32424	18.94	C23H44O4	[M+H]+	MG(0:0/20:1(11Z)/0:0)	Bruker MetaboBASE Personal Library 2.0_in-silico	27849	25580.25	39234.5	30390.25	1015	1632.5	
714	457.38977	456.38208	20.05	C27H52O5	[M+H]+ [M+Na]+	DG(12:0/12:0/0:0)[iso2]	Bruker MetaboBASE Personal Library 2.0_in-silico	0	0	0	776	9701	1510	
715	367.35726	366.34998	20.06	C24H46O2	[M+H]+ [M-H2O+H]+	Nervonic acid	Bruker HMDB Metabolite Library_2.0	6362.25	3320.5	5892.25	3230.75	337	2219.5	239
716	413.36288	412.3556	20.48	C25H48O4	[M+H]+	MG(0:0/22:1(13Z)/0:0)	Bruker MetaboBASE Personal Library 2.0_in-silico	16691.5	12202.75	18932.5	15185.5	1157.5	1484.25	
717	511.43658	510.42931	21.06	C31H58O5	[M+H]+	DG(12:0/16:1(9Z)/0:0)[iso2]	Bruker MetaboBASE Personal Library 2.0_in-silico	1107.75	0	390.5	0	453.25	225.75	
718	271.09642	270.08915	22.27	C16H14O4	[M+H]+	Alpinetin	Bruker MetaboBASE Personal Library 3.0	2668	2306.75	2312.75	2284.5	3127.25	1891.5	244
719	177.05462	176.04734	22.27	C10H8O3	[M+H]+	Herniarin	Bruker MetaboBASE Personal Library 2.0_in-silico	1628.25	1105.25	1462.25	1631.5	2065.25	864.25	360
720	271.09643	270.08915	22.66	C16H14O4	[M+H]+	(E)-1-(2,6-dihydroxy-4-methoxyphenyl)-3-phenylprop-2-en-1-one	MoNA-export-GNPS_QTOF.msp	2720.5	2558	2448	1959.25	2369	2452.5	361
721	177.05461	176.04734	22.87	C10H8O3	[M+H]+	4-Methylumbelliferone	Bruker MetaboBASE Personal Library 2.0_in-silico	1139	928.75	1055.75	1841.5	2098	972	360
722	109.02947	110.03674	5.37	C6H6O2	[M-H]-	Resorcinol	Bruker MetaboBASE Personal Library 2.0	1081	1309	1516.75	1369	0	672.25	362
723	125.02452	126.0318	10.39	C6H6O3	[M-H]-	Hydroxyhydroquinone	Bruker MetaboBASE Personal Library 3.0	4020.25	4114.75	1799	2939.75	211.5	0	363

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								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
724	137.02445	138.03172	8.73	C7H6O3	[M-H]-	p-Salicylic acid	Bruker MetaboBASE Personal Library 3.0	1041.25	1208.75	1460.5	780.25	288.5	866.5	364
725	137.02446	138.03173	6.12	C7H6O3	[M-H]-	3,4-Dihydroxybenzaldehyde	Bruker HMDB Metabolite Library_2.0	46195.75	37476.25	79621	53754.25	27807.25	37671.25	68
726	143.03493	144.04221	5.3	C6H8O4	[M-H]-	4-Ethoxy-4-oxobut-2-enoic acid	Bruker MetaboBASE Personal Library 3.0	357	1167	1494.25	1061.5	0	97.5	
727	145.01419	146.02147	1.15	C5H6O5	[M-H]-	Oxoglutaric acid	Bruker HMDB Metabolite Library_2.0	5296.5	1506	3094	2427.75	0	3576	
728	149.06074	150.06801	5.99	C9H10O2	[M-H]-	2-Methoxy-4-vinylphenol	Bruker MetaboBASE Personal Library 3.0	1286.75	5047	1067	2224	0	354.25	17
729	151.04014	152.04742	6.56	C8H8O3	[M-H]-	4-acetoxyphenol	Bruker MetaboBASE Personal Library 2.0	4803.25	3136	2140.5	8163.25	0	160.5	
730	153.01922	154.0265	20.75	C7H6O4	[M-H]-	2,3-Dihydroxybenzoic acid	Bruker MetaboBASE Personal Library 3.0	570.75	947	396.75	1027.5	381.5	742.25	365
731	153.01939	154.02666	20.42	C7H6O4	[M-H]-	gentisic acid	Bruker MetaboBASE Personal Library 3.0	629.5	571.25	370	491.5	235.25	0	366
732	153.0194	154.02668	6.29	C7H6O4	[M-H]-	Protocatechuic acid	Bruker HMDB Metabolite Library_2.0	1068	779	3229.75	1078.25	1052.75	1952	47
733	163.03997	164.04724	11.18	C9H8O3	[M-H]-	m-Coumaric acid	Bruker HMDB Metabolite Library_2.0	0	104.25	81	307	35570.25	1819.75	367
734	167.0349	168.04218	6.47	C8H8O4	[M-H]-	Isovanillic acid	Bruker HMDB Metabolite Library_2.0	886.25	1237.75	1384.5	2855.5	2463.25	4439.75	6
735	173.08198	174.08926	7.44	C8H14O4	[M-H]-	Suberic acid	Bruker MetaboBASE Personal Library 3.0	5585.5	8069.5	5905	4637.5	2131.75	1861.5	141

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
736	177.05569	178.06297	9.67	C10H10O3	[M-H]-	Coumarinic acid methyl ether	Bruker MetaboBASE Personal Library 3.0	902.75	1353	2840.25	1262.75	4800.25	1319	163
737	179.03472	180.04199	11.64	C9H8O4	[M-H]-	Caffeic acid	Bruker HMDB Metabolite Library_2.0	11440.25	8938.5	13006.75	13262.25	1161.5	2837.5	366
738	181.05059	182.05787	5.08	C9H10O4	[M-H]-	Hydroxyphenyllactic acid	Bruker MetaboBASE Personal Library 2.0	1952.5	2157.75	2268	1309	0	0	
739	185.11835	186.12563	8.68	C10H18O3	[M-H]-	10-hydroxy-2E-decenoic acid	Bruker MetaboBASE Personal Library 3.0	1646.75	3012.25	1494	806.75	0	0	
740	187.09762	188.1049	8.3	C9H16O4	[M-H]-	Azelaic acid	Bruker HMDB Metabolite Library_2.0	14523.5	23949.75	17900.75	12517	11651.75	9852.5	
741	191.01969	192.02697	2.08	C6H8O7	[M-H]-	Citric acid	Bruker HMDB Metabolite Library_2.0	4767	4266.25	2776.25	3922.75	0	2956.25	368
742	191.05605	192.06333	1.12	C7H12O6	[M-H]-	Quinic acid	Bruker MetaboBASE Personal Library 3.0	2495	2821.5	6915.75	7150.75	865.5	7192.75	23
743	191.07131	192.07859	10.6	C11H12O3	[M-H]-	Ethyl-p-coumarate	Bruker MetaboBASE Personal Library 3.0	12047.25	7529.25	5269.75	6598.5	983	33542.25	
744	193.03532	194.0426	1.06	C6H10O7	[M-H]-	2-keto-D-Gluconic acid	Bruker MetaboBASE Personal Library 3.0	8382.5	2158	5357.25	3458.75	0	6961.75	369
745	193.05043	194.05771	11.21	C10H10O4	[M-H]-	Scytalone	Bruker MetaboBASE Personal Library 3.0	0	0	0	160.5	8083.75	3104.75	
746	193.05052	194.0578	8.62	C10H10O4	[M-H]-	Erbstatin Analog	Bruker MetaboBASE Personal Library 3.0	4884.25	3321	3748.25	3711.5	3313.25	2226.5	
747	193.05061	194.05789	7.86	C10H10O4	[M-H]-	3-Hydroxy-4-methoxycinnamic aicd	Bruker HMDB Metabolite Library_2.0	24832.5	26541.5	64955.5	44785.25	13186.75	19764.5	6

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
748	193.05064	194.05791	7.68	C10H10O4	[M-H]-	ferulic acid	Bruker MetaboBASE Personal Library 3.0	32544.75	48260.75	32990	105824.25	105377.25	160990.25	366
749	195.05094	196.05822	1.08	C6H12O7	[M-H]-	D-Gluconic acid	Bruker MetaboBASE Personal Library 3.0	6799.75	4385	11533.5	2647.75	0	8388	322
750	201.11326	202.12054	9.12	C10H18O4	[M-H]-	Sebacic acid	Bruker HMDB Metabolite Library_2.0	1366	799.75	1213.75	837.5	1367.75	1772	
751	203.03503	204.04231	7.6	C11H8O4	[M-H]-	1,4-Dihydroxy-2-naphthoic acid	Bruker MetaboBASE Personal Library 3.0	744.75	731.5	1246.75	1666.25	1510.75	1771.5	
752	207.06615	208.07342	7.94	C11H12O4	[M-H]-	DL-Benzylsuccinic acid	Bruker MetaboBASE Personal Library 2.0	828.5	767.25	1745.75	117	0	0	
753	207.0662	208.07347	8.86	C11H12O4	[M-H]-	Dimethylcaffeic acid	Bruker MetaboBASE Personal Library 3.0	40736	22518.5	71166.25	27571.5	2369.75	4132.5	370
754	215.12894	216.13622	9.89	C11H20O4	[M-H]-	Undecanedioic acid	Bruker HMDB Metabolite Library_2.0	448	383.75	694.75	0	0	3391	
755	215.16513	216.1724	10.9	C12H24O3	[M-H]-	12-Hydroxydodecanoic acid	Bruker MetaboBASE Personal Library 3.0	945	926.75	178.75	2876.25	2056.75	5190.5	
756	235.06114	236.06841	7.27	C12H12O5	[M-H]-	Radicinin	Bruker MetaboBASE Personal Library 3.0	0	0	0	0	1639.25	2612.25	22
757	235.09744	236.10472	11.42	C13H16O4	[M-H]-	Dihydro-β-tubaic acid	Bruker MetaboBASE Personal Library 2.0	20312	14944.5	27622.5	17346.75	1098	3584	
758	239.03488	240.04216	12.16	C14H8O4	[M-H]-	1,4-Dihydroxyanthracene-9,10-dione	Bruker MetaboBASE Personal Library 3.0	2526.75	2116.75	1716.25	1679	0	0	
759	243.06619	244.07347	8.73	C14H12O4	[M-H]-	Cearoin	Bruker MetaboBASE Personal Library 2.0	142.75	193.25	0	0	1632.5	412.75	122

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
760	243.12381	244.13109	8.73	C12H20O5	[M-H]-	4-Oxododecanedioic acid	Bruker MetaboBASE Personal Library 3.0	1222.25	1675	1160	1151.5	773.25	392.25	
761	243.19635	244.20363	14.9	C14H28O3	[M-H]-	3-hydroxy-tetradecanoic acid	Bruker MetaboBASE Personal Library 3.0	2799.5	2188.25	882	11485	46431.75	64030.5	
762	243.19642	244.20369	12.54	C14H28O3	[M-H]-	2-Hydroxymyristic Acid	Bruker MetaboBASE Personal Library 3.0	0	0	0	4272.25	5929	11482	371
763	245.04563	246.05291	7.41	C13H10O5	[M-H]-	Hispidin	Bruker MetaboBASE Personal Library 3.0	114	1852.25	0	181	0	0	
764	253.05052	254.0578	12.67	C15H10O4	[M-H]-	Chrysin	Bruker MetaboBASE Personal Library 3.0	10376.75	8718	7255	4784.5	1292.5	1017.75	109
765	253.05065	254.05792	10.07	C15H10O4	[M-H]-	3,4'-dihydroxyflavone	Bruker MetaboBASE Personal Library 3.0	2013.5	2097.5	2189	1959	0	0	
766	255.06618	256.07346	11.47	C15H12O4	[M-H]-	Hydrangenol	Bruker MetaboBASE Personal Library 3.0	1903.75	2743.75	0	250	0	0	372
767	255.06624	256.07352	11.75	C15H12O4	[M-H]-	Pinocembrin	Bruker MetaboBASE Personal Library 3.0	802148	659586	865157.5	724809.75	106266.25	110034.75	109
768	257.1756	258.18288	12.09	C14H26O4	[M-H]-	Tetradecanedioic acid	Bruker MetaboBASE Personal Library 2.0	198.75	211	136	589	1192	2247.5	
769	261.11306	262.12033	12.73	C15H18O4	[M-H]-	1(3H)-Isobenzofuranone, 4-methoxy-5-methyl-6-((3-methyl-2-butenyl)oxy)-	Bruker MetaboBASE Personal Library 3.0	8132.5	5535.5	7560.75	5019.25	1644.5	682	373
770	265.1444	266.15182	11.38	C15H22O4	[M-H]- [M-H-H2O]-	1,4-Dihydroxy-6,6,9a-trimethyl-4,5,5a,6,7,8,9,9a-octahydronaphtho[1,2-c]furan-3(1H)-one	Bruker MetaboBASE Personal Library 3.0	32405.25	57884.5	42038.25	29505.5	1734.5	4724.75	374

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
771	269.04567	270.05295	9.79	C15H10O5	[M-H]-	Apigenin	Bruker MetaboBASE Personal Library 3.0	153248.5	165897.75	192717.25	182190.75	150930.75	124021.75	109
772	269.0819	270.08917	11.55	C16H14O4	[M-H]-	4'-O-Methylhydrangenol	Bruker MetaboBASE Personal Library 3.0	581984.75	397708	711544.75	475011.75	218162.75	248618.25	
773	271.06115	272.06843	8.01	C15H12O5	[M-H]-	(±)-Naringenin	Bruker MetaboBASE Personal Library 2.0	95.25	0	249	0	3114.75	1259.25	109
774	271.22772	272.23499	16.63	C16H32O3	[M-H]-	3-hydroxy-hexadecanoic acid	Bruker MetaboBASE Personal Library 3.0	13050.25	4691.5	4272.75	12700.5	32415.5	53048	375
775	271.22773	272.23501	14.16	C16H32O3	[M-H]-	2-hydroxyhexadecanoic acid	Bruker MetaboBASE Personal Library 3.0	3347	1699	2158.25	4196.5	9731.5	99343.25	
776	275.09291	276.10019	9.82	C15H16O5	[M-H]-	Ursinic acid	Bruker MetaboBASE Personal Library 2.0	912	199	851	360	0	0	376
777	281.08203	282.08931	13.45	C17H14O4	[M-H]-	3-benzyl-4-hydroxy-5-(4-hydroxyphenyl)furan-2(5H)-one	Bruker MetaboBASE Personal Library 3.0	0	0	0	0	2577.75	740	
778	283.06114	284.06841	11.74	C16H12O5	[M-H]-	Genkwanin	Bruker MetaboBASE Personal Library 3.0	83331.75	72535.25	66338	68661	96908	50549.5	269
779	283.06116	284.06843	13.89	C16H12O5	[M-H]-	4',6-Dihydroxy-3'-methoxyaurone	Bruker MetaboBASE Personal Library 3.0	3975.25	3399	3492.25	2199	165.75	0	377
780	283.06118	284.06845	12.16	C16H12O5	[M-H]- [M+Cl]-	Izalpinin	Bruker MetaboBASE Personal Library 3.0	71637.25	217961.5	238739	193024.75	13852.75	9266.25	
781	283.0975	284.10478	11.91	C17H16O4	[M-H]-	Phenethyl Caffeate	Bruker MetaboBASE Personal Library 2.0	486980	358213.25	573995.75	483051.5	75003.5	138749.25	378
782	283.09754	284.10481	19.58	C17H16O4	[M-H]-	Alpinetin methyl ether	Bruker MetaboBASE Personal Library 3.0	856.25	443.25	542.5	564	0	0	

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
783	285.0405	286.04777	9.08	C15H10O6	[M-H]-	Luteolin	Bruker MetaboBASE Personal Library 3.0	52169.25	47423.75	45494	37311	17039	16109.5	379
784	285.07668	286.08396	11.68	C16H14O5	[M-H]-	Naringenin 5-methyl ether	Bruker MetaboBASE Personal Library 3.0	13629.75	19730	13104	47916.75	141637	141347.5	222
785	285.2435	286.25078	17.41	C17H34O3	[M-H]-	Avocadene	Bruker MetaboBASE Personal Library 3.0	503	1115.75	715	703.25	0	115.75	
786	287.05598	288.06325	8.72	C15H12O6	[M-H]-	Eriodictyol	Bruker MetaboBASE Personal Library 3.0	7242.75	7778.5	7059	4087.75	1279.5	829	380
787	287.09254	288.09982	7.44	C16H16O5	[M-H]-	Iriflophenone trimethyl ether	Bruker MetaboBASE Personal Library 2.0	0	0	0	0	0	1708.25	381
788	291.19641	292.20369	14.77	C18H28O3	[M-H]-	(10E,12Z,15Z)-9-oxooctadeca-10,12,15-trienoic acid	Bruker MetaboBASE Personal Library 3.0	5730.75	11004.5	4434.75	5010.75	0	0	
789	293.21194	294.21921	13.37	C18H30O3	[M-H]-	9S-hydroxy-10E,12Z,15Z-octadecatrienoic acid	Bruker MetaboBASE Personal Library 3.0	1959	4365.25	2528	2602.25	0	135.25	141
790	293.21208	294.21936	14.94	C18H30O3	[M-H]-	9-oxo-10E,12Z-octadecadienoic acid	Bruker MetaboBASE Personal Library 3.0	208351.5	303991.5	176024	227794.5	10217.75	27968.5	
791	295.22767	296.23494	14.43	C18H32O3	[M-H]-	(±)12(13)epoxy-9Z-octadecenoic acid	Bruker MetaboBASE Personal Library 2.0	722.5	1676.5	687.5	387	11294.25	3073.75	
792	297.04042	298.0477	11.38	C16H10O6	[M-H]-	3,8-dihydroxy-1-methylanthraquinone-2-carboxylic acid	Bruker MetaboBASE Personal Library 3.0	745.25	1339.25	1586.5	279.25	0	0	
793	297.14957	298.15685	11.36	C19H22O3	[M-H]-	Acerogenin G	Bruker MetaboBASE Personal Library 3.0	0	269.75	3443.5	2197.75	0	0	

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
794	297.24336	298.25064	15.01	C18H34O3	[M-H]-	(9Z,12R)-12-Hydroxyoctadec-9-enoic acid	Bruker MetaboBASE Personal Library 3.0	58693.25	65943	38363.25	51493	1529.75	9682.25	
795	299.05601	300.06329	11.84	C16H12O6	[M-H]-	Chrysoeriol (Luteolin 3'-methyl ether)	MoNA-export-GNPS_QTOF.msp	9314.75	7977.75	8127.25	30876.5	82297.5	132917.25	
796	299.05613	300.0634	10.84	C16H12O6	[M-H]-	5,7-dihydroxy-2-(4-hydroxyphenyl)-3-methoxy-4H-chromen-4-one	MoNA-export-GNPS_QTOF.msp	89260.5	76569	78138.75	47353.75	4793.75	5675	
797	299.05627	300.06354	8.78	C16H12O6	[M-H]- [M+HCOOH -H]-	Tectorigenin	Bruker MetaboBASE Personal Library 3.0	38218.25	48072.75	26702.5	19492.5	2591.25	205.75	382
798	299.09233	300.0996	11.43	C17H16O5	[M-H]-	3,9-Dihydroeucomin	Bruker MetaboBASE Personal Library 3.0	3612.5	2171.5	6413.25	3292.5	327.25	777	
799	299.25895	300.26623	15.59	C18H36O3	[M-H]-	DL-2-hydroxy stearic acid	Bruker MetaboBASE Personal Library 3.0	19943.75	19606.5	22735.25	19366.25	3219.25	8346.75	383
800	301.07174	302.07902	9.28	C16H14O6	[M-H]-	3',5,7-Trihydroxy-3'-methoxyflavanone, Homoeriodictyol	Bruker MetaboBASE Personal Library 3.0	0	116.5	182.75	190.25	2630	2084.25	
801	309.20695	310.21423	12.76	C18H30O4	[M-H]-	9S-hydroperoxy-10E,12Z,15Z-octadecatrienoic acid	Bruker MetaboBASE Personal Library 2.0	18979.25	32017.75	11950	22903.75	1376.75	363.5	
802	309.20697	310.21425	13.49	C18H30O4	[M-H]-	9-oxo-11-(3-pentyl-2-oxiranyl)-10E-undecenoic acid	Bruker MetaboBASE Personal Library 3.0	6207.25	8173.25	4128.5	6441.5	5742.75	1246.25	384

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
803	311.22267	312.22977	14.19	C18H32O4	[M-H]- [M-H-H2O]-	(9S,10E,12Z)-9-hydroperoxyoctadeca-10,12-dienoic acid	Bruker MetaboBASE Personal Library 3.0	467.25	2082.25	753.5	12075.5	179523.5	3544.25	
804	311.29528	312.30256	17.83	C20H40O2	[M-H]-	Stearic Acid ethyl ester	Bruker MetaboBASE Personal Library 3.0	1200.5	627.25	940.25	1015	0	0	
805	313.03511	314.04238	11.42	C16H10O7	[M-H]-	Wedelolactone	Bruker MetaboBASE Personal Library 3.0	941.5	1617	1470	862.75	0	0	
806	313.07161	314.07888	12.14	C17H14O6	[M-H]-	Gnaphaliin	Bruker MetaboBASE Personal Library 3.0	29750.5	30743.5	23234	20202.5	23238.5	30235.25	
807	313.07169	314.07897	13.71	C17H14O6	[M-H]-	Koparin 2'-methyl ether	Bruker MetaboBASE Personal Library 2.0	1653.5	1598.75	1433.75	691	365.75	246	
808	313.10809	314.11537	8.35	C18H18O5	[M-H]-	Deoxysappanone b 7,3'-dimethyl ether	Bruker MetaboBASE Personal Library 2.0	0	0	90.5	135.25	1851.25	545.5	155
809	315.05102	316.0583	10.1	C16H12O7	[M-H]-	Quercetin 3-methyl ether	Bruker MetaboBASE Personal Library 3.0	33929	39805.75	36200	31323.5	60765.25	13809	385
810	315.05105	316.05833	10.86	C16H12O7	[M-H]-	Pinoquercetin	Bruker MetaboBASE Personal Library 3.0	79824.75	83800.25	113369	58999.75	10572.75	6917.5	386
811	323.09224	324.09951	12.91	C19H16O5	[M-H]-	4'-Hydroxywarfarin	Bruker MetaboBASE Personal Library 3.0	1176.5	567.25	1648	1369	520.75	105.75	387
812	327.08736	328.09464	6.93	C18H16O6	[M-H]-	Isotectorigenin, 7-methyl ether	Bruker MetaboBASE Personal Library 3.0	0	652.75	276.75	235.75	0	2543.25	388
813	329.06662	330.07389	12.02	C17H14O7	[M-H]-	Quercetin 3,7-dimethyl ether	MoNA-export-GNPS_QTOF.msp	3288.25	4814.5	4328	4038.5	40662.25	19227.25	389

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
814	329.06674	330.07403	10.36	C17H14O7	[M-H]- [M+Cl]-	5,7-dihydroxy-2-(4-hydroxyphenyl)-3,6-dimethoxy-4H-chromen-4-one	MoNA-export-GNPS_QTOF.msp	123838	131332.5	102108.25	84086.5	45407.25	13838.25	
815	341.10303	342.1103	7.55	C19H18O6	[M-H]-	Mundoserone	Bruker MetaboBASE Personal Library 2.0	0	72.75	0	427.25	187.25	5521.5	4
816	345.13393	346.14121	6.37	C19H22O6	[M-H]-	1,7-Bis(3,4-dihydroxyphenyl)-6-hydroxy-3-heptanone	Bruker MetaboBASE Personal Library 3.0	0	99.75	0	1045.75	826.5	2004	
817	353.08772	354.095	6.17	C16H18O9	[M-H]-	Chlorogenic acid	Bruker MetaboBASE Personal Library 2.0	672	566.75	2640.5	644	0	756.75	390
818	353.08821	354.09548	5.61	C16H18O9	[M-H]-	Cryptochlorogenic acid	Bruker MetaboBASE Personal Library 3.0	731.25	1194	1388.25	593.25	0	368.75	391
819	357.10358	358.11086	1.07	C12H22O12	[M-H]-	Lactobionic acid	Bruker MetaboBASE Personal Library 3.0	1143.5	625.5	1540.5	732.75	0	871	
820	359.07686	360.08414	12.08	C18H16O8	[M-H]-	Irigenin	Bruker MetaboBASE Personal Library 3.0	5453	0	1165	0	0	0	
821	359.07713	360.0844	6.64	C18H16O8	[M-H]-	Rosmarinate	Bruker MetaboBASE Personal Library 2.0	947.75	740	998	1319.5	874	940.25	
822	359.15024	360.15752	8.58	C20H24O6	[M-H]-	Lariciresinol	Bruker MetaboBASE Personal Library 2.0	1015.25	944	851.25	1151.75	1252.75	585.75	392
823	367.21275	368.22002	7.48	C20H32O6	[M-H]-	Thromboxane B3	Bruker MetaboBASE Personal Library 2.0	2864	3296.5	1784.25	2105.75	0	0	
824	371.11355	372.12083	11.59	C20H20O7	[M-H]-	2-ethoxycarbonyl-2-hydroxy-5,7-dimethoxyisoflavanone	Bruker MetaboBASE Personal Library 3.0	13057.75	9670.5	7846	4898.75	0	151.5	

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude samples			
								6E	9E	12E	4E	15E	16E	
825	373.09334	374.10061	11.54	C19H18O8	[M-H]-	Casticin	Bruker MetaboBASE Personal Library 2.0	0	0	0	0	1705.75	882.75	393
826	373.12889	374.13617	8.36	C20H22O7	[M-H]-	Diffractaic acid	Bruker MetaboBASE Personal Library 3.0	628.5	690.25	1055.5	1270.25	1692.5	2292.75	394
827	373.12923	374.1365	9.62	C20H22O7	[M-H]-	Nortrachelogenin	Bruker MetaboBASE Personal Library 3.0	204.75	365.75	302	1094.75	22827.5	2757.5	395
828	375.10854	376.11581	7.61	C19H20O8	[M-H]-	Dihydroatranorin	Bruker MetaboBASE Personal Library 3.0	2180.5	3792	2571	9542.75	19301.25	34720	
829	385.12919	386.13647	10.57	C21H22O7	[M-H]-	3H-Furo[4,3,2-de]indeno [4,5-h]-2-benzopyran-3,6,9-trione, 1,6b,7,8, 9a,10,11,11b-octahydro-11-hydroxy-1-(methoxy-methyl)-9a,11b-dimethyl-, (1S,6bR,9aS,11R,11bR)-	MoNA-export-GNPS_QTOF.msp	11906.75	7161.75	4517.75	3252	406.75	1330.5	
830	397.20193	398.2092	14.35	C24H30O5	[M-H]-	Taprostene	Bruker MetaboBASE Personal Library 2.0	4071.25	5345.25	4252.25	4076.75	638.5	884.5	
831	431.09824	432.10551	7.92	C21H20O10	[M-H]-	Apigenin 7-O-glucoside	Bruker MetaboBASE Personal Library 3.0	1659	1702.25	1752.75	985.25	0	0	396
832	431.09845	432.10572	9.12	C21H20O10	[M-H]-	Emodin 8-glucoside	Bruker MetaboBASE Personal Library 3.0	1885	2868	3750.75	1807.75	0	0	397
833	431.09849	432.10577	8.5	C21H20O10	[M-H]-	Genistein 4'-O-glucoside	Bruker MetaboBASE Personal Library 2.0	45100.75	63727.25	53789	32744	953	0	398

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
834	433.11412	434.1214	8.26	C21H22O10	[M-H]-	7-hydroxy-2-(4-hydroxyphenyl)-5-[(2S,3R,4S,5S,6R)-3,4,5-trihydroxy-6-(hydroxymethyl)oxan-2-yl]oxy-2,3-dihydrochromen-4-one	MoNA-export-GNPS_QTOF.msp	2432.75	5707	3994	4348.5	0	0	
835	439.16102	440.1683	7.74	C21H28O10	[M-H]-	Grandidentoside	Bruker MetaboBASE Personal Library 3.0	224.25	956.75	613.75	422.5	0	0	
836	447.09316	448.10043	8.25	C21H20O11	[M-H]-	petunidin-3-O-arabinoside	Bruker MetaboBASE Personal Library 3.0	0	0	0	0	3819.75	0	114
837	459.38364	460.39092	18.23	C30H52O3	[M-H]-	Protopanaxadiol	Bruker MetaboBASE Personal Library 3.0	0	0	0	0	1843.25	1428	399
838	463.08799	464.09527	8.21	C21H20O12	[M-H]-	Spiraeoside	Bruker MetaboBASE Personal Library 3.0	0	0	0	0	2665.5	0	
839	485.3267	486.33398	15.44	C30H46O5	[M-H]-	(1R,2S,5aR,5bR,7aS,10R,12bR)-2-Hydroxy-10-isopropenyl-3,3,5a,5b,12b-pentamethyl-octadecahydrodicyclopenta[a,i]phenanthrene-1,7a(1H)-dicarboxylic acid	MoNA-export-GNPS_QTOF.msp	1088.25	0	0	0	2193	7475.25	
840	487.3426	488.34987	12.1	C30H48O5	[M-H]-	Arjunolic acid	Bruker MetaboBASE Personal Library 3.0	2199.75	4697.5	3741	2920.75	1148.75	1407.5	
841	495.20189	496.20917	11.53	C28H32O8	[M-H]-	Trichotetronine	Bruker MetaboBASE Personal Library 3.0	5663.75	4520.5	7539.25	4707.25	0	1039.25	

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude samples			
								6E	9E	12E	4E	15E	16E	
842	215.05489	214.04762	8.29	C10H6N4O2	[M+H]+	2-(1h-1,2,4-triazol-5-yl)-1h-isoindole-1,3(2h)-dione	Bruker MetaboBASE Personal Library 2.0_in-silico	0	221.75	0	1393.75	856	2478.5	
843	333.06065	332.05338	8.55	C10H13N4O7P	[M+H]+	2'-Deoxyinosine 5'-monophosphate	Bruker MetaboBASE Personal Library 2.0_in-silico	927.5	1928	2380.25	1082.75	0	0	
844	361.25847	360.25119	8.7	C20H32N4O2	[M+H]+	1-[(3aS,7aR)-5-cyclopentyl-7a-(hydroxymethyl)-1,3,3a,4,6,7-hexahydropyrrolo[3,4-c]pyridin-2-yl]-3-(4-methylpyrazol-1-yl)propan-1-one	Bruker MetaboBASE Personal Library 3.0	0	205.75	0	1828.75	382.5	2402	
845	229.14354	228.13626	9	C13H16N4	[M+H]+	4-(3-phenyl-1,2,4-triazol-4-yl)piperidine	Bruker MetaboBASE Personal Library 3.0	676.5	2171.25	147.25	2817.5	0	0	
846	221.08092	220.07364	9.96	C10H11F3O2	[M+H]+	Trifluoromethylphenylpropanediol	Bruker MetaboBASE Personal Library 2.0_in-silico	267	7048.25	528	37249.75	75843.5	97213	
847	347.07629	346.06901	10.84	C14H14N6OS2	[M+H]+	Glucokinase Activator, Cpd A	Bruker MetaboBASE Personal Library 3.0	1725.5	0	358.75	0	0	0	
848	325.15871	324.15144	12.42	C19H20N2O3	[M+H]+	Bindarit	MoNA-export-GNPS_QTOF.msp	3555.75	4105.25	3631.75	6260.75	0	0	
849	425.30537	424.29809	13.25	C25H41FO4	[M+H]+	2α-Fluoro-19-nor-22-oxa-1α,25-dihydroxyvitamin D3	Bruker MetaboBASE Personal Library 2.0_in-silico	247.5	4243.75	0	0	0	0	
850	393.22749	392.22022	13.99	C23H28N4O2	[M+H]+	PAC-1	Bruker MetaboBASE Personal Library 2.0_in-silico	0	0	0	2172	4261	9098	

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
851	449.25346	448.24618	14.1	C23H36N4O3S	[M+H]+	5-(diethylsulfamoyl)-1-methyl-N-[3-(3-methylpiperidin-1-yl)propyl]-indole-2-carboxamide	Bruker MetaboBASE Personal Library 3.0	0	0	0	596.75	1377.5	5788.75	
852	201.16381	200.15653	17.53	C10H20N2O2	[M+H]+	N-methyl-4-propoxypiperidine-1-carboxamide	Bruker MetaboBASE Personal Library 3.0	1216	1653.5	502.25	653.75	2582.5	2141	
853	459.25302	458.24574	18.55	C26H30N6O2	[M+H]+	N-[2-[benzyl(methyl)amino]ethyl]-2-(3,7-dimethyl-4-oxo-2-phenylpyrazolo[3,4-d]pyridazin-5-yl)propanamide	Bruker MetaboBASE Personal Library 3.0	3280.25	3656.5	4212.5	1411	0	0	
854	297.13323	296.12595	8.06	C16H16N4O2	[M+H]+	N-[(2-ethoxypyridin-3-yl)methyl]-3H-benzimidazole-5-carboxamide	Bruker MetaboBASE Personal Library 3.0	1034.25	1037.75	1318.25	0	0	0	
855	177.05465	176.04738	8.35	C5H8N2O5	[M+H]+ [M-H]-	Ureidosuccinic acid	Bruker HMDB Metabolite Library_2.0	22888.5	14252	18807	22052.5	45901.5	47325.25	
856	417.11835	416.11104	8.8	C18H20N6O2S2	[M+H]+ [M-H2O+H]+	N-(5-ethylsulfanyl-1,3,4-thiadiazol-2-yl)-1-[6-(furan-2-yl)pyridazin-3-yl]piperidine-3-carboxamide	Bruker MetaboBASE Personal Library 3.0	740.25	1073.25	323.5	4890.75	1900.25	10583.25	
857	387.18046	386.17319	9.2	C20H26N4O2S	[M+H]+	[1-(3-ethoxy quinoxalin-2-yl)piperidin-3-yl]-thiomorpholin-4-yl methanone	Bruker MetaboBASE Personal Library 3.0	0	0	0	0	0	2722.75	
858	271.06012	270.05284	9.33	C15H11ClN2O	[M+H]+	N-Desmethyldiazepam (Nordazepam)	Bruker MetaboBASE Personal Library 3.0	1455	1899	1735.5	1300.25	0	0	400

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
859	277.10813	278.1154	9.47	C13H18N4OS	[M-H]- [M+H]+	N-[2-(dimethylamino) ethyl]-4-methyl-2-pyrrol-1-yl-1,3-thiazole-5-carboxamide	Bruker MetaboBASE Personal Library 3.0	20280.25	10219	19513.25	8859	839	1098.75	
860	429.11912	430.1264	9.51	C20H22N4O5S	[M-H]- [M-H2O+H]+ [M+H]+	5-(5-cyclobutyl-1,3,4-oxadiazol-2-yl)-N-(4-morpholin-4-ylphenyl)furan-2-sulfonamide	Bruker MetaboBASE Personal Library 3.0	1685.75	13515.5	600.25	66523.5	48622.75	134277	
861	451.10265	450.09537	10.01	C23H19ClN4O2S	[M+H]+ [M-H]-	2-(4-chlorophenyl)-N-[[3-[3-(2-cyclopropyl-1,3-thiazol-4-yl)phenyl]-1,2,4-oxadiazol-5-yl]methyl]acetamide	Bruker MetaboBASE Personal Library 3.0	1860.25	1474.25	2477.75	1288.5	0	0	
862	187.14814	186.14087	10	C9H18N2O2	[M+H]+	N-(5-acetamidopentyl)acetamide	Bruker MetaboBASE Personal Library 3.0	755.75	1243.75	1684.25	1339.75	0	130.25	
863	463.13913	462.13185	10.08	C24H19FN4O5	[M+H]+	ethyl 4-[[2-[3-[3-(4-fluorophenyl)-1,2,4-oxadiazol-5-yl]-2-oxopyridin-1-yl]acetyl]amino]benzoate	Bruker MetaboBASE Personal Library 3.0	4964.5	3524	4739.75	2308.75	3933.5	9185.75	
864	469.14953	468.14225	10.45	C23H24N4O5S	[M+H]+	N-[(2-methoxyphenyl) methyl]-2-methyl-5-{2-methyl-5,8-dioxo-4H,5H,6H,7H,8H-pyrazolo[1,5-a][1,3]diazepin-3-yl}benzene-1-sulfonamide	Bruker MetaboBASE Personal Library 3.0	0	89.5	0	1477.25	1973.25	2545.75	

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
865	449.15948	448.15221	10.58	C23H21FN6OS	[M+H]+	N-(2-cyanophenyl)-2-[6-[4-(2-fluorophenyl) piperazin-1-yl]pyrimidin-4-yl]sulfanylacetamide	Bruker MetaboBASE Personal Library 3.0	3214.5	2186.25	4724	2168	1194	1704.5	
866	311.12755	310.12027	10.75	C14H19ClN4O2	[M+H]+	Cl-Amidine	Bruker MetaboBASE Personal Library 3.0	108.25	250.5	141.5	306.25	3288.5	2487	
867	329.13843	328.13115	10.78	C20H16N4O	[M+H]+	3-(8-benzoyl-6,7-dihydro-5H-imidazo[1,2-a]py-rimidin-2-yl)benzonitrile	Bruker MetaboBASE Personal Library 3.0	0	0	0	0	222.5	4240.25	
868	323.1279	322.12062	10.85	C12H17F3N4O3	[M+H]+	N-(2-methoxyethyl)-4-[5-(trifluoromethyl)-1,3,4-oxadiazol-2-yl]piperidine-1-carboxamide	Bruker MetaboBASE Personal Library 3.0	1094.5	512.25	1632.5	2049.75	3359	3745.75	
869	115.0541	114.04682	10.93	C4H6N2O2	[M+H]+	Muscimol	Bruker MetaboBASE Personal Library 3.0	3139.75	2887	4325.5	1977	348.5	2824	
870	431.14902	430.14174	11.05	C22H18N6O4	[M+H]+	1-(4-methoxyphenyl)-5-[[3-(2-methoxyphenyl)-1,2,4-oxadiazol-5-yl]methyl]pyrazolo[3,4-d]pyrimidin-4-one	Bruker MetaboBASE Personal Library 3.0	8815.5	6052.75	7667	4906.5	2045.5	2067.5	
871	391.13901	390.13173	11.08	C21H19ClN6	[M+H]+	2-(4-chlorophenyl)-4-(4-pyridin-2-ylpiperazin-1-yl)pyrazolo[1,5-a]pyrazine	Bruker MetaboBASE Personal Library 3.0	2925	2678.75	2713	1534.5	0	0	

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
872	397.12841	396.12113	11.47	C20H17FN4O4	[M+H]+ [M-H]-	2-[[3-(3,4-dimethoxyphenyl)-1,2,4-oxadiazol-5-yl]methyl]-5-(3-fluoro-4-methylphenyl)-1,3,4-oxadiazole	Bruker MetaboBASE Personal Library 3.0	97.75	3353.25	95	15743	28980	32584.5	
873	117.06978	116.0625	11.53	C4H8N2O2	[M+H]+	HA-966	Bruker MetaboBASE Personal Library 3.0	42813	23554.25	61644	30225.75	8457.75	12709.25	
874	131.04914	130.04186	11.55	C6H7FO2	[M+H]+	1-Fluorocyclohexadiene-cis,cis-1,2-diol	Bruker MetaboBASE Personal Library 2.0_in-silico	210.75	361.5	243.25	711.5	13926.25	1327.25	
875	417.13336	416.12609	11.7	C23H17FN4O3	[M+H]+, [M-H]-	N-(4-acetamidophenyl)-1-(4-fluorophenyl)-4-oxo-cinnoline-3-carboxamide	Bruker MetaboBASE Personal Library 3.0	9194.5	9531	6467.25	3761.5	339.75	0	
876	377.12323	376.11595	12.35	C17H20N4O4S	[M+H]+	methyl 5-ethyl-2-[[2-(3-oxo-5,6,7,8-tetrahydro-cinnolin-2-yl)acetyl] amino]-1,3-thiazole-4-carboxylate	Bruker MetaboBASE Personal Library 3.0	0	0	0	2235.75	2704.5	3414	
877	143.04914	142.04186	12.42	C5H6N2O3	[M+H]+	5-Methylbarbiturate	Bruker MetaboBASE Personal Library 2.0_in-silico	1274.25	1298.75	1284	3060.75	5665.75	7751	
878	341.13841	340.13114	12.5	C21H16N4O	[M+H]+	(10R)-9,10,11,12-tetrahydro-10-methyl-3-(6-methyl-3-pyridinyl)-8H-[1,4]diazepino[5′,6′:4,5] thieno[3,2-f]quinolin-8-one hydrate	Bruker MetaboBASE Personal Library 3.0	1760.75	1280.25	2443.25	3022.75	4509.5	12470.75	

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
879	403.21168	402.20441	12.59	C21H30N4O2S	[M+H]+	1-methyl-3-(pyrrolidin-1-ylmethyl)-5-(2,4,6-trimethylphenyl)sulfonyl-6,7-dihydro-4H-pyrazolo[4,3-c]pyridine	Bruker MetaboBASE Personal Library 3.0	1152	2676.25	5237.75	3412.75	0	0	
880	239.10665	238.09938	12.6	C11H14N2O4	[M+H]+	Felbamate	Bruker MetaboBASE Personal Library 2.0_in-silico	10780.25	7200.75	14828.75	18738	32464.75	26927	
881	401.10208	400.09481	12.8	C19H14F2N4O4	[M+H]+	2-(3,5-difluorophenyl)-5-[[3-(3,4-dimethoxyphenyl)-1,2,4-oxadiazol-5-yl]methyl]-1,3,4-oxadiazole	Bruker MetaboBASE Personal Library 3.0	1369.5	1628.25	1516	985.25	0	0	
882	277.10712	276.09984	12.88	C10H16N2O7	[M+H]+	Thymidine glycol	Bruker MetaboBASE Personal Library 2.0_in-silico	0	366.5	0	1910.5	5281.5	4084	
883	447.14403	446.13675	12.98	C24H22N4O3S	[M+H]+	1-[4-(furan-2-carbonyl)piperazin-1-yl]-2-[2-(4-phenyl-1,3-thiazol-2-yl)pyrrol-1-yl]ethanone	Bruker MetaboBASE Personal Library 3.0	30661.25	25967.5	35017.75	21671.5	14415.25	11483.25	
884	327.0864	326.07913	13.02	C18H15ClN2O2	[M+H]+	N-[2-(3-chlorophenyl)-4-methoxyquinolin-6-yl]acetamide	Bruker MetaboBASE Personal Library 3.0	2210.5	3560.5	1452.25	1943.5	333.25	0	
885	401.13831	400.13104	13	C21H16N6O3	[M+H]+	2-[4-oxo-3-[(3-phenyl-1,2,4-oxadiazol-5-yl)methyl]pyrimido[5,4-b]indol-5-yl]acetamide	Bruker MetaboBASE Personal Library 3.0	1120.75	1130.75	1238.75	655.5	0	320.25	

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
886	419.14903	418.14175	13.06	C21H26N2O3S2	[M+H]+	Thioridazine-2-sulfone-5-sulfoxide	Bruker MetaboBASE Personal Library 2.0_in-silico	18970.5	17305	25764.25	11954.75	1952.5	11213.75	
887	471.18045	470.17317	13.42	C27H26N4O2S	[M+H]+	N-(2,3-dihydro-1H-inden-1-yl)-1-(4-oxo-7-phenyl-1H-thieno[3,2-d]pyrimidin-2-yl)piperidine-3-carboxamide	Bruker MetaboBASE Personal Library 3.0	7019	5300.75	5668	2944	0	0	
888	233.1326	232.12532	13.42	C13H16N2O2	[M+H]+	N-ethyl-5-methyl-3-phenyl-4H-1,2-oxazole-5-carboxamide	Bruker MetaboBASE Personal Library 3.0	4387.75	5456.5	2114.5	2799.5	0	0	
889	371.14903	370.14175	13.74	C19H22N4O2S	[M+H]+	2-[3-(5-ethyl-1,3,4-oxadiazol-2-yl)-2,5-dimethylpyrrol-1-yl]-N-(3-methylsulfanylphenyl)acetamide	Bruker MetaboBASE Personal Library 3.0	4169.75	5180.75	4292.75	2943.25	228.25	82.5	
890	343.11764	342.11036	14.36	C20H14N4O2	[M+H]+	7-(1-benzofuran-2-yl)-2-(2-methoxyphenyl)-[1,2,4]triazolo[1,5-a]pyrimidine	Bruker MetaboBASE Personal Library 3.0	16110.25	15775.25	11151.75	10153.75	2327.5	1122.25	
891	189.16377	188.15649	14.59	C9H20N2O2	[M+H]+	Propamocarb	Bruker MetaboBASE Personal Library 2.0_in-silico	2959	3584.75	2257.5	2331.75	428.5	312	
892	431.1492	430.14192	14.61	C24H19FN4O3	[M+H]+ [M-H]-	2-(4-fluorophenyl)-5-[[2-(4-methoxyphenyl)-5-methyl-1,3-oxazol-4-yl]methyl]pyrazolo[1,5-a]pyrazin-4-one	Bruker MetaboBASE Personal Library 3.0	19652.75	16040	30401.5	12994	661.75	5080.75	

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
893	337.2531	336.24582	14.93	C19H32N2O3	[M+H]+	N-[7-(2-cyclohexylacetyl)-7-azaspiro[3.5]nonan-3-yl]-2-methoxyacetamide	Bruker MetaboBASE Personal Library 3.0	0	0	0	0	2972.5	729.5	
894	343.2481	342.24083	15.26	C20H30N4O	[M+H]+	N-butan-2-yl-1-[2-(1-methylpyrrolo[2,3-b]pyridin-3-yl)ethyl]piperidine-4-carboxamide	Bruker MetaboBASE Personal Library 3.0	0	921.5	0	5116	35161	44420	
895	419.33696	418.33002	15.42	C27H43FO2	[M+H]+ [M+Na]+ [M-H]-	(5E,10E)-19-fluoro-1α-hydroxyvitamin-D3 / (5E,10E)-19-fluoro-1α-hydroxycholecalciferol	Bruker MetaboBASE Personal Library 2.0_in-silico	17111.75	5103.75	20521.75	10252	0	0	
896	273.12741	272.12013	15.87	C12H20N2O3S	[M+H]+	N-[4-[1-hydroxy-2-[{1-methylethyl}amino]ethyl]phenyl]methanesulphonamide	Bruker MetaboBASE Personal Library 3.0	2167.75	2532.5	3042.5	2495.75	0	864.25	
897	319.28454	318.27727	16.8	C21H36NO	[M+H]+	Tridihexethyl	Bruker MetaboBASE Personal Library 2.0_in-silico	9010.5	1922	7940.25	3351.5	2297.25	3328.5	
898	273.22132	272.21404	17.77	C16H29FO2	[M+H]+	14-Fluoro-11E-tetradecenyl acetate	Bruker MetaboBASE Personal Library 2.0_in-silico	422.5	1335	499	1868.75	2528	6526.5	
899	194.11751	193.11023	0.86	C11H15NO2	[M+H]+	Methedrone	Bruker MetaboBASE Personal Library 2.0_in-silico	3824.5	3037.75	3614	5345.75	4651	4786.25	
900	69.03357	68.02629	1.09	C4H4O	[M+H]+	Furan	Bruker MetaboBASE Personal Library 2.0_in-silico	3254.25	1314.5	1784.25	1288	0	1943.5	
901	138.05488	137.0476	1.11	C7H7NO2	[M+H]+	Trigonelline	Bruker MetaboBASE Personal Library 2.0	3668.75	1495	2162.25	1924.25	313.25	2841	401

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
902	174.07609	173.06881	1.12	C6H12N3OP	[M+H]+	Tris(1-aziridinyl) phosphine oxide	Bruker MetaboBASE Personal Library 2.0_in-silico	1883	1067.5	1945.75	1591.75	0	2172.75	
903	440.17654	439.16926	1.15	C23H31Cl2NO3	[M+H]+	Estramustine	Bruker MetaboBASE Personal Library 2.0_in-silico	1377.75	1203.5	947.5	797.5	0	679.75	
904	233.06316	232.05588	1.21	C13H12O2S	[M+H]+	(2E,11Z)-5-[5-(Methylthio)-4-penten-2-ynyl]-2-furanacrolein	Bruker MetaboBASE Personal Library 2.0_in-silico	11474.25	4439	6902	4109	602.5	4219.5	
905	169.03555	168.02828	2.03	C5H4N4O3	[M+H]+, [M-H]-	Uric acid	Bruker HMDB Metabolite Library_2.0	2330	3703.5	5771.75	4097.25	854.75	1356.5	
906	139.05029	138.04302	2.04	C6H6N2O2	[M+H]+	Nicoxamat	Bruker MetaboBASE Personal Library 3.0	2221.25	661	1426.25	608.5	114.75	0	
907	130.04991	129.04263	2.15	C5H7NO3	[M+H]+, [M-H]-	(R)-(+)-2-Pyrrolidone-5-carboxylic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	1239.5	1458.25	997	913.25	0	578	
908	137.04582	136.03854	4.41	C5H4N4O	[M+H]+	Hypoxanthine	Bruker HMDB Metabolite Library_2.0	1115.25	624.25	1468.25	509.25	0	286.5	402
909	194.11761	193.11033	4.64	C11H15NO2	[M+H]+	Salsoline	Bruker MetaboBASE Personal Library 2.0_in-silico	4108.25	3164.5	4242.25	6169.75	6068.25	5666.75	
910	218.08119	217.07391	4.87	C12H11NO3	[M+H]+	Cotarnine	Bruker MetaboBASE Personal Library 2.0	0	0	511.25	0	0	17056	
911	206.13863	205.13135	5.23	C9H19NO4	[M+H]+, [M-H]-	Panthenol	Bruker MetaboBASE Personal Library 3.0	7498.75	3300.25	1607.5	2257.5	0	2171	403
912	343.12506	342.11779	5.28	C12H22O11	[M+H]+	Fagopyritol A1	Bruker MetaboBASE Personal Library 2.0_in-silico	1619	0	257	0	0	0	
913	192.13833	191.13106	5.32	C12H17NO	[M+H]+	4-Ethylmethcathinone	Bruker MetaboBASE Personal Library 2.0_in-silico	1193	926	1327.75	1985	2152.75	1949.75	

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
914	208.13323	207.12595	5.39	C12H17NO2	[M+H]+	3-(Dimethylamino)propyl benzoate	Bruker MetaboBASE Personal Library 2.0_in-silico	219	111	12027.25	0	119.75	0	
915	212.0919	211.08462	5.6	C10H13NO4	[M+H]+	L-3,4-Dihydroxyphe-nylalanine methyl ester hydrochloride	Bruker MetaboBASE Personal Library 3.0	1803.5	332.25	1096	185.5	0	871.5	
916	146.06083	145.05355	5.94	C9H7NO	[M+H]+	Oxyquinoline	Bruker MetaboBASE Personal Library 3.0	2047.75	932	693.25	706	161.5	505.5	
917	190.04983	189.04256	6.02	C10H7NO3	[M+H]+	Kynurenic acid	Bruker HMDB Metabolite Library_2.0	3272	870.25	2413.75	1111.75	0	1263.5	404
918	208.13321	207.12593	6.12	C12H17NO2	[M+H]+	Salsolidine	Bruker MetaboBASE Personal Library 2.0_in-silico	362.75	1221.25	310	438.25	102.5	94.75	
919	376.16045	375.15317	6.21	C16H25NO9	[M+H]+	Simmondsin	Bruker MetaboBASE Personal Library 3.0	1444	625.25	0	1242.75	0	423.25	
920	332.11315	331.10587	6.72	C17H17NO6	[M+H]+	Citbrasine	Bruker MetaboBASE Personal Library 2.0_in-silico	985.25	1375.75	1498.25	984.75	0	0	
921	595.16575	594.15847	6.81	C27H30O15	[M+H]+	Pelargonin	Bruker MetaboBASE Personal Library 3.0	163.75	125	2560	0	0	0	
922	625.14101	626.14829	6.8	C27H30O17	[M-H]- [M+H]+	5,7-dihydroxy-2-[3-hydro-xy-4-[(2S,3R, 4S,5S,6R)-3,4,5-trihydroxy-6-(hydro-xymethyl)oxan-2-yl]oxy-phenyl]-3-[(2S,3R,4S, 5S,6R)-3,4,5-trihydroxy-6-(hydroxymethyl)oxan-2-yl]oxychromen-4-one	MoNA-export-GNPS_QTOF.msp	0	999.25	123.25	70.5	0	0	

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
923	136.07557	135.0683	6.84	C8H9NO	[M+H]+	Phenacylamine	Bruker MetaboBASE Personal Library 3.0	0	0	0	0	0	5113	
924	392.13439	391.12711	7.37	C21H15F2N5O	[M+H]+	PharmaGSID_47330	Bruker MetaboBASE Personal Library 3.0	0	245.5	233.5	1607.75	1672.5	1544.5	
925	491.17316	490.16588	7.4	C28H26O8	[M+H]+	Edulisin I	Bruker MetaboBASE Personal Library 2.0_in-silico	1599.25	544.75	890.75	163.25	0	0	
926	435.09251	434.08523	7.72	C20H18O11	[M+H]+ [M-H]-	Quercetin-3-O-pentoside	MoNA-export-GNPS_QTOF.msp	0	215.25	121.5	0	2870	2023	
927	342.13388	341.1266	8.02	C19H19NO5	[M+H]+	Cassythine	Bruker MetaboBASE Personal Library 2.0_in-silico	1820	1838	2688.75	1615	0	0	
928	254.11363	253.10635	8.02	C11H15N3O4	[M+H]+	Pyricarbate	Bruker MetaboBASE Personal Library 2.0_in-silico	1238.5	408.75	828.75	356.25	0	1167.25	
929	149.04506	148.03778	8.1	C5H8O5	[M+H]+	D-erythro-3-Methylmalate	Bruker MetaboBASE Personal Library 2.0_in-silico	1142.25	854	1325.25	1896.25	1246.25	1677.75	
930	330.26399	329.25671	8.13	C18H35NO4	[M+H]+	4,8 dimethylnonanoyl carnitine	Bruker MetaboBASE Personal Library 2.0_in-silico	0	323.75	2009	0	0	0	
931	632.26052	631.25324	8.29	C34H37N3O9	[M+H]+ [M-H]-	N1,N5,N10-Tricaffeoyl spermidine	Bruker MetaboBASE Personal Library 2.0_in-silico	1572.25	585.5	1563.25	1116.25	469.75	363.5	
932	327.15922	326.15194	8.35	C20H22O4	[M+H]+	2-Methoxy-4-{(2S,3R)-7-methoxy-3-methyl-5-[(1E)-1-propen-1-yl]-2,3-dihydro-1-benzofuran-2-yl}phenol	MoNA-export-GNPS_QTOF.msp	1172.5	1093	1844.5	1187.25	298.25	655.5	
933	284.09184	283.08456	8.42	C16H13NO4	[M+H]+ [M-H]-	5,7-dimethoxy-2-pyridin-3-ylchromen-4-one	Bruker MetaboBASE Personal Library 3.0	19142.75	74255	30114	21922.75	0	0	

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
934	381.18116	380.17389	8.55	C22H24N2O4	[M+H]+ [M-H]-	Di-4-coumaroylputrescine	Bruker MetaboBASE Personal Library 2.0_in-silico	4229.5	804	2382	281	463.75	1366.5	405
935	441.20254	440.19526	8.78	C24H28N2O6	[M+H]+	Diferuloylputrescine	Bruker MetaboBASE Personal Library 2.0_in-silico	0	0	1616.25	936.75	1672	3490.5	406
936	89.03847	88.03119	8.81	C4H8S	[M+H]+	cis-2,3-Dimethylthiirane	Bruker MetaboBASE Personal Library 2.0_in-silico	0	437.5	341.25	1210	1308.75	3241.75	
937	639.19259	638.18531	8.82	C29H34O16	[M+H]+	6-Hydroxyluteolin 6,4'-dimethyl ether 7-rutinoside	Bruker MetaboBASE Personal Library 2.0_in-silico	0	0	0	0	3287.75	0	
938	593.13056	594.13784	8.9	C30H26O13	[M-H]- [M+H]+	[(2R,3S,4S,5R,6S)-6-[5,7-dihydroxy-2-(4-hydroxy-phenyl)-4-oxochromen-3-yl]oxy-3,4,5-trihydroxy-oxan-2-yl]methyl (E)-3-(4-hydroxyphenyl)prop-2-enoate	MoNA-export-GNPS_QTOF.msp	225.25	2613.75	804.25	7047.25	2040.25	1592.75	
939	438.23927	437.232	9.24	C25H31N3O4	[M+H]+	N1,N10-Dicoumaroylspermidine	Bruker MetaboBASE Personal Library 2.0_in-silico	2130.75	1611.75	2863.25	1721.5	923.25	1448.75	
940	584.2761	583.26882	9.28	C34H37N3O6	[M+H]+ [M-H]-	N1,N5,N10-Tricoumaroyl spermidine	Bruker MetaboBASE Personal Library 2.0_in-silico	10682.25	8553.5	13990.75	7433.25	3158.5	7768.5	
941	341.1386	340.13132	9.38	C20H20O5	[M+H]+	Euchrenone a7	Bruker MetaboBASE Personal Library 2.0_in-silico	1375.75	1220.75	1982.75	2993.5	6043.25	11242.25	
942	347.07632	346.06904	9.46	C17H14O8	[M+H]+	2-(3,4-dihydroxyphenyl)-5,7-dihydroxy-3,6-dimethoxychromen-4-one	MoNA-export-GNPS_QTOF.msp	1727.75	812	740.25	2928	516	2996.75	

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
943	406.25942	405.25214	9.6	C24H31N5O	[M+H]+	5-[2-[4-[(2,5-dimethylphenyl)methyl]-1,4-diazepan-1-yl]pyridin-3-yl]-3-propan-2-yl-1,2,4-oxadiazole	Bruker MetaboBASE Personal Library 3.0	386.75	1126.75	0	0	0	0	
944	787.37089	786.36361	9.66	C46H50N4O8	[M+H]+	(E)-3-(4-hydroxyphenyl)-N-[3-[[(E)-3-(4-hydroxyphenyl)prop-2-enoyl]-[4-[[(E)-3-(4-hydroxyphenyl)prop-2-enoyl]-[3-[[(E)-3-(4-hydroxyphenyl)prop-2-enoyl] amino] propyl]amino]butyl]amino] propyl]prop-2-enamide	MoNA-export-GNPS_QTOF.msp	1492.25	608	1886.75	743.25	458.25	1831	
945	579.15089	578.14362	9.7	C30H26O12	[M+H]+	Apigenin 7-(4"-Z-p-coumarylglucoside)	Bruker MetaboBASE Personal Library 2.0_in-silico	435.5	1286.5	598.5	1246	1022.75	1757.75	47
946	386.16037	385.1531	9.72	C21H23NO6	[M+H]+	Desmethylcolchicine	Bruker MetaboBASE Personal Library 3.0	905	1770.75	0	0	0	0	
947	295.13301	294.12573	10.57	C19H18O3	[M+H]+	Phenol, 2-methoxy-4-[3-methyl-5-[(1E)-1-propen-1-yl]-2-benzofuranyl]-	MoNA-export-GNPS_QTOF.msp	0	0	0	0	3981.5	801.75	
948	373.22214	372.21487	10.65	C20H28N4O3	[M+H]+	2-(dimethylamino)-7-[(4-ethoxy-3-methoxy-phenyl)methyl]-5,6,8,9-tetrahydro-1H-pyrimido[4,5-d]azepin-4-one	Bruker MetaboBASE Personal Library 3.0	0	0	0	672.75	1230.75	2519.75	

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
949	369.17189	368.16461	11.23	C22H24O5	[M+H]+	Quercetol C	Bruker MetaboBASE Personal Library 2.0_in-silico	1149.25	1562.75	1200.5	1670.5	0	318.25	
950	343.29571	342.28844	11.79	C19H38N2O3	[M+H]+	Cocamidopropyl Betaine	MoNA-export-GNPS_QTOF.msp	6571.5	2972.5	8739.5	5810.25	3885.25	5038.75	
951	214.25313	213.24585	12.32	C14H31N	[M+H]+	N,N-Dimethyldodecan-1-amine	Bruker MetaboBASE Personal Library 3.0	1394.5	1157.25	4596.5	787.25	189	574.5	
952	230.24804	229.24076	12.5	C14H31NO	[M+H]+	N,N-Dimethyldode-cylamine-N-oxide	Bruker MetaboBASE Personal Library 3.0	11465	4452.5	23888.5	5910.75	4640.75	5769.75	
953	317.17243	316.16515	13.55	C19H24O4	[M+H]+	Bisphenol A bis(2-hydroxyethyl)ether	Bruker MetaboBASE Personal Library 2.0_in-silico	4660.75	7443	5363.5	5792.75	0	2390	
954	223.0636	222.05633	13.57	C9H10N4OS	[M+H]+	9H-Purine-6-thiol, 9-(tetrahydro-2-furyl)-	Bruker MetaboBASE Personal Library 3.0	1641.5	1156.25	1299.5	3147	3222.5	1905	
955	242.28439	241.27712	13.84	C16H35N	[M+H]+	1-Hexadecylamine	Bruker MetaboBASE Personal Library 2.0	1044.75	693.25	6179.25	636	621.5	288.25	
956	304.29995	303.29267	13.86	C21H37N	[M+H]+	Benzalkonium	Bruker MetaboBASE Personal Library 2.0_in-silico	5107.75	1769	1493.75	1886.5	979.5	2860.25	
957	256.30006	255.29278	15.05	C17H37N	[M+H]+	N-Methyldioctylamine	Bruker MetaboBASE Personal Library 3.0	999.5	1045	38470.25	806.25	113.5	0	
958	411.19534	410.18807	15.08	C22H28F2O5	[M+H]+	Tafluprost (free acid)	Bruker MetaboBASE Personal Library 2.0	0	4013.75	0	520	0	0	
959	505.22215	504.21488	15.48	C30H32O7	[M+H]+ [M-H]-	Artocommunol CC	Bruker MetaboBASE Personal Library 2.0_in-silico	1197	1853.25	975.25	1078.25	0	0	
960	268.08236	267.07509	15.73	C13H14FNO2S	[M+H]+	4-fluoro-3-methoxy-N-pro-pan-2-yl-1-benzo-thiophene-2-carboxamide	Bruker MetaboBASE Personal Library 3.0	2708.75	1874.5	2833	3976	3794.25	3710.25	

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude samples			
								6E	9E	12E	4E	15E	16E	
961	284.33124	283.32396	16.37	C19H41N	[M+H]+	Cetrimonium	Bruker MetaboBASE Personal Library 2.0_in-silico	1064.75	1018	25224	800.75	361	0	
962	251.04665	250.03937	16.57	C12H11O4P	[M+H]+	Diphenyl phosphate	Bruker MetaboBASE Personal Library 3.0	314.75	377.25	4377.5	328.25	0	110.25	
963	339.15921	338.15193	17.6	C21H22O4	[M+H]+	9-[(3,7-Dimethyl-2,6-octadienyl)oxy]-7H-furo[3,2-g][1]benzopyran-7-one	Bruker MetaboBASE Personal Library 2.0_in-silico	2185	2939.25	2026.75	1584	0	0	
964	409.38251	408.37524	18.9	C30H48	[M+H]+	Dehydrosqualene	Bruker MetaboBASE Personal Library 2.0_in-silico	1046.75	497	966.5	424	1804.5	2006	
965	569.44119	568.43392	19.26	C33H60O7	[M+H]+	Muricin E	Bruker MetaboBASE Personal Library 2.0_in-silico	0	57.25	0	1526.5	2102.25	1815	
966	339.32591	338.31864	19.41	C22H42O2	[M+H]+	5,7-Docosanedione	Bruker MetaboBASE Personal Library 2.0_in-silico	1258.75	487.25	2807	803	0	0	
967	489.39415	488.38687	19.59	C31H52O4	[M+H]+	(22S)-1α,22,25-trihydroxy-26,27-dimethyl-24a,24b-dihomovitamin D3	Bruker MetaboBASE Personal Library 2.0_in-silico	0	0	0	0	2795.25	575.75	
968	367.32164	368.32891	19.85	C23H44O3	[M-H]-, [M+H]+	3-oxo-tricosanoic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	1656.75	1249.75	1124	1799	0	0	
969	413.37766	412.37038	19.92	C29H48O	[M+H]+	β-Sitostenone	Bruker MetaboBASE Personal Library 2.0	954.75	159	1036	1689.75	780.5	814.25	
970	504.19249	503.18522	1.04	C18H33NO15	[M+H]+	beta-D-Galactopyranosyl-(1->4)-2-amino-2-deoxy-beta-D-glucopyranosyl-(1->6)-D-mannose	Bruker MetaboBASE Personal Library 2.0_in-silico	727.5	1893.25	261.5	1028.75	0	0	

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
971	140.06823	139.06096	1.05	C7H9NO2	[M+H]+	Gabaculine	Bruker MetaboBASE Personal Library 2.0_in-silico	3851	1338.5	4258	1816.75	1320.5	1941.5	
972	290.07616	289.06888	1.03	C13H12ClN5O	[M+H]+	N-[[5-(3-chlorophenyl) furan-2-yl]methyl]-1-methyltetrazol-5-amine	Bruker MetaboBASE Personal Library 3.0	5560.5	0	3664.25	1711	0	0	
973	104.10683	103.09955	1.04	C5H13NO	[M+H]+	Choline	Bruker MetaboBASE Personal Library 2.0	1836.25	1111	2046.75	1485.75	227.25	1545.75	
974	160.09678	159.08951	1.1	C7H13NO3	[M+H]+	4-hydroxystachydrine	Bruker MetaboBASE Personal Library 2.0_in-silico	3103	1851	2652	1173.5	0	724.25	
975	118.08622	117.07895	1.09	C5H11NO2	[M+H]+	Betaine	Bruker MetaboBASE Personal Library 3.0	7145.25	2040	8627.5	2307.75	1507.25	2115.25	
976	258.10997	257.10269	1.09	C8H20NO6P	[M+H]+	Glycerophosphocholine	Bruker HMDB Metabolite Library_2.0	9121	2915.75	6596.75	2456.5	73.25	5631.75	
977	277.0893	276.08202	1.14	C13H13ClN4O	[M+H]+	(2E)-2-{1-[4-Chloro-3-(1H-pyrrol-1-yl)phenyl]ethylidene} hydrazinecarboxamide	Bruker MetaboBASE Personal Library 3.0	4942.75	820	6336.75	4237	2110	4895.5	
978	278.12337	277.1161	1.15	C12H15N5O3	[M+H]+ [M-H2O+H]+	Entecavir	Bruker MetaboBASE Personal Library 2.0_in-silico	16448.75	17721	14413.5	9392.25	88.5	9058.75	
979	144.10185	143.09458	1.14	C7H13NO2	[M+H]+	Proline betaine	Bruker MetaboBASE Personal Library 3.0	5403	3621.5	22174.5	2212.5	0	1999.5	

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
980	360.14992	359.14265	1.15	C20H17N5O2	[M+H]+	3H-benzimidazol-5-yl-[3-(3-phenyl-1,2,4-oxadiazol-5-yl)pyrrolidin-1-yl]methanone	Bruker MetaboBASE Personal Library 3.0	4698.5	3088.75	2869.25	4288	589.25	5417	
981	280.13917	279.13189	2.02	C15H21NO2S	[M+H]+	(3-ethyl-3-hydroxy-7-azaspiro[3.5]nonan-7-yl)-thiophen-3-ylmethanone	Bruker MetaboBASE Personal Library 3.0	1126.25	1506.25	1424.25	367.25	0	0	
982	268.10402	267.09675	3.92	C10H13N5O4	[M+H]+	Adenosine	Bruker MetaboBASE Personal Library 3.0	856.75	631	961.75	582	0	439.25	
983	246.11251	245.10524	5.62	C14H15NO3	[M+H]+	Ethyl (6-methyl-4-oxo-1,4-dihydro-2-quinolinyl)acetate	Bruker MetaboBASE Personal Library 3.0	760.5	1164	0	110.5	0	0	
984	196.0968	195.08953	5.8	C10H13NO3	[M+H]+	n-acetyldopamine	Bruker MetaboBASE Personal Library 2.0_in-silico	1681.25	1033	713.5	737.5	0	825	
985	207.06537	206.0581	6.13	C11H10O4	[M+H]+	Scoparone	Bruker MetaboBASE Personal Library 2.0_in-silico	789	1081.75	1133.5	1058	112.5	920	
986	276.12316	275.11588	6.14	C15H17NO4	[M+H]+	(±)-Ribaline	Bruker MetaboBASE Personal Library 2.0_in-silico	2111	3384.5	847.75	3629.25	704	2813	
987	495.14762	494.14035	6.41	C23H26O12	[M+H]+	7,8,4'-Trihydroxy-3',5'-dimethoxyflavanone 4'-O-glucoside	Bruker MetaboBASE Personal Library 2.0_in-silico	0	0	0	0	0	2088.5	
988	277.06841	276.06113	6.59	C14H12O6	[M+H]+	O-Demethylfonsecin	Bruker MetaboBASE Personal Library 2.0_in-silico	7994.5	6132.5	10229	16245.25	2151.5	7412.5	
989	327.1226	326.11533	6.98	C19H18O5	[M+H]+	Sappanone a trimethyl ether	Bruker MetaboBASE Personal Library 2.0_in-silico	124	247.5	0	1558.75	1450.25	2310.5	

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
990	170.11743	169.11015	7.1	C9H15NO2	[M+H]+	Piperidione	Bruker MetaboBASE Personal Library 2.0_in-silico	1171.75	1162	1457	1578.25	0	1981.75	
991	316.11841	315.11113	7.23	C17H17NO5	[M+H]+	Citpressine II	Bruker MetaboBASE Personal Library 2.0_in-silico	518	1384.75	424.5	506.75	0	75.25	
992	359.11265	358.10537	7.31	C19H18O7	[M+H]+	Altisin	Bruker MetaboBASE Personal Library 2.0_in-silico	0	326.5	0	1072.75	3536.75	3632.75	
993	449.14448	448.1372	7.48	C22H24O10	[M+H]+	Dihydrowogonin 7-O-glucoside	Bruker MetaboBASE Personal Library 2.0_in-silico	1701.5	3036.25	2976	1048.25	0	0	
994	309.16738	308.1601	7.58	C17H24O5	[M+H]+	ACRL Toxin II	Bruker MetaboBASE Personal Library 2.0_in-silico	2004.25	4418	2755.25	2259.75	0	986	
995	435.12877	434.12149	7.74	C21H22O10	[M+H]+	Naringenin-7-O-Glucoside	Bruker MetaboBASE Personal Library 3.0	124	1007	1502.75	0	0	0	208
996	217.04762	216.04035	7.74	C12H8O4	[M+H]+	Isobergaptene	Bruker MetaboBASE Personal Library 2.0_in-silico	978	2056.5	1967	5347.25	3852.5	7111.75	
997	323.14677	322.1395	7.74	C18H18N4O2	[M+H]+	N,N-diethyl-2-(4-nitrophenyl)quinazolin-4-amine	Bruker MetaboBASE Personal Library 3.0	0	462	0	1788.75	0	3270.75	
998	429.11648	428.10921	7.81	C18H22ClFN4O3S	[M+H]+	N-(3-chloro-4-fluorophenyl)-1-(1-propan-2-ylimidazol-4-yl)sulfonylpiperidine-3-carboxamide	Bruker MetaboBASE Personal Library 3.0	0	80	0	1754	757.25	1052	
999	325.06849	324.06121	7.82	C18H12O6	[M+H]+	Grevilline A	Bruker MetaboBASE Personal Library 2.0_in-silico	1569.75	1336.75	1375.75	1009.5	0	0	

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude samples			
								6E	9E	12E	4E	15E	16E	
1000	357.15208	356.1448	7.9	C16H24N2O5S	[M+H]+	1-(3,4-dimethoxyphenyl) sulfonyl-N-ethyl-piperidine-3-carboxamide	Bruker MetaboBASE Personal Library 3.0	0	0	2191	0	0	0	
1001	267.15734	266.15007	8	C15H22O4	[M+H]+	4-Gingerol	Bruker MetaboBASE Personal Library 2.0_in-silico	228.25	133.75	622.75	434.75	2220	1577.5	
1002	289.10491	288.09763	8.15	C16H16O5	[M+H]+	Marmesin acetate	Bruker MetaboBASE Personal Library 2.0_in-silico	2114.75	1096.75	1969.25	1238.5	0	108.25	
1003	431.13628	430.129	8.3	C22H22O9	[M+H]+	Torosaflavone B	Bruker MetaboBASE Personal Library 2.0_in-silico	346.75	2233	1247	339.25	320	202.5	
1004	319.11539	318.10812	8.33	C16H18N2O3S	[M+H]+	N-(4-tert-butyl-1,3-thiazol-2-yl)-2,3-dihydro-1,4-benzodioxine-6-carboxamide	Bruker MetaboBASE Personal Library 3.0	5346.25	2611	4974	2735	897	0	
1005	384.14429	383.13702	8.48	C21H21NO6	[M+H]+	Rhoeadine	Bruker MetaboBASE Personal Library 2.0_in-silico	517.5	0	1917.25	0	0	0	
1006	356.14931	355.14203	8.6	C20H21NO5	[M+H]+	4-(3,4-dimethoxyphenyl)-1-(3-methoxyphenyl) piperidine-2,6-dione	Bruker MetaboBASE Personal Library 3.0	1352.25	1089	1375.75	627	0	0	
1007	309.16755	308.16028	8.61	C16H24N2O2S	[M+H]+	2-N,2-N,5-N-triethyl-4,5,6,7-tetrahydro-1-benzothiophene-2,5-dicarboxamide	Bruker MetaboBASE Personal Library 3.0	1129.5	1419.5	910.5	828	0	285.25	
1008	313.10715	312.09987	8.83	C18H16O5	[M+H]+	Leridal	Bruker MetaboBASE Personal Library 2.0_in-silico	2270.75	2085.25	4118	2514.25	135.25	157.5	

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
1009	314.13911	313.13184	8.91	C16H19N5S	[M+H]+	4-[2-(dimethylamino) ethylamino]-2-methylsulfanyl-6-phenylpyrimidine-5-carbo-nitrile	Bruker MetaboBASE Personal Library 3.0	943.75	1294.5	853	336.5	0	0	
1010	401.15969	400.15241	8.91	C22H24O7	[M+H]+	Kenusanone E	Bruker MetaboBASE Personal Library 2.0_in-silico	758.5	546	1598.5	686.5	0	2275	
1011	369.22505	368.21777	9.05	C21H28N4O2	[M+H]+	N-(2,5-dimethylphenyl)-2-[4-methyl-2-(4-methyl-piperidin-1-yl)-6-oxo-pyrimidin-1-yl]acetamide	Bruker MetaboBASE Personal Library 3.0	2191.75	2040.25	1642.25	1462	0	0	
1012	356.14943	355.14215	9.08	C20H21NO5	[M+H]+	Gravacridonediol methyl ether	Bruker MetaboBASE Personal Library 2.0_in-silico	6903.75	2774	4592.75	2738.25	0	0	13
1013	293.13638	292.1291	9.14	C14H17FN4O2	[M+H]+	2-(4-fluorophenyl)-5-(hydroxymethyl)-N-(2-methylpropyl)triazole-4-carboxamide	Bruker MetaboBASE Personal Library 3.0	0	0	0	0	0	3144.5	
1014	351.21454	350.20727	9.23	C20H30O5	[M+H]+	(E)-4-acetoxy-8-(3-oxo-2-(pent-2-en-1-yl)cyclopent-1-en-1-yl)octanoic acid	Bruker MetaboBASE Personal Library 3.0	1816.5	3543	654	2125	0	0	
1015	150.09132	149.08404	9.27	C9H11NO	[M+H]+	2,3,6,7-Tetrahydrocyclo-pent[b]azepin-8(1H)-one	Bruker MetaboBASE Personal Library 2.0_in-silico	1183	549.75	312	141.75	604	1872.25	
1016	463.12469	464.13197	9.32	C22H24O11	[M-H]-, [M+H]+	Lanceolin	Bruker MetaboBASE Personal Library 2.0_in-silico	0	420.25	1892.75	2724.75	29823.5	276.25	

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude samples			
								6E	9E	12E	4E	15E	16E	
1017	326.13889	325.13161	9.32	C19H19NO4	[M+H]+	Nornantenine	Bruker MetaboBASE Personal Library 2.0_in-silico	12115	11622.5	12782.75	5366	0	0	
1018	368.1606	367.15332	9.48	C20H21N3O4	[M+H]+	2-(2-ethyl-6,7-dihydro-[1,4]dioxino[2,3-f]benzimidazol-3-yl)-N-(4-methoxyphenyl)acetamide	Bruker MetaboBASE Personal Library 3.0	356.75	1435	274.5	593.5	0	0	
1019	394.1896	393.18232	9.64	C21H23N5O3	[M+H]+	N-benzyl-2-[2-(cyclo-pentylamino)-2-oxoethyl]-3-oxo-[1,2,4]triazolo[4,3-a]pyridine-6-carboxamide	Bruker MetaboBASE Personal Library 3.0	2088.25	897.5	2174.75	1417.75	944	2139.5	
1020	399.14221	398.13493	9.63	C22H22O7	[M+H]+	Dulxanthone E	Bruker MetaboBASE Personal Library 2.0_in-silico	0	120	0	2448	0	1290.75	
1021	340.15448	339.14721	9.63	C20H21NO4	[M+H]+	4-(3,4-dimethoxyphenyl)-1-(4-methylphenyl) piperidine-2,6-dione	Bruker MetaboBASE Personal Library 3.0	13249.5	11905.75	13704	6580	121.75	910.5	
1022	291.15678	290.14951	9.66	C17H22O4	[M+H]+	[6]-Dehydrogingerdione	Bruker MetaboBASE Personal Library 2.0_in-silico	3522.5	7666.5	3021.5	3981	152.5	0	407
1023	254.05717	253.0499	9.82	C10H11N3O3S	[M+H]+	Sulfamethoxazole	Bruker MetaboBASE Personal Library 2.0_in-silico	1393	1398.5	1230.75	795.75	0	0	408
1024	357.22497	356.21769	9.87	C19H32O6	[M+H]+	5,7-Megastigmadien-9-ol glucoside	Bruker MetaboBASE Personal Library 2.0_in-silico	0	529.5	0	4672.25	4464.75	8377.25	
1025	340.1545	339.14722	9.96	C18H21N5S	[M+H]+	4-methyl-5-[[3-[(5-methyl-2-pyridin-4-ylimidazol-1-yl)methyl]azetidin-1-yl]methyl]-1,3-thiazole	Bruker MetaboBASE Personal Library 3.0	18656.5	15910.75	20970.75	8167.25	463	1426.5	

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
1026	303.08533	302.07806	10.08	C16H14O6	[M+H]+	Hesperetin	Bruker MetaboBASE Personal Library 3.0	8310.75	11476.25	11409.5	13972.75	5129.75	3241.75	409
1027	309.20434	308.19707	10.13	C18H28O4	[M+H]+	Corchorifatty acid D	Bruker MetaboBASE Personal Library 2.0_in-silico	768.25	1005.75	456	498	187	2824	
1028	293.07856	292.07128	10.15	C18H12O4	[M+H]+	4-Methoxyfurano [2",3":6,7]aurone	Bruker MetaboBASE Personal Library 2.0_in-silico	5339.75	3175.75	4741.75	3049.75	0	0	
1029	233.18999	232.18271	10.13	C16H24O	[M+H]+	1-(2,6,6-Trimethyl-2-cyclohexen-1-yl)-1,6-heptadien-3-one	Bruker MetaboBASE Personal Library 2.0_in-silico	0	176.25	0	0	0	2908	
1030	259.09652	258.08924	10.13	C15H14O4	[M+H]+	10-methoxy-2,2-dimethy-lpyrano[3,2-g]chromen-8-one	MoNA-export-GNPS_QTOF.msp	378.5	548.75	636.75	928.75	8038.5	2802.5	
1031	419.11287	418.10559	10.27	C24H18O7	[M+H]+	8-Caffeoyl-3,4-dihydro-5,7-dihydroxy-4-phenylcoumarin	Bruker MetaboBASE Personal Library 2.0_in-silico	2449.5	1225.75	2288.5	1663	0	141.25	
1032	342.17	341.16272	10.34	C20H23NO4	[M+H]+	5,8,13,13a-Tetrahydrocolumbamine	Bruker MetaboBASE Personal Library 2.0_in-silico	1556.5	2176.5	1246.5	398.5	0	0	
1033	457.14971	456.14243	10.37	C22H24N4O5S	[M+H]+	6-(methanesulfonamido)-2-[4-(2-methoxyphenyl) piperazin-1-yl]quinoline-4-carboxylic acid	Bruker MetaboBASE Personal Library 3.0	0	69	0	223.5	2709.25	2638.25	
1034	373.12823	372.12095	10.46	C20H20O7	[M+H]+	6-Methoxyprosogerin B Diethyl Ether	Bruker MetaboBASE Personal Library 2.0_in-silico	110.5	564	0	1998	4968.5	7864	
1035	487.16045	486.15318	10.48	C25H26O10	[M+H]+	Aquayamycin	Bruker MetaboBASE Personal Library 2.0_in-silico	0	431.75	0	1679.75	2341	3528.5	

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
1036	275.1632	274.15593	10.54	C17H22O3	[M+H]+	Carbestrol	Bruker MetaboBASE Personal Library 3.0	1215	903.75	1092.5	872.5	476	507.25	
1037	251.16418	250.15691	10.62	C15H22O3	[M+H]+	Lactaronecatorin A	Bruker MetaboBASE Personal Library 2.0_in-silico	1725	2036.25	2361	1486.75	1858.5	1174.5	
1038	285.07578	262.08541	10.68	C14H14O5	[M+Na]+ [M+H]+	Dorsteniol	Bruker MetaboBASE Personal Library 2.0_in-silico	532505.25	498316.75	437182.25	316904.75	68443.75	20850	
1039	324.21747	323.21019	10.73	C18H29NO4	[M+H]+	Lycofawcine	Bruker MetaboBASE Personal Library 2.0_in-silico	0	1109.25	0	376.25	0	0	
1040	409.12749	408.12021	10.74	C23H20O7	[M+H]+, [M-H]-	Dehydroamorphigenin	Bruker MetaboBASE Personal Library 2.0_in-silico	1839.75	1218.5	1804	1451.75	194.5	143	
1041	369.13167	368.12439	10.85	C21H20O6	[M+H]+	Curcumin	Bruker MetaboBASE Personal Library 2.0_in-silico	778.25	766	979.25	1539	470.25	7203.75	
1042	527.15503	526.14776	11.14	C27H26O11	[M+H]+	6-Desmethoxy hormothamnione triacetate	Bruker MetaboBASE Personal Library 3.0	0	0	0	1335.25	2259.25	3363	
1043	351.21445	350.20718	11.21	C20H30O5	[M+H]+	PGK2	Bruker MetaboBASE Personal Library 2.0	2775.25	3406.5	2800.5	2002.75	0	477.5	
1044	321.24271	320.23544	11.27	C20H32O3	[M+H]+	(±)15-HETE	Bruker MetaboBASE Personal Library 2.0_in-silico	497.25	2214.5	519.5	1236.75	120.75	542.5	
1045	569.18072	568.17344	11.45	C33H28O9	[M+H]+	Asticolorin C	Bruker MetaboBASE Personal Library 2.0_in-silico	1845.25	1268	2443.75	867.75	0	105.75	
1046	275.16186	274.15458	11.52	C17H22O3	[M+H]+	Panaquinquecol 4	Bruker MetaboBASE Personal Library 2.0_in-silico	2511.75	5052.25	1844.25	3933	0	135.75	
1047	240.23233	239.22505	11.79	C15H29NO	[M+H]+	(2R,6R,7S,8S)-7-ethyl-2-propyl-1-azaspiro [5.5]undecan-8-ol	Bruker MetaboBASE Personal Library 2.0_in-silico	1691.75	905.5	2418.75	1296.75	921.25	1536	

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
1048	299.09137	298.0841	11.8	C17H14O5	[M+H]+	Lawinal	Bruker MetaboBASE Personal Library 2.0_in-silico	8348.5	5477	18656	3794.5	1068.25	4392.5	
1049	307.09439	306.08712	11.91	C19H14O4	[M+H]+	(3S)-8-hydroxy-3-methyl-3,4-dihydro-2H-benzo[a]anthracene-1,7,12-trione	MoNA-export-GNPS_QTOF.msp	2394.25	1100.25	2261.75	3175.5	262	0	
1050	427.17546	426.16818	11.95	C24H26O7	[M+H]+ [M-H]-	Mangostenol	Bruker MetaboBASE Personal Library 2.0_in-silico	2404.5	1762.75	3409	4590.25	1222	1374.25	
1051	343.11761	342.11033	12.35	C19H18O6	[M+H]+	Norartocarpetin 5,7,2',4'-tetramethyl ether	Bruker MetaboBASE Personal Library 2.0_in-silico	16115	17022	11374.25	8387.75	2296.75	1407	
1052	339.12285	338.11558	12.65	C18H18N4OS	[M+H]+	N-(4,5-dihydrobenzo[e][1,3]benzothiazol-2-yl)-1-ethyl-5-methylpyrazole-3-carboxamide	Bruker MetaboBASE Personal Library 3.0	245	440.75	608.25	1496.75	6750.5	8396	
1053	493.28	492.27272	12.75	C28H36N4O4	[M+H]+	ethyl 6-[(4-benzyl-piperazin-1-yl)methyl]-2-oxo-4-(4-propan-2-yloxy-phenyl)-3,4-dihydro-1H-pyrimidine-5-carboxylate	Bruker MetaboBASE Personal Library 3.0	0	817	0	4492.5	4050.25	7746	
1054	393.13188	392.1246	12.84	C23H20O6	[M+H]+	(E)-1-[3-[(2,3-dihydroxy-phenyl)methyl]-2,4-dihydroxy-6-methoxy-phenyl]-3-phenylprop-2-en-1-one	MoNA-export-GNPS_QTOF.msp	2000.5	1747.25	1982	1366.5	0	196.5	
1055	307.22707	306.21979	12.88	C19H30O3	[M+H]+	5-Androstenetriol	Bruker MetaboBASE Personal Library 2.0_in-silico	1217	2604.5	158.25	989.5	0	198.5	

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
1056	457.3313	456.32402	12.97	C29H44O4	[M+H]+	Callystatin A	Bruker MetaboBASE Personal Library 2.0_in-silico	871	425.25	504.25	2079.25	2212	10826.5	
1057	383.24114	382.23387	13	C22H30N4O2	[M+H]+	6-[(3-methoxy-4-propan-2-yloxyphenyl)methyl]-2-pyrrolidin-1-yl-7,8-dihydro-5H-pyrido[4,3-d]pyrimidine	Bruker MetaboBASE Personal Library 3.0	0	0	0	1219.5	2138	2493.5	
1058	295.09646	272.10604	13.08	C16H16O4	[M+Na]+[M+H]+	1-(2,6-dihydroxy-4-methoxyphenyl)-3-phenylpropan-1-one	MoNA-export-GNPS_QTOF.msp	60062.75	43313.75	81773.75	39307	4827.75	9763.25	410
1059	288.2535	287.24623	13.15	C16H33NO3	[M+H]+	Lauroyl diethanolamide	Bruker MetaboBASE Personal Library 2.0_in-silico	12888.75	4396.5	3139.25	4858	1936	4532	
1060	299.20052	298.19325	13.15	C20H26O2	[M+H]+	All-Trans-3,4-Didehydro-Retinoic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	55.5	73.75	106	293.75	1975.25	3541.25	
1061	267.19546	266.18818	13.21	C16H26O3	[M+H]+	4-Hydroxy-3-methoxy-2,10-bisaboladien-9-one	Bruker MetaboBASE Personal Library 2.0_in-silico	0	186.25	0	0	0	2737.25	
1062	233.13258	232.12531	13.31	C12H21ClO2	[M+H]+	TRIMEDLURE	Bruker MetaboBASE Personal Library 2.0_in-silico	4729.25	9535.25	7166.25	4989.25	0	0	
1063	161.13243	160.12515	13.34	C7H16N2O2	[M+H]+	Bethanechol	Bruker MetaboBASE Personal Library 2.0	1981	2861.25	1820	840.25	742.25	3781.5	
1064	459.38354	458.37627	13.34	C30H50O3	[M+H]+	Heliantriol F	Bruker MetaboBASE Personal Library 2.0_in-silico	1936	925.25	414.25	696.25	346.5	1874	
1065	275.20062	274.19334	13.46	C18H26O2	[M+H]+	13-Octadecene-9,11-diynoic acid, (Z)-	Bruker MetaboBASE Personal Library 2.0_in-silico	2401.75	2762	1892.25	2095	2569.5	444.75	

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
1066	421.12846	420.12118	13.46	C20H24N2O4S2	[M+H]+	5-(cyclobutanecarbonyl)-N-[(2-methoxyphenyl) methyl]-6,7-dihydro-4H-thieno[3,2-c]pyridine-2-sulfonamide	Bruker MetaboBASE Personal Library 3.0	1385.5	1102.5	1185	992.75	164.5	104.75	
1067	228.2687	227.26142	13.58	C15H33N	[M+H]+	n-Pentadecylamine	Bruker MetaboBASE Personal Library 3.0	1064.75	1238.25	33439.25	619	160.75	0	
1068	353.13845	352.13117	13.59	C21H20O5	[M+H]+	Neorautane	Bruker MetaboBASE Personal Library 2.0_in-silico	2829	1828.25	2288.5	825	0	0	
1069	355.26601	354.25873	13.7	C24H34O2	[M+H]+	5β-Chola-3,8(14),11-trien-24-oic Acid	Bruker MetaboBASE Personal Library 2.0_in-silico	3114.75	2435	3621	4124.75	5394.75	4301.75	
1070	401.10214	400.09486	13.81	C20H15F3N4S	[M+H]+	2-(4-methylsulfanylphe-nyl)-N-[3-(trifluoromethyl) phenyl]imidazo[1,2-a]pyrazin-3-amine	Bruker MetaboBASE Personal Library 3.0	1420.5	1169.75	1835	166	0	0	
1071	485.32623	484.31895	13.93	C30H44O5	[M+H]+ [M-H]-	Liquoric acid	Bruker MetaboBASE Personal Library 2.0_in-silico	0	0	0	0	2253.5	5299	
1072	185.15375	184.14648	13.97	C11H20O2	[M+H]+	5-Hexyldihydro-4-methyl-2(3H)-furanone	Bruker MetaboBASE Personal Library 2.0_in-silico	1438.5	1555.75	1120	1289.75	603	1449.25	
1073	437.23234	436.22506	14	C27H32O5	[M+H]+	Lespedezaflavanone F	Bruker MetaboBASE Personal Library 2.0_in-silico	0	0	0	524.25	0	3358.75	
1074	277.25263	276.24535	14.03	C19H32O	[M+H]+	5-(1-hydroxybutan-2-yl)isolongifol-4-ene	Bruker MetaboBASE Personal Library 2.0_in-silico	1148.5	1742.5	1435.5	1362	0	0	
1075	455.31567	454.30839	14.1	C29H42O4	[M+H]+	Coenzyme Q4	Bruker MetaboBASE Personal Library 2.0_in-silico	0	0	0	0	1159	1950.75	

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
1076	363.25072	362.24344	14.13	C22H34O4	[M+H]+	16,16-dimethyl-PGA2	Bruker MetaboBASE Personal Library 2.0_in-silico	1444.5	2743.25	2382.25	1652.75	0	0	
1077	457.25871	456.25144	14.2	C27H36O6	[M+H]+	Lucidenic acid F	Bruker MetaboBASE Personal Library 2.0_in-silico	3038.75	3684.25	2682	2124.5	153.5	0	
1078	371.26127	370.254	14.22	C24H34O3	[M+H]+	Rimexolone	Bruker MetaboBASE Personal Library 2.0_in-silico	1409.75	953	1310.5	2070.5	2773.75	1981.5	
1079	200.20102	199.19374	14.24	C12H25NO	[M+H]+	Dodecanamide	Bruker MetaboBASE Personal Library 2.0_in-silico	2272.75	1582.25	2763	3393.75	3444.75	2907.5	
1080	413.30444	412.29716	14.29	C27H40O3	[M+H]+	Valenciachrome	Bruker MetaboBASE Personal Library 2.0_in-silico	127.25	0	0	0	5051.25	3329.5	
1081	455.31628	456.32356	14.41	C29H44O4	[M-H]- [M+H]+	1α-hydroxy-18-(5-hydro-xy-5-methyl-2-hexyny-loxy)-23,24,25,26,27-pentanorvitamin D3	Bruker MetaboBASE Personal Library 2.0_in-silico	2823.5	0	268.25	111	1438.25	6759	
1082	453.33647	452.32919	14.45	C30H44O3	[M+H]+	3-oxoursan (28-13)olide	Bruker MetaboBASE Personal Library 2.0_in-silico	2961	254.5	585.75	251.5	3286.5	3246.5	
1083	459.34675	458.33947	14.6	C29H46O4	[M+H]+	(3beta,5alpha,9alpha,22E,24R)-3,5,9-Trihydroxy-23-methylergosta-7,22-dien-6-one	Bruker MetaboBASE Personal Library 2.0_in-silico	3260.75	1348.5	1906.75	1007	1281.25	0	
1084	471.3454	470.33812	14.67	C30H46O4	[M+H]+	Colubrinic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	17664.75	1932.25	3780.5	3401.75	12839.75	17495	
1085	329.24776	328.24048	14.63	C22H32O2	[M+H]+	(4Z,7Z,10Z,13Z,16Z,19Z)-4,7, 10,13,1 6,19-Docosahexaenoic acid	Bruker MetaboBASE Personal Library 2.0	0	0	0	0	2701.5	751.5	

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
1086	431.31561	430.30833	14.75	C27H42O4	[M+H]+	(24S,25R)-25,26-epoxy-1α,24-dihydroxyvitamin D3 / (24S,25R)-25,26-epoxy-1α,24-dihydroxycholecalciferol	Bruker MetaboBASE Personal Library 2.0_in-silico	1482.5	0	97.5	0	5236.75	1790	
1087	301.17755	300.17027	14.75	C18H24N2S	[M+H]+	4-(4-cyclohexylphenyl)-N-propyl-1,3-thiazol-2-amine	Bruker MetaboBASE Personal Library 3.0	1577.25	1515.75	2038.25	2010.25	112.5	976.25	
1088	473.32682	472.31954	14.76	C29H44O5	[M+H]+	(3beta,17alpha,23R)-17,23-Epoxy-3,29-dihydroxy-27-norlanost-8-ene-15,24-dione	Bruker MetaboBASE Personal Library 2.0_in-silico	0	0	0	0	2824.75	1561	
1089	425.34136	424.33409	14.8	C29H44O2	[M+H]+	4,4'-Methylenebis(2,6-di-tert-butylphenol)	Bruker MetaboBASE Personal Library 2.0_in-silico	444	0	289	507.25	8792.75	5684.25	
1090	509.38365	508.37637	14.83	C30H52O6	[M+H]+	4,4,10,13,14-pentamethyl-17-(1,5,6-trihydroxy-6-methylheptan-2-yl)-2,3,5,6,7,11,12,15,16,17-decahydro-1H-cyclopenta[a]phenanthrene-2,3,12-triol	MoNA-export-GNPS_QTOF.msp	0	0	0	416.75	11410	5121.25	
1091	489.35808	488.3508	14.84	C30H48O5	[M+H]+	Glyyunnansapogenin B	Bruker MetaboBASE Personal Library 2.0_in-silico	2896	136	1129	0	13192.75	8711.5	
1092	193.12227	192.115	14.94	C12H16O2	[M+H]+	2E,6E,8E,10E-dodecatetraenoic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	2087	2976.25	1930.5	2228.25	0	582.5	
1093	561.34316	560.33589	14.98	C32H48O8	[M+H]+ [M-H]-	Propanedioic acid,	MoNA-export-GNPS_QTOF.msp	0	0	0	0	5553.5	3288.5	

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
1094	459.38243	458.37515	15.06	C30H50O3	[M+H]+	Heliantriol C	Bruker MetaboBASE Personal Library 2.0_in-silico	458.5	1152.25	574.5	3625.5	19884	15982.25	
1095	489.3581	488.35083	15.08	C30H48O5	[M+H]+	Camelliagenin B	Bruker MetaboBASE Personal Library 2.0_in-silico	183.25	383	0	2236.75	19781.5	4289.5	
1096	469.29506	468.28778	15.1	C29H40O5	[M+H]+	(17alpha,23S)-17,23-Epoxy-29-hydroxy-27-norlanosta-1,8-diene-3,15,24-trione	Bruker MetaboBASE Personal Library 2.0_in-silico	3068	3610	2457.5	1946.5	0	0	
1097	383.24067	382.23339	15.25	C22H30N4O2	[M+H]+	PharmaGSID_47333	Bruker MetaboBASE Personal Library 3.0	0	0	0	0	3068.5	3670.25	
1098	331.08115	330.07387	15.26	C13H18N2O4S2	[M+H]+	Penicillin O	Bruker MetaboBASE Personal Library 2.0_in-silico	359	302.5	343	59.25	4031.5	2153.5	
1099	477.26338	476.2561	15.26	C30H36O5	[M+H]+	Hydroxysophoranone	Bruker MetaboBASE Personal Library 2.0_in-silico	2624.75	6735.75	3166	2742.5	0	0	
1100	489.2274	488.22012	15.32	C23H32N6O4S	[M+H]+	Vardenafil	Bruker MetaboBASE Personal Library 2.0_in-silico	3273	5922	2924.5	2020.75	0	0	
1101	379.28401	396.28754	15.35	C23H40O5	[M-H2O+H]+ [M+H]+	10-F2-dihomo-IsoP	Bruker MetaboBASE Personal Library 2.0_in-silico	2434.25	5414.25	1262.75	3136.25	542.5	873	
1102	455.2794	454.27213	15.38	C28H38O5	[M+H]+	Euglobal V	Bruker MetaboBASE Personal Library 2.0_in-silico	787.75	1975	1185	979.25	0	0	
1103	489.28497	488.27769	15.42	C28H40O7	[M+H]+	2,3-Dihydrowithanolide E	Bruker MetaboBASE Personal Library 2.0_in-silico	0	0	0	1482	3534.75	3696	
1104	411.32533	410.31805	15.46	C28H42O2	[M+H]+	Calicoferol D	Bruker MetaboBASE Personal Library 2.0_in-silico	1393	0	0	0	433.25	2892.25	

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
1105	338.34206	337.33478	15.51	C22H43NO	[M+H]+	13E-Docosenamide	Bruker MetaboBASE Personal Library 3.0	1150.75	321.5	1009.25	455.5	4198	1755	
1106	359.21934	358.21206	15.59	C22H30O4	[M+H]+	Piperoic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	3266.25	4313	3169.5	3412	0	0	
1107	467.31554	466.30826	15.66	C30H42O4	[M+H]+	Pristimerol	Bruker MetaboBASE Personal Library 2.0_in-silico	0	0	0	858.5	1153.25	2878	
1108	121.10112	120.09384	15.69	C9H12	[M+H]+	1,2,4-Tris(methylene) cyclohexane	Bruker MetaboBASE Personal Library 2.0_in-silico	8830.75	269.25	3037.5	340.25	870	642	
1109	283.22672	282.21944	15.67	C17H30O3	[M+H]+	Acetylenic acids; 10-Heptadecen-8-ynoic acid, 7-hydroxy-	Bruker MetaboBASE Personal Library 2.0_in-silico	0	0	0	0	9029	0	
1110	413.29034	412.2829	15.85	C23H40O6	[M+H]+ [M+NH4]+ [M+Na]+	3-methoxy Limaprost	Bruker MetaboBASE Personal Library 2.0_in-silico	2186	6147.5	1211.5	1983.25	0	2945.5	
1111	455.35207	454.34479	15.86	C30H46O3	[M+H]+	Dehydro (11,12) ursolic acid lactone	Bruker MetaboBASE Personal Library 3.0	2556	1511.25	1802	3096	45446	30418.75	
1112	411.32148	410.31421	16.02	C23H42N2O4	[M+H]+	N-oleoyl glutamine	Bruker MetaboBASE Personal Library 2.0_in-silico	653	1813.5	2971	1002.25	0	223.25	
1113	507.27381	506.26653	16.12	C31H38O6	[M+H]+	Isoamoritin	Bruker MetaboBASE Personal Library 2.0_in-silico	921.25	1607	2094	713.5	0	442.75	
1114	433.23514	432.22786	16.17	C24H28N6O2	[M+H]+	5-cyclopropyl-N-[1-[3-(3,4-dimethylphenyl)-1H-pyrazole-5-carbonyl] piperidin-4-yl]-1H-pyrazole-3-carboxamide	Bruker MetaboBASE Personal Library 3.0	1256.25	2220.25	1600.25	1781.25	0	0	

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
1115	393.26369	392.25642	16.17	C23H36O5	[M+H]+ [M-H]-	Acetoxy-10-gingerol	Bruker MetaboBASE Personal Library 2.0	0	0	0	0	1337	2418.75	179
1116	485.35945	484.35217	16.22	C31H48O4	[M+H]+	26-Methyl nigranoate	Bruker MetaboBASE Personal Library 2.0_in-silico	0	0	0	0	0	6434.75	
1117	443.38689	442.37961	16.24	C30H50O2	[M+H]+	gamma-Taraxastanonol	Bruker MetaboBASE Personal Library 2.0_in-silico	3257.5	1521.5	669	6211	0	12881.25	
1118	461.39816	460.39089	16.28	C30H52O3	[M+H]+	(3beta,11alpha,13beta)-3,11,13-Oleananetriol	Bruker MetaboBASE Personal Library 2.0_in-silico	0	1415.5	561.5	7059	4358.75	14145.5	
1119	323.29454	322.28726	16.27	C21H38O2	[M+H]+	(3S,4R)-(6R,7S)-Diepoxy-9Z-heneicosene	Bruker MetaboBASE Personal Library 2.0_in-silico	349.5	1177.25	1552	414.75	0	0	
1120	339.27157	338.2643	16.3	C24H34O	[M+H]+	3-(2,4-Cyclopentadien-1-ylidene)-5alpha-androstan-17beta-ol	Bruker MetaboBASE Personal Library 2.0_in-silico	9723.5	6645.25	10519	16005.5	14840	12904.25	
1121	293.24743	292.24016	16.33	C19H32O2	[M+H]+	D-Homo-17a-oxa-5alpha-androstan-3beta-ol	Bruker MetaboBASE Personal Library 2.0_in-silico	2696.75	3150.75	1511	1783.75	3299.75	419.5	
1122	249.2578	248.25052	16.46	C18H32	[M+H]+	6Z,9Z,12Z-Octadecatriene	Bruker MetaboBASE Personal Library 2.0_in-silico	2220	2625.25	2092.25	1291.75	304.5	460.5	
1123	453.33703	452.32975	16.49	C30H44O3	[M+H]+	1α,25-dihydroxy-26,27-dimethyl-20,21,22,22,23,23-hexadehydro-24a-homovitamin D3	Bruker MetaboBASE Personal Library 2.0_in-silico	3531	364.75	497.5	915.5	8672.25	4293.5	
1124	301.21632	318.21943	16.73	C20H30O3	[M-H2O+H]+ [M+H]+	(5xi,9xi)-12-Hydroxyabieta-7,13-dien-18-oic acid	MoNA-export-GNPS_QTOF.msp	2649	201.25	12156	195.25	288.5	5498.75	

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude samples			
								6E	9E	12E	4E	15E	16E	
1125	513.3567	512.34943	16.72	C32H48O5	[M+H]+	11a,12a-Epoxy-3b-hydroxy-28,13-oleananolide 3-acetate	Bruker MetaboBASE Personal Library 2.0_in-silico	0	0	237.25	0	9326.5	6975	411
1126	343.22465	342.21738	16.88	C17H30N2O5	[M+H]+	E-64d	Bruker MetaboBASE Personal Library 2.0_in-silico	1894.75	3499.5	4118.25	2221.25	0	0	
1127	555.36561	554.35833	16.93	C34H50O6	[M+H]+	Ganoderic acid R	Bruker MetaboBASE Personal Library 2.0_in-silico	1062.25	549.25	1335.5	390.5	13730.75	9746.25	
1128	228.23235	227.22507	16.97	C14H29NO	[M+H]+	Halaminol A	Bruker MetaboBASE Personal Library 2.0_in-silico	2376	929.5	2147.5	1306.5	1221.25	1045.75	
1129	395.38861	394.38133	17.05	C26H50O2	[M+H]+	5,7-Hexacosanedione	Bruker MetaboBASE Personal Library 2.0_in-silico	3726.5	1466	2654	4987.5	4627.75	2240.5	
1130	193.12223	192.11496	17.08	C12H16O2	[M+H]+	11,12,13-Trinor-1,3,5-bisabolatrien-10-oic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	94	56.75	331.75	0	360.75	9739.25	
1131	549.28494	548.27767	17.06	C33H40O7	[M+H]+ [M-H]-	(+)-Myristinin A	Bruker MetaboBASE Personal Library 2.0_in-silico	5689.75	10907	4744.25	6013.75	0	0	
1132	269.21102	268.20374	17.17	C16H28O3	[M+H]+	(1S,2S)-3-oxo-2-pentyl-cyclopentanehexanoic acid	Bruker MetaboBASE Personal Library 2.0_in-silico	0	0	0	0	0	8238.25	
1133	60.04465	59.03738	17.23	C2H5NO	[M+H]+	Acetamide	Bruker MetaboBASE Personal Library 2.0_in-silico	7755.25	6014.75	7710	11133.75	15539	9747	
1134	263.27344	262.26617	17.23	C19H34	[M+H]+	6Z-Nonadecen-9-yne	Bruker MetaboBASE Personal Library 2.0_in-silico	3686.5	2848.25	3639	2449.5	101.25	0	
1135	337.31017	336.30289	17.35	C22H40O2	[M+H]+	(E)-3,7-Dimethyl-2,6-octadienyl dodecanoate	Bruker MetaboBASE Personal Library 2.0_in-silico	1369.5	2157.25	905.75	1193.25	0	0	
1136	615.48331	614.47603	17.49	C35H66O8	[M+H]+	Donhexocin	Bruker MetaboBASE Personal Library 2.0_in-silico	1400.25	538.75	1183.75	7612.75	426.75	9378.25	

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								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
1137	399.2893	398.28202	17.52	C26H38O3	[M+H]+	17beta-Hydroxyestr-4-en-3-one cyclopentanepropionate	Bruker MetaboBASE Personal Library 2.0_in-silico	0	0	0	0	3950.75	0	
1138	639.48203	638.47475	17.58	C37H66O8	[M+H]+	Purpureacin-1	Bruker MetaboBASE Personal Library 2.0_in-silico	0	0	0	2089	3972.75	8741	412
1139	425.3772	424.36992	17.61	C30H48O	[M+H]+	Beta-Amyrone	Bruker MetaboBASE Personal Library 2.0	3057.25	2278.5	4287	7302.25	93622.75	60067	413
1140	307.26301	306.25573	17.64	C20H34O2	[M+H]+	8,11,14-Eicosatrienoic acid	Bruker HMDB Metabolite Library_2.0	1818	4084	2527.5	2393	79.25	891.75	
1141	459.38157	458.37429	17.69	C30H50O3	[M+H]+	Soyasapogenol B	Bruker MetaboBASE Personal Library 2.0_in-silico	3458	3440.5	3307	6138.5	201713	119789.5	
1142	443.38604	442.37876	17.71	C30H50O2	[M+H]+	Uvaol	Bruker HMDB Metabolite Library_2.0	0	3904	469.5	16099.25	22740	36947.25	414
1143	282.27943	281.27215	17.96	C18H35NO	[M+H]+	Oleamide	Bruker MetaboBASE Personal Library 3.0	7310.25	19031.5	10764.25	9874.5	4674.75	9110.75	
1144	256.26366	255.25638	17.96	C16H33NO	[M+H]+	Palmitic amide	Bruker MetaboBASE Personal Library 2.0	41875.75	55281.25	56535	77737.75	15628.5	60557.5	
1145	413.34055	412.33328	18	C28H44O2	[M+H]+	25-Hydroxyvitamin D2	Bruker MetaboBASE Personal Library 2.0	0	0	0	0	2838.75	0	
1146	471.34699	470.33972	18.08	C30H46O4	[M+H]+	Ganoderiol B	Bruker MetaboBASE Personal Library 2.0_in-silico	0	0	0	0	4204.25	1827.25	
1147	124.08686	123.07959	18.08	C6H9N3	[M+H]+	3,3'-Iminobispropanenitrile	Bruker MetaboBASE Personal Library 3.0	3592.25	2574	3871	5050.75	4646.5	3840.75	

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
1148	357.28125	356.27397	18.21	C24H36O2	[M+H]+	(1S)-1-hydroxy-23,24-didehydro-25,26,27-trinorcalciol	Bruker MetaboBASE Personal Library 2.0_in-silico	1558.5	969.25	1213.5	2183	2357.75	19652	
1149	455.38781	454.38053	18.28	C31H50O2	[M+H]+	Vitamin D3 butyrate	Bruker MetaboBASE Personal Library 2.0_in-silico	3018	2043.5	0	5208.75	5070.75	3990.5	
1150	297.24139	296.23412	18.3	C18H32O3	[M+H]+	12S,13R-EpOME	Bruker MetaboBASE Personal Library 2.0_in-silico	1849.25	0	1811.25	979	0	0	
1151	485.39722	484.38994	18.39	C32H52O3	[M+H]+	3beta-Acetoxy-19alpha-hydroxy-12-ursene	Bruker MetaboBASE Personal Library 2.0_in-silico	0	0	751.5	479.25	79457	45603.25	
1152	489.39367	488.38639	18.49	C31H52O4	[M+H]+	(22R)-1α,22,25-trihydroxy-26,27-dimethyl-24a,24b-dihomo-20-epivitamin D3	Bruker MetaboBASE Personal Library 2.0_in-silico	360.5	1226.25	13761.5	1533.75	0	1985.5	
1153	413.36283	412.35556	18.51	C25H48O4	[M+H]+	MG(22:1(13Z)/0:0/0:0)	Bruker MetaboBASE Personal Library 2.0_in-silico	4117.5	750	3128	1639.5	0	0	
1154	455.33828	454.331	18.52	C26H46O6	[M+H]+	27-Norcholestanehexol	Bruker MetaboBASE Personal Library 2.0_in-silico	2117.5	3984.25	2416	0	0	0	
1155	459.38469	458.37741	18.5	C30H50O3	[M+H]+	(20S,24E)-20,26-Dihydroxy-24-dammaren-3-one	Bruker MetaboBASE Personal Library 2.0_in-silico	2706	244.5	587.75	1736.75	793.75	0	
1156	461.39864	460.39136	18.52	C30H52O3	[M+H]+	Myrrhanol A	Bruker MetaboBASE Personal Library 2.0_in-silico	0	796	0	4172	463.75	1972.25	
1157	373.27376	372.26648	18.69	C24H36O3	[M+H]+	3α-Hydroxy-5β-chola-8(14),11-dien-24-oic Acid	Bruker MetaboBASE Personal Library 2.0_in-silico	0	96	113.25	0	0	2693.75	

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
1158	501.39352	500.38624	18.75	C32H52O4	[M+H]+	3beta-Hydroxylanostane-7,11-dione acetate	Bruker MetaboBASE Personal Library 2.0_in-silico	153.25	0	2320.5	0	3153	6321	
1159	457.3677	456.36043	18.87	C30H48O3	[M+H]+	Soyasapogenol E	Bruker MetaboBASE Personal Library 2.0_in-silico	882.5	1595.5	1494	8793	4296	3503	415
1160	441.37278	458.37615	19.08	C30H50O3	[M-H2O+H]+ [M+H]+	(3beta,24xi)-Cycloart-25-ene-3,24,27-triol	Bruker MetaboBASE Personal Library 2.0_in-silico	9151	1593.25	3879.25	2788.5	6474.25	5097.5	
1161	525.45146	524.44411	19.43	C32H60O5	[M+H]+ [M-H2O+H]+	DG(13:0/16:1(9Z)/0:0)[iso2]	Bruker MetaboBASE Personal Library 2.0_in-silico	755.25	854.25	1227.75	1930.75	2268.75	45518	
1162	469.40337	468.3961	19.93	C32H52O2	[M+H]+	Lupeol acetate	Bruker MetaboBASE Personal Library 3.0	204.25	42.5	1051	0	0	5072	63
1163	575.46733	574.46015	20.21	C36H62O5	[M+H]+ [M+Na]+	DG(15:0/18:4(6Z,9Z,12Z,15Z)/0:0)	Bruker MetaboBASE Personal Library 2.0_in-silico	2431.75	4198	2075.75	3231	1717.5	0	
1164	617.40244	616.39516	20.43	C36H56O8	[M+H]+	Phorbol myristate acetate	Bruker MetaboBASE Personal Library 2.0_in-silico	0	87.5	0	0	3140	1769.75	416
1165	537.48798	536.4807	20.45	C34H64O4	[M+H]+	9-POHSA	Bruker MetaboBASE Personal Library 2.0	1414.75	596	1328.25	1369	2211	972.75	
1166	561.48772	560.48044	20.83	C36H64O4	[M+H]+	2-methylbacteriohopane-32,33,34,35-tetrol	Bruker MetaboBASE Personal Library 2.0_in-silico	337	0	1259.5	287.25	1032.5	1229.25	
1167	133.01421	134.02149	1.23	C4H6O5	[M-H]-	L-Malic acid	Bruker HMDB Metabolite Library_2.0	3475.25	4622.75	4015	4470.25	0	1920.5	417
1168	178.02717	179.03445	7.86	C9H6FNO2	[M-H]-	5-fluoroindole-2-carboxylic acid	Bruker MetaboBASE Personal Library 3.0	0	14731	0	25141.5	1957.5	2315.75	

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
1169	179.07136	180.07863	10.88	C10H12O3	[M-H]-	2-propyl-3-hydroxyethylenepyran-4-one	Bruker MetaboBASE Personal Library 3.0	1441	569	0	119.5	0	0	
1170	191.03511	192.04238	8.82	C10H8O4	[M-H]-	4-methyldaphnetin	Bruker MetaboBASE Personal Library 3.0	143.75	251.25	373.5	719.25	2511.25	944.5	
1171	243.06221	244.06949	2.5	C9H12N2O6	[M-H]-	Uridine	Bruker MetaboBASE Personal Library 3.0	1558.75	1127	1354.25	1148.25	0	628.5	418
1172	265.14772	266.155	13.17	C15H22O4	[M-H]-	Cumanin	Bruker MetaboBASE Personal Library 3.0	37572.5	21006.25	21426.25	27339.25	34083	45784.75	
1173	313.07168	314.07896	10.93	C17H14O6	[M-H]-	Velutin	MoNA-export-GNPS_QTOF.msp	3297.25	2213.75	2685.75	1444.5	20697	8669.5	
1174	313.07179	314.07906	8.54	C17H14O6	[M-H]-	Dipteryxin	Bruker MetaboBASE Personal Library 3.0	3294	2943.75	2028.25	1868.75	1224.5	1176.75	
1175	313.23814	314.24542	12.97	C18H34O4	[M-H]-	9,10-DiHOME	Bruker MetaboBASE Personal Library 3.0	1959	1537	1109.5	1278.25	731.5	0	
1176	315.19653	316.2038	14.31	C20H28O3	[M-H]-	15-deoxy-Δ12,14-Prostaglandin A2	Bruker MetaboBASE Personal Library 2.0	0	0	0	0	790.25	2097.75	
1177	325.1841	326.19138	14.76	C18H30O3S	[M-H]-	4-Dodecylbenzenesulfonic acid	Bruker MetaboBASE Personal Library 3.0	3073.5	2127.5	2340	1784.25	1765.25	1899.5	
1178	333.20648	334.21376	12.03	C20H30O4	[M-H]-	(2E)-2-[2-(1,2,4a,5-Tetra-methyl-1,2,3,4,4a,7,8,8a-octahydro-1-naphthalenyl) ethyl]-2-butenedioic acid	Bruker MetaboBASE Personal Library 3.0	0	0	0	893.5	1300.25	3271.5	
1179	339.19971	340.20699	16.45	C22H28O3	[M-H]-	Norethindrone acetate	Bruker MetaboBASE Personal Library 2.0	1175.25	833.75	611.25	677	534.25	858.75	

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
1180	339.25385	340.26113	14.18	C20H36O4	[M-H]-	15(S)-HpEDE	Bruker MetaboBASE Personal Library 2.0	1380.5	2897.25	1501.25	1638	0	0	
1181	341.26941	342.27669	13.94	C20H38O4	[M-H]-	FAHFA 20:0; FAHFA 2:0/18:0; [M-H]-	MSDIAL-LipidDBs-VS34.msp	1836.25	2918.25	1621.25	1739	0	0	
1182	343.08209	344.08936	11.1	C18H16O7	[M-H]-	5,7-dihydroxy-3,6-dimethoxy-2-(4-methoxyphenyl)-4H-chromen-4-one	MoNA-export-GNPS_QTOF.msp	1680	1825.5	1423.75	1170.5	3716	1833.75	
1183	343.0824	344.08968	8.68	C18H16O7	[M-H]-	Eupatorin	Bruker MetaboBASE Personal Library 3.0	3178.75	4470.75	2318.5	1796.5	0	0	20
1184	343.11833	344.12561	9.46	C19H20O6	[M-H]-	Lasepitin	Bruker MetaboBASE Personal Library 3.0	0	0	0	0	2979.5	1347.5	
1185	349.24182	350.24909	20.86	C18H38O4S	[M-H]-	Sulfuric acid, monooctadecyl ester	Bruker MetaboBASE Personal Library 3.0	2922.25	353.75	506.5	880.5	0	0	
1186	355.11879	356.12606	10.36	C20H20O6	[M-H]-	4,6,7-trihydroxy-5-methoxy-1,8,8,9-tetramethyl-9H-phenaleno[1,2-b]furan-3-one	MoNA-export-GNPS_QTOF.msp	739.5	420.75	805	1900.75	1923.5	3194.25	
1187	357.09781	358.10508	11.82	C19H18O7	[M-H]-	2-(2,4-Dimethoxyphenyl)-5-hydroxy-7,8-dimethoxy-4H-1-benzopyran-4-one	Bruker MetaboBASE Personal Library 3.0	1322.75	1307.25	1049	638.5	882.25	731	
1188	363.21737	364.22464	14.81	C21H32O5	[M-H]-	Acetoxy-8-gingerol	Bruker MetaboBASE Personal Library 3.0	0	0	0	0	1285.5	1779.25	

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
1189	371.1135	372.12077	15.82	C20H20O7	[M-H]-	[3-(4-hydroxy-3-metho-xybenzoyl)-2,3-dimethyl-oxiran-2-yl]-(4-hydroxy-3-methoxyphenyl)methanone	MoNA-export-GNPS_QTOF.msp	0	0	0	0	2696.25	1016.75	
1190	385.10817	386.11544	14.75	C22H18N4OS	[M-H]-	Axitinib	Bruker MetaboBASE Personal Library 2.0	854.25	491.5	533	198.5	0	0	
1191	417.11898	418.12626	9.1	C21H22O9	[M-H]-	2-(4-hydroxyphenyl)-7-[(2S,3R,4S,5S,6R)-3,4,5-trihydroxy-6-(hydroxy-methyl)oxan-2-yl]oxy-2,3-dihydrochromen-4-one	MoNA-export-GNPS_QTOF.msp	1790	2494.75	2078	1388.25	297.75	0	
1192	417.15523	418.16251	8.85	C22H26O8	[M-H]-	2-acetyl-4-[(3-butanoyl-2,4,6-trihydroxy-5-methyl-phenyl)methyl]-3,5-dihy-droxy-6,6-dimethyl-cyclohexa-2,4-dien-1-one	MoNA-export-GNPS_QTOF.msp	616.5	279.75	1677.5	464.75	0	0	
1193	417.30028	418.30755	14.56	C26H42O4	[M-H]-	FAHFA 26:4; FAHFA 2:0/24:4; [M-H]-	MSDIAL-LipidDBs-VS34.msp	1080.25	0	0	0	2139.5	1071.75	
1194	433.2363	434.24357	15.46	C21H39O7P	[M-H]-	LPA 18:2; [M-H]-	MSDIAL-LipidDBs-VS34.msp	0	751.5	0	0	0	0	419
1195	445.11401	446.12129	9.92	C22H22O10	[M-H]-	Prunetin 5-O-glucoside	Bruker MetaboBASE Personal Library 3.0	1347.75	1097.75	1457	646.5	0	0	

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude samples			
								6E	9E	12E	4E	15E	16E	
1196	447.12973	448.13701	8.42	C22H24O10	[M-H]-	2-(beta-D-Glucopyranosyloxy)benzyl (2E)-3-(3,4-dihydroxyphenyl)acrylate	MoNA-export-GNPS_QTOF.msp	1961.75	2828	3021	395.25	0	0	
1197	449.10913	450.11641	6.47	C21H22O11	[M-H]-	Eriodictyol-7-O-glucoside	Bruker MetaboBASE Personal Library 3.0	107.75	0	0	0	0	1991	
1198	461.1089	462.11618	8.37	C22H22O11	[M-H]-	5,8-Dihydroxy-2-(4-hydroxyphenyl)-7-methoxy-4-oxo-4H-chromen-3-yl 6-deoxy-?-L-mannopyranoside	Bruker MetaboBASE Personal Library 3.0	0	103.75	305	217.25	3402	82.5	
1199	469.33245	470.33972	18.36	C30H46O4	[M-H]-	18α-glycyrrhetinic acid	Bruker MetaboBASE Personal Library 3.0	0	0	0	160.5	2092.25	970.75	
1200	471.34729	472.35457	18.39	C30H48O4	[M-H]-	Hederagenin	Bruker MetaboBASE Personal Library 2.0	0	325.25	0	1469.75	7713	2245.75	420
1201	471.34782	472.35509	17.32	$C_{30}H_{48}O_4$	$[M-H]^-$	Corosolic acid	Bruker MetaboBASE Personal Library 3.0	10310	1927.5	3670.5	429.75	6706.25	4551.5	141
1202	533.34776	488.34972	15.08	$C_{30}H_{48}O_5$	$[M+HCOOH-H]^-$, $[M-H]^-$	Olean-12-en-28-oic acid, 2,3,19-trihydroxy-, (2alpha,3beta,5xi,9xi,19alpha)-	MoNA-export-GNPS_QTOF.msp	0	0	0	1499.25	10184.5	1940	
1203	583.18312	584.1904	9.7	$C_{30}H_{32}O_{12}$	$[M-H]^-$	{(1R,2S,3R,5R,6R,8S)-3-[(6-O-Benzoyl-beta-D-glucopyranosyl)oxy]-6-hydroxy-8-methyl-9,10-dioxatetracyclo[4.3.1.0~2,5~.0~3,8~]dec-2-yl}methyl benzoate	MoNA-export-GNPS_QTOF.msp	638.75	577	1207	225.5	0	0	
1204	606.44575	607.45302	16.77	$C_{32}H_{66}NO_7P$	$[M-H]^-$	PE 27:0e; PE 18:0e/9:0; [M-H]-	MSDIAL-LipidDBs-VS34.msp	879.75	3760.25	253.25	1886.5	0	0	

No.	m/z meas.	M meas.	RT, min	Molecular formula	Ions	Compounds name	Annotation source	Sample code						Ref.
								low altitude sampels			high altitude sampels			
								6E	9E	12E	4E	15E	16E	
1205	471.15069	472.15797	6.4	$C_{21}H_{28}O_{12}$	$[M-H]^-$	beta-L-Fructofuranosyl 6-O-[(2E)-3-phenyl-2-propenoyl]-alpha-D-glucopyranoside		0	0	0	0	0	9413.25	

REFERENCES

1. R. Chang, D. Piló-Veloso, S. A. L. Morais, E. A. Nascimento, *Rev. Bras. Farmacogn.* **18** (2008) 549–556 (https://doi.org/10.1590/S0102-695X2008000400009)
2. N. Sahinler, O. Kaftanoglu, *Nat. Prod. Res.* **19** (2005) 183–188 (https://doi.org/10.1080/14786410410001704877)
3. D.-Y. Wang, Q. Ye, G.-L. Zhang, B.-G. Li, *J. Asian Nat. Prod. Res.* **5** (2003) 297–301 (https://doi.org/10.1080/1028602031000111950)
4. L. Saftić, Ž. Peršurić, E. Fornal, T. Pavlešić, S. Kraljević Pavelić, *J. Pharm. Biomed. Anal.* **165** (2019) 162–172 (https://doi.org/10.1016/j.jpba.2018.11.061)
5. P. P. Könen, M. Wüst, *Beilstein J. Org. Chem.* **15** (2019) 1945–1961 (https://doi.org/10.3762/bjoc.15.190)
6. Y. M. Boufadi, P. Van Antwerpen, I. Chikh Alard, J. Nève, N. Djennas, A. Riazi, J. Soubhye, *J. Food Biochem.* **42** (2018) e12434 (https://doi.org/10.1111/jfbc.12434)
7. M. G. da Cunha, G. C. N. Franco, M. Franchin, J. A. Beutler, S. M. de Alencar, M. Ikegaki, P. L. Rosalen, *Toxicol. Lett.* **263** (2016) 6–10 (https://doi.org/10.1016/j.toxlet.2016.10.010)
8. Y. Yao, P. Wang, G. Shao, L. V. A. Del Toro, J. Codero, R. W. Giese, *Rapid Commun. Mass Spectrom.* **30** (2016) 2341–2350 (https://doi.org/10.1002/rcm.7726)
9. M. A. Ferreira, M. Moir, R. H. Thomson, *J. Chem. Soc. Perkin Trans. 1* (1974) 2429 (https://doi.org/10.1039/P19740002429)
10. T. Iwashina, J. Kitajima, *Biochem. Syst. Ecol.* **37** (2009) 122–123 (https://doi.org/10.1016/j.bse.2008.12.003)
11. N. Tadigoppula, V. Korthikunta, S. Gupta, P. Kancharla, T. Khaliq, A. Soni, R. K. Srivastava, K. Srivastava, S. K. Puri, K. S. R. Raju, Wahajuddin, P. S. Sijwali, V. Kumar, I. S. Mohammad, *J. Med. Chem.* **56** (2013) 31–45 (https://doi.org/10.1021/jm300588j)
12. M. Silveira Regueira-Neto, S. Relison Tintino, A. R. Pereira da Silva, M. Socorro Costa, C. D. Morais Oliveira-Tintino, A. Augusti Boligon, I. R. A. Menezes, V. Queiroz Balbino, H. D. Melo Coutinho, *Chem. Biodivers.* **16** (2019) (https://doi.org/10.1002/cbdv.201900344)
13. L. Svečnjak, Z. Marijanović, P. Okińczyc, P. Marek Kuś, I. Jerković, *Antioxidants* **9** (2020) 337 (https://doi.org/10.3390/antiox9040337)
14. T. Iwashina, Destri, S. Rahayu, C. Tsutsumi, Yuzammi, T. Mizuno, D. Widyatmoko, *Biochem. Syst. Ecol.* **90** (2020) 104036 (https://doi.org/10.1016/j.bse.2020.104036)
15. T. Günther, L. Schoppe, F. Ersoy, R. G. Berger, *Catalysts* **11** (2021) 631 (https://doi.org/10.3390/catal11050631)
16. B. S. Febina, J. S. Kris, *Int. J. Pharm. Sci. Res.* **12** (2021) 1823–1833 (http://dx.doi.org/10.13040/IJPSR.0975-8232.12(3).1823-33**)**
17. Y. Chi, L. Luo, M. Cui, Y. Hao, T. Liu, X. Huang, X. Guo, *Chem. Biodivers.* **17** (2020) (https://doi.org/10.1002/cbdv.201900489)
18. J. C. Breytenbach, *J. Nat. Prod.* **49** (1986) 1003–1009 (https://doi.org/10.1021/np50048a006)
19. I. Jerković, M. Rajić, Z. Marijanović, M. Bilić, S. Jokić, *Sep. Sci. Technol.* **51** (2016) 2925–2931 (https://doi.org/10.1080/01496395.2016.1237967)
20. F. A. Tomás-Barberán, C. García-Viguera, P. Vit-Olivier, F. Ferreres, F. Tomás-Lorente, *Phytochemistry* **34** (1993) 191–196 (https://doi.org/10.1016/S0031-9422(00)90804-5)

21. C. Medana, F. Carbone, R. Aigotti, G. Appendino, C. Baiocchi, *Phytochem. Anal.* **19** (2008) 32–39 (https://doi.org/10.1002/pca.1010)
22. A. K. Srivastava, D. Singh Kapkoti, M. Gupta, P. K. Rout, R. Singh Bhakuni, A. Samad, *Ind. Crops Prod.* **160** (2021) 113156 (https://doi.org/10.1016/j.indcrop.2020.113156)
23. T. N. Bozkuş, O. Değer, A. Yaşar, *J. Liq. Chromatogr. Relat. Technol.* **44** (2021) 77–86 (https://doi.org/10.1080/10826076.2021.1883648)
24. O. Lapčík, B. Klejdus, L. Kokoška, M. Davidová, K. Afandi, V. Kubáň, R. Hampl, *Biochem. Syst. Ecol.* **33** (2005) 983–992 (https://doi.org/10.1016/j.bse.2005.03.007)
25. Y. Obara, H. Matsubara, K. Munakata, *Agric. Biol. Chem.* **40** (1976) 1245–1246 (https://doi.org/10.1080/00021369.1976.10862200)
26. H. Tugba Degirmencioglu, E. Guzelmeric, P. I. Yuksel, H. Kırmızıbekmez, I. Deniz, E. Yesilada, *Chem. Biodivers.* **16** (2019) (https://doi.org/10.1002/cbdv.201900492)
27. E. Narbona, E. García-García, L. Vázquez-Araújo, Á. A. Carbonell-Barrachina, *Int. J. Food Sci. Technol.* **45** (2010) 569–577 (https://doi.org/10.1111/j.1365-2621.2009.02167.x)
28. M. Setzer, K. Byler, I. Ogungbe, W. Setzer, *Sci. Pharm.* **85** (2017) 5 (https://doi.org/10.3390/scipharm85010005)
29. L. Fu, Z. Zhang, P. Chen, Z. Lin, G. Liu, *J. Am. Chem. Soc.* **142** (2020) 12493–12500 (https://doi.org/10.1021/jacs.0c05373)
30. K. Gaweł-Bęben, M. Strzępek-Gomółka, M. Czop, Z. Sakipova, K. Głowniak, W. Kukula-Koch, *Molecules* **25** (2020) 3368 (https://doi.org/10.3390/molecules25153368)
31. C. Kawasaki, T. Okuyama, S. Shibata, Y. Iitaka, *Planta Med.* **50** (1984) 492–496 DOI: 10.1055/s-2007-969781)
32. A. Torres-González, P. López-Rivera, G. Duarte-Lisci, Á. López-Ramírez, A. Correa-Benítez, J. F. Rivero-Cruz, *Nat. Prod. Res.* **30** (2016) 237–240 (https://doi.org/10.1080/14786419.2015.1043631)
33. E. Tosti, G. Romano, I. Buttino, A. Cuomo, A. Ianora, A. Miralto, *Mol. Reprod. Dev.* **66** (2003) 72–80 (https://doi.org/10.1002/mrd.10332)
34. M. Oroian, F. Dranca, F. Ursachi, *J. Food Sci. Technol.* **57** (2020) 70–78 (https://doi.org/10.1007/s13197-019-04031-x)
35. L. Salomon, P. Lorenz, M. Bunse, O. Spring, F. C. Stintzing, D. R. Kammerer, *Molecules* **26** (2021) 1530 (https://www.mdpi.com/1420-3049/26/6/1530)
36. G. K. Jayaprakasha, P. S. Negi, C. Anandharamakrishnan, K. K. Sakariah, *Zeitschrift Für Naturforsch. C* **56** (2001) 40–44 (https://doi.org/10.1515/znc-2001-1-207)
37. A. Pinto-Martinez, V. Hernández-Rodríguez, J. Rodríguez-Durán, E. Hejchman, G. Benaim, *Exp. Parasitol.* **189** (2018) 8–15 (https://doi.org/10.1016/j.exppara.2018.04.010)
38. A. Z. Mohamed Ba, N. A. El Rhaman Sal, M. A. Kamal Isma, *Pakistan J. Biol. Sci.* **23** (2020) 839–847 (https://doi.org/10.3923/pjbs.2020.839.847)
39. W. A. Ayer, P. Craw, *Can. J. Chem.* **67** (1989) 1371–1380 (https://doi.org/10.1139/v89-210)
40. V. Percec, M. N. Holerca, S. Nummelin, J. J. Morrison, M. Glodde, J. Smidrkal, M. Peterca, B. M. Rosen, S. Uchida, V. S. K. Balagurusamy, M. J. Sienkowska, P. A. Heiney, *Chem. - A Eur. J.* **12** (2006) 6216–6241 (https://doi.org/10.1002/chem.200600178)
41. L. Botta, F. Brunori, A. Tulimieri, D. Piccinino, R. Meschini, R. Saladino, *ACS Omega* **2** (2017) 2515–2523 (https://doi.org/10.1021/acsomega.7b00294)

42. S. J. Lang, M. Schmiech, S. Hafner, C. Paetz, K. Werner, M. El Gaafary, C. Q. Schmidt, T. Syrovets, T. Simmet, *Int. J. Mol. Sci.* **21** (2020) 4090 (https://doi.org/10.3390/ijms21114090)
43. R. Reyes-Chilpa, N. Viveros-Rodríguez, F. Gómez-Garibay, D. Alavez-Solano, *J. Chem. Ecol.* **21** (1995) 455–463 (https://doi.org/10.1007/BF02036742)
44. G. Zheng, M. Liu, Y. Chao, Y. Yang, D. Zhang, Y. Tao, J. Zhang, C. Zeng, M. Wei, *J. Sep. Sci.* **43** (2020) 3421–3440 (https://doi.org/10.1002/jssc.202000490)
45. A. Mohammad, I. Anis, V. McKee, J. W. A. Frese, M. R. Shah, *Acta Crystallogr. Sect. E Struct. Reports Online* **66** (2010) o2716–o2717 (https://doi.org/10.1107/S1600536810039012)
46. D. Zaleta-Pinet, A. McCluskey, S. Hall, J. Brophy, C. Ashhurst-Smith, J. Sakoff, I. van Altena, *Aust. J. Chem.* **69** (2016) 161 (https://doi.org/10.1071/CH15586)
47. A. Özkök, M. Keskin, A. E. Tanuğur Samancı, E. Yorulmaz Önder, Ç. Takma, *Appl. Biol. Chem.* **64** (2021) 37 (https://doi.org/10.1186/s13765-021-00608-3)
48. M. Houdkova, G. Albarico, I. Doskocil, J. Tauchen, K. Urbanova, E. E. Tulin, L. Kokoska, *Molecules* **25** (2020) 6004 (https://doi.org/10.3390/molecules25246004)
49. X. Wu, M. Li, X. Wang, T. Shen, S. Wang, D. Ren, *Nat. Prod. Res.* **33** (2019) 204–211 (https://doi.org/10.1080/14786419.2018.1443095)
50. A. Tkaczyk, P. Jedziniak, *Mycotoxin Res.* **37** (2021) 169–181 (https://doi.org/10.1007/s12550-021-00428-w)
51. A. Pannequin, E. Laurini, L. Giordano, A. Muselli, S. Pricl, A. Tintaru, *Molecules* **25** (2020) 3292 (https://doi.org/10.3390/molecules25143292)
52. A. Sharma, J. Sun, I. Singaram, A. Ralko, D. Lee, W. Cho, *ACS Chem. Biol.* **15** (2020) 1913–1920 (https://doi.org/10.1021/acschembio.0c00241)
53. H. Li, Y. Xi, X. Xin, H. Tian, Y. Hu, *Nutr. Metab. (Lond).* **17** (2020) 34 (https://doi.org/10.1186/s12986-020-00454-y)
54. W.-Q. Li, H. Zhou, M.-Y. Zhou, X.-P. Hu, S.-Y. Ou, R.-A. Yan, X.-J. Liao, X.-S. Huang, L. Fu, *J. Agric. Food Chem.* **63** (2015) 787–794 (https://doi.org/10.1021/jf505982f)
55. F. Zhu, Y. Guo, *Chinese J. Chem.* **28** (2010) 1451–1456 (https://doi.org/10.1002/cjoc.201090248)
56. Q. Cui, L. Ye, C. Guo, W. Li, *ACS Omega* **5** (2020) 31744–31752 (https://doi.org/10.1021/acsomega.0c04382)
57. V. Spitzer, S. A. de L. Bordignon, E. P. Schenkel, F. Marx, *J. Am. Oil Chem. Soc.* **71** (1994) 1343–1348 (https://doi.org/10.1007/BF02541352)
58. S. D. McCann, E. C. Reichert, P. L. Arrechea, S. L. Buchwald, *J. Am. Chem. Soc.* **142** (2020) 15027–15037 (https://doi.org/10.1021/jacs.0c06139)
59. A. Dugrand-Judek, A. Olry, A. Hehn, G. Costantino, P. Ollitrault, Y. Froelicher, F. Bourgaud, *PLoS One* **10** (2015) e0142757 (https://doi.org/10.1371/journal.pone.0142757)
60. A. Mishra, P. Gupta, R. K. Lal, S. S. Dhawan, *Plant Physiol. Biochem.* **162** (2021) 517–530 (https://doi.org/10.1016/j.plaphy.2021.03.009)
61. K. M. Mendez, J. Kim, I. Laíns, A. Nigalye, R. Katz, S. Pundik, I. K. Kim, L. Liang, D. G. Vavvas, J. B. Miller, J. W. Miller, J. A. Lasky-Su, D. Husain, *Metabolites* **11** (2021) 183 (https://doi.org/10.3390/metabo11030183)
62. H. Fujimoto, H. Hagiwara, K. Suzuki, M. Yamazaki, *Chem. Pharm. Bull.* **35** (1987) 2254–2260 (https://doi.org/10.1248/cpb.35.2254)

63. F. M. de A. de Carvalho, J. K. Schneider, C. V. F. de Jesus, L. N. de Andrade, R. G. Amaral, J. M. David, L. C. Krause, P. Severino, C. M. F. Soares, E. Caramão Bastos, F. F. Padilha, S. V. F. Gomes, R. Capasso, A. Santini, E. B. Souto, et al., *Biomolecules* **10** (2020) 726 (https://doi.org/10.3390/biom10050726)
64. A. Fidah, N. Salhi, M. Rahouti, B. Kabouchi, M. Ziani, M. Aberchane, A. Famiri, *Maderas. Cienc. y Tecnol.* (2016) 0–0 (http://dx.doi.org/10.4067/S0718-221X2016005000049)
65. L. Huang, Q. Lv, F. Liu, T. Shi, C. Wen, *Sci. Rep.* **5** (2015) 16401 (https://doi.org/10.1038/srep16401)
66. C. R. Ambati, V. Vantaku, S. R. Donepudi, C. S. Amara, S. S. Ravi, A. Mandalapu, M. Perla, V. Putluri, A. Sreekumar, N. Putluri, *Anal. Methods* **11** (2019) 49–57 (https://doi.org/10.1039/C8AY02168F)
67. A. N. Komogortsev, V. G. Melekhina, B. V. Lichitsky, *Synth. Commun.* **51** (2021) 701–708 (https://doi.org/10.1080/00397911.2020.1849725)
68. S. Boisard, A.-M. Le Ray, J. Gatto, M.-C. Aumond, P. Blanchard, S. Derbré, C. Flurin, P. Richomme, *J. Agric. Food Chem.* **62** (2014) 1344–1351 (https://doi.org/10.1021/jf4053397)
69. A. Aliboni, *Zeitschrift Für Naturforsch. C* **69** (2014) 10–20 (https://doi.org/10.5560/znc.2013-0114)
70. V. A. Taddeo, F. Epifano, S. Fiorito, S. Genovese, *J. Pharm. Biomed. Anal.* **129** (2016) 219–223 (https://doi.org/10.1016/j.jpba.2016.07.006)
71. S. Mohammadzadeh, M. Shariatpanahi, M. Hamedi, R. Ahmadkhaniha, N. Samadi, S. N. Ostad, *Food Chem.* **103** (2007) 1097–1103 (https://doi.org/10.1016/j.foodchem.2006.10.006)
72. K. Hroboňová, J. Lehotay, J. Čižmárik, *Nov. Biotechnol. Chim.* **12** (2013) 1–11 (https://doi.org/10.2478/nbec-2013-0001)
73. S. Saito, S. Kurakane, M. Seki, E. Takai, T. Kasai, J. Kawabata, *Bioorg. Med. Chem.* **13** (2005) 4191–4199 (https://doi.org/10.1016/j.bmc.2005.04.049)
74. P. Kolar, M. Tišler, *J. Heterocycl. Chem.* **30** (1993) 1253–1260 (https://doi.org/10.1002/jhet.5570300514)
75. Z. Lin, T. B. Kakule, C. A. Reilly, S. Beyhan, E. W. Schmidt, *J. Nat. Prod.* **82** (2019) 1616–1626 (https://doi.org/10.1021/acs.jnatprod.9b00121)
76. E. R. Solorzano, I. M. Di Gangi, M. Roverso, G. Favaro, S. Bogialli, P. Pastore, *Appl. Sci.* **9** (2019) 3546 (https://doi.org/10.3390/app9173546)
77. L. S. Olegário, J. K. S. Andrade, G. R. S. Andrade, M. Denadai, R. L. Cavalcanti, M. A. A. P. da Silva, N. Narain, *Food Res. Int.* **123** (2019) 481–502 (https://doi.org/10.1016/j.foodres.2019.04.004)
78. G. Zengin, M. Y. Paksoy, M. Z. Aumeeruddy, J. Glamocilja, M. Sokovic, A. Diuzheva, J. Jekő, Z. Cziáky, M. J. Rodrigues, L. Custodio, M. F. Mahomoodally, *Food Res. Int.* **123** (2019) 414–424 (https://doi.org/10.1016/j.foodres.2019.05.013)
79. M. Dunbar, S. Keten, *Macromolecules* **53** (2020) 9397–9405 (https://doi.org/10.1021/acs.macromol.0c01217)
80. S.-K. Wang, Y.-J. Cheng, C.-Y. Duh, *J. Nat. Prod.* **64** (2001) 92–94 (https://doi.org/10.1021/np000341q)
81. Q. Wang, B. Su, L. Dong, T. Jiang, Y. Tan, X. Lu, X. Liu, X. Lin, G. Xu, *J. Proteome Res.* **19** (2020) 3533–3541 (https://doi.org/10.1021/acs.jproteome.0c00344)

82. P. Poolchanuan, P. Unagul, S. Thongnest, S. Wiyakrutta, N. Ngamrojanavanich, C. Mahidol, S. Ruchirawat, P. Kittakoop, *Sci. Rep.* **10** (2020) 9300 (https://doi.org/10.1038/s41598-020-66251-y)
83. M. S. Shahriar, M. A. Bhuiyan, M. S. Rana, *J. Bangladesh Acad. Sci.* **44** (2021) 85–93 (https://doi.org/10.3329/jbas.v44i2.51453)
84. S. Mişe Yonar, M. Ş. Ural, S. Silici, M. E. Yonar, *Ecotoxicol. Environ. Saf.* **102** (2014) 202–209 (https://doi.org/10.1038/s41598-020-66251-y)
85. T.-T. Ma, G.-L. Zhang, C.-F. Dai, B.-R. Zhang, K.-X. Cao, C.-G. Wang, G.-W. Yang, X.-M. Wang, *J. Ethnopharmacol.* **259** (2020) 112929 (https://doi.org/10.1016/j.jep.2020.112929)
86. L. C. Rufatto, P. Luchtenberg, C. Garcia, C. Thomassigny, S. Bouttier, J. A. P. Henriques, M. Roesch-Ely, F. Dumas, S. Moura, *Microbiol. Res.* **214** (2018) 74–82 (https://doi.org/10.1016/j.micres.2018.05.003)
87. M. Mahani, A. Sulaeman, F. Anwar, M. R. M. Damanik, H. Hardinsyah, A. Ploeger, *J. Gizi Dan Pangan* **13** (2018) 1–10 (https://doi.org/10.25182/jgp.2018.13.1.1-10)
88. Y. Matsushima, E. Kawachi, H. Tanaka, H. Kagechika, Y. Hashimoto, K. Shudo, *Biochem. Biophys. Res. Commun.* **189** (1992) 1136–1142 (https://doi.org/10.1016/0006-291X(92)92322-O)
89. J. Alhage, H. Elbitar, S. Taha, J.-P. Guegan, Z. Dassouki, T. Vives, T. Benvegnu, *Molecules* **23** (2018) 851 (https://doi.org/10.3390/molecules23040851)
90. M. Sugiura, Y. Ashikari, Y. Takahashi, K. Yamaguchi, S. Kotani, M. Nakajima, *J. Org. Chem.* **84** (2019) 11458–11473 (https://doi.org/10.1021/acs.joc.9b01298)
91. H. R. Azis, S. Takahashi, M. Koshiyama, H. Fujisawa, H. Isoda, *Plants* **9** (2020) 1368 (https://doi.org/10.3390/plants9101368)
92. S. D. Asem, W. S. Laitonjam, *Nat. Prod. Res.* **28** (2014) 477–482 (https://doi.org/10.3390/molecules23040851)
93. A. A. Saddiq, E. N. Danial, *Main Gr. Chem.* **13** (2014) 223–232 (https://doi.org/10.3233/MGC-140135)
94. U. K. Vijayan, S. Varakumar, R. S. Singhal, *LWT* **116** (2019) 108564 (https://doi.org/10.1016/j.lwt.2019.108564)
95. J. Kocot, M. Kiełczykowska, D. Luchowska-Kocot, J. Kurzepa, I. Musik, *Oxid. Med. Cell. Longev.* **2018** (2018) 1–29 (https://doi.org/10.1155/2018/7074209)
96. A. Parolia, H. Kumar, S. Ramamurthy, T. Madheswaran, F. Davamani, M. R. Pichika, K.-K. Mak, A. S. Fawzy, U. Daood, A. Pau, *Molecules* **26** (2021) 715 (https://doi.org/10.3390/molecules26030715)
97. L. Yu, D. Huang, J. Gu, D. Pan, Y. Tan, R. Huang, S. Yao, *Int. J. Genomics* **2021** (2021) 1–13 (https://doi.org/10.1155/2021/9939403)
98. E. Melliou, E. Stratis, I. Chinou, *Food Chem.* **103** (2007) 375–380 (https://doi.org/10.1016/j.foodchem.2006.07.033)
99. W. Qian, W. Wu, Y. Kang, Y. Wang, P. Yang, Y. Deng, C. Ni, J. Huang, *J. Chromatogr. A* **1609** (2020) 460435 (https://doi.org/10.1016/j.chroma.2019.460435)
100. R. Cossío-Bayúgar, E. Miranda-Miranda, V. Narváez Padilla, F. Olvera-Valencia, E. Reynaud, *J. Insect Physiol.* **58** (2012) 628–633 (https://doi.org/10.1016/j.jinsphys.2012.01.006)
101. F. Pojer, R. Kahlich, B. Kammerer, S.-M. Li, L. Heide, *J. Biol. Chem.* **278** (2003) 30661–30668 (https://doi.org/10.1074/jbc.M303190200)
102. X. Jiang, L. Tao, C. Li, M. You, G. Q. Li, C. Zhang, F. Hu, *Molecules* **25** (2020) 3243 (https://doi.org/10.3390/molecules25143243)

103. X.-Q. Zhang, X.-J. Lv, J.-P. Pei, R. Tan, Y.-K. Liu, *Org. Chem. Front.* **7** (2020) 292–297 (https://doi.org/10.1039/C9QO01272A)
104. H. J. Ahn, H. J. You, M. S. Park, Z. Li, D. Choe, T. V. Johnston, S. Ku, G. E. Ji, *RSC Adv.* **10** (2020) 5339–5350 (https://doi.org/10.1039/C9RA08059G)
105. C. do Nascimento Araújo, M. A. S. Mayworm, R. Yatsuda, G. Negri, M. L. F. Salatino, A. Salatino, J. Timenetsky, G. B. Campos, *J. Food Sci. Technol.* **57** (2020) 4228–4235 (https://doi.org/10.1007/s13197-020-04461-y)
106. X. Yang, Z. He, Y. Zheng, N. Wang, M. Mulinge, J.-C. Schmit, A. Steinmetz, C. Seguin-Devaux, *Molecules* **26** (2021) 2455 (https://doi.org/10.3390/molecules26092455)
107. E. J. Lee, S. Shaikh, K. Ahmad, S. S. Ahmad, J. H. Lim, S. Park, H. J. Yang, W.-K. Cho, S.-J. Park, Y.-H. Lee, S.-Y. Park, J.-Y. Ma, I. Choi, *Int. J. Mol. Sci.* **22** (2021) 876 (https://doi.org/10.3390/ijms22020876)
108. M. Lahouel, K. Boutabet, W. Kebsa, M. Alyane, *Indian J. Nephrol.* **21** (2011) 101 (https://doi.org/10.4103/0971-4065.82131)
109. B. Anđelković, L. Vujisić, I. Vučković, V. Tešević, V. Vajs, D. Gođevac, *J. Pharm. Biomed. Anal.* **135** (2017) 217–226 (https://doi.org/10.1016/j.jpba.2016.12.003)
110. I. V. Sokolov, I. V. Torgov, *Chem. Nat. Compd.* **26** (1990) 213–213 (https://doi.org/10.1007/BF00607547)
111. S. Jacob, T. Grötsch, A. J. Foster, A. Schüffler, P. H. Rieger, L. P. Sandjo, J. C. Liermann, T. Opatz, E. Thines, *Microbiology* **163** (2017) 541–553 (https://doi.org/10.1099/mic.0.000396)
112. N. B. Clark, R. F. Wideman, *Am. J. Physiol. Physiol.* **233** (1977) F138–F144 (https://doi.org/10.1152/ajprenal.1977.233.2.F138)
113. J. Hwang, K. Youn, G. Lim, J. Lee, D. H. Kim, M. Jun, *Nutrients* **13** (2021) 254 (https://doi.org/10.3390/nu13010254)
114. P. Mauri, P. Pietta, *J. Pharm. Biomed. Anal.* **23** (2000) 61–68 (https://doi.org/10.1016/S0731-7085(00)00264-8)
115. M. D. Mossalayi, J. Rambert, E. Renouf, M. Micouleau, J. M. Mérillon, *Phytomedicine* **21** (2014) 290–297 (https://doi.org/10.1016/j.phymed.2013.08.015)
116. M. Kunihiro, Y. Ozeki, Y. Nogi, N. Hamamura, R. A. Kanaly, *Appl. Environ. Microbiol.* **79** (2013) 4410–4420 (https://doi.org/10.1128/AEM.01129-13)
117. S. Adorisio, A. Fierabracci, I. Muscari, A. M. Liberati, M. Calvitti, L. Cossignani, F. Blasi, T. D. Quan, N. T. Tam, T. Van Sung, C. Riccardi, T. T. Thuy, D. V. Delfino, *Front. Pharmacol.* **10** (2019) (https://doi.org/10.3389/fphar.2019.00503)
118. J. Shu, L. Li, M. Zhou, J. Yu, C. Peng, F. Shao, R. Liu, G. Zhu, H. Huang, *Nat. Prod. Res.* **32** (2018) 1760–1768 (https://doi.org/10.1080/14786419.2017.1402314)
119. W.-H. Chen, R. Wang, Y.-P. Shi, *J. Nat. Prod.* **73** (2010) 1398–1403 (https://doi.org/10.1021/np100339u)
120. P. Ristivojević, J. Trifković, U. Gašić, F. Andrić, N. Nedić, Ž. Tešić, D. Milojković-Opsenica, *Phytochem. Anal.* **26** (2015) 127–136 (https://doi.org/10.1002/pca.2544)
121. W. Gargouri, S. M. Osés, M. A. Fernández-Muiño, M. T. Sancho, N. Kechaou, *LWT* **111** (2019) 328–336 (https://doi.org/10.1016/j.lwt.2019.05.044)
122. S. P. Shrestha, Y. Narukawa, T. Takeda, *Chem. Pharm. Bull.* **55** (2007) 926–929 (https://doi.org/10.1248/cpb.55.926)
123. Y. Fan, D. Yang, X. Huang, G. Yao, W. Wang, M. Gao, X. Jia, H. Ouyang, Y. Chang, J. He, *Biomed Res. Int.* **2021** (2021) 1–8 (https://doi.org/10.1155/2021/6699033)

124. E. K. HAYET, L. HOCINE, E. K. MERIEM, *J. Chil. Chem. Soc.* **62** (2017) 3335–3341 (http://dx.doi.org/10.4067/S0717-97072017000100006)
125. M. Quaglia, M. Santinelli, M. Sulyok, A. Onofri, L. Covarelli, G. Beccari, *Int. J. Food Microbiol.* **322** (2020) 108585 (https://doi.org/10.1016/j.ijfoodmicro.2020.108585)
126. L. Yao, Y. Jiang, B. D'Arcy, R. Singanusong, N. Datta, N. Caffin, K. Raymont, *J. Agric. Food Chem.* **52** (2004) 210–214 (https://doi.org/10.1021/jf034990u)
127. U. Galm, M. A. Dessoy, J. Schmidt, L. A. Wessjohann, L. Heide, *Chem. Biol.* **11** (2004) 173–183 (https://doi.org/10.1016/j.chembiol.2004.01.012)
128. A. Abu-Mellal, N. Koolaji, R. K. Duke, V. H. Tran, C. C. Duke, *Phytochemistry* **77** (2012) 251–259 (https://doi.org/10.1016/j.phytochem.2012.01.012)
129. A. G. Costa, N. C. Yoshida, W. S. Garcez, R. T. Perdomo, M. de F. C. Matos, F. R. Garcez, *J. Nat. Prod.* **83** (2020) 333–343 (https://doi.org/10.1021/acs.jnatprod.9b00783)
130. J. P. B. de Sousa, P. C. P. Bueno, L. E. Gregório, A. A. da Silva Filho, N. A. J. C. Furtado, M. L. de Sousa, J. K. Bastos, *J. Sep. Sci.* **30** (2007) 2656–2665 (https://doi.org/10.1002/jssc.200700228)
131. O. Muñoz, R. C. Peña, E. Ureta, G. Montenegro, C. Caldwell, B. N. Timmermann, *Zeitschrift Für Naturforsch. C* **56** (2001) 273–277 (https://doi.org/10.1515/znc-2001-3-417)
132. V. S. Haritos, I. Horne, K. Damcevski, K. Glover, N. Gibb, S. Okada, M. Hamberg, *Nat. Commun.* **3** (2012) 1150 (https://doi.org/10.1038/ncomms2147)
133. A. Urzúa, R. Torres, C. Bueno, L. Mendoza, *Biochem. Syst. Ecol.* **23** (1995) 459 (https://doi.org/10.1016/0305-1978(95)00025-P)
134. Z. El Marsni, A. Torres, R. M. Varela, J. M. G. Molinillo, L. Casas, C. Mantell, E. J. Martinez de la Ossa, F. A. Macias, *J. Agric. Food Chem.* **63** (2015) 6410–6421 (https://doi.org/10.1021/acs.jafc.5b02261)
135. Lokesh St, Thippeswamy B, Ravikumar S, *Asian J. Pharm. Clin. Res.* (2019) 42–48 (https://doi.org/10.22159/ajpcr.2019.v12i12.35434)
136. P. Boutsada, V. H. Giang, T. M. Linh, N. C. Mai, P. T. Cham, T. T. H. Hanh, K. Phonenavong, S. Sengchanh, N. X. Cuong, L. Q. Lien, N. K. Ban, *Vietnam J. Chem.* **56** (2018) 721–725 (https://doi.org/10.1002/vjch.201800077)
137. Y. Asakawa, M. Toyota, M. von Konrat, J. E. Braggins, *Phytochemistry* **62** (2003) 439–452 (https://doi.org/10.1016/S0031-9422(02)00542-3)
138. S. Huang, X. Zhou, H. Wang, C. Wang, X. Zhou, F. Xiao, J. Weng, *J. Nat. Med.* **67** (2013) 711–718 (https://doi.org/10.1007/s11418-012-0728-x)
139. K. Morteza-Semnani, M. Akbarzadeh, *J. Essent. Oil Res.* **17** (2005) 321–322 (https://doi.org/10.1080/10412905.2005.9698918)
140. B. Li, Z. Ali, M. Chan, J. Li, M. Wang, N. Abe, C.-R. Wu, I. A. Khan, W. Wang, S.-X. Li, *Phytochemistry* **137** (2017) 132–138 (https://doi.org/10.1016/j.phytochem.2017.02.005)
141. K. M. Kasiotis, P. Anastasiadou, A. Papadopoulos, K. Machera, *PLoS One* **12** (2017) e0170077 (https://doi.org/10.1371/journal.pone.0170077)
142. L. Nie, L. Zhang, *Trop. J. Pharm. Res.* **19** (2020) 765–771 (https://doi.org/10.4314/tjpr.v19i4.13)
143. J. K. Ntumba, L. Collard, K. M. Taba, R. Robiette, *Lipids* **50** (2015) 313–322 (https://doi.org/10.1007/s11745-014-3984-6)
144. J. Cason, R. Davis, M. H. Sheehan, *J. Org. Chem.* **36** (1971) 2621–2625 (https://doi.org/10.1021/jo00817a013)

145. J. Xie, R. Yu, J. Qi, G. Zhang, X. Peng, J. Luo, *J. Food Sci.* **85** (2020) 1939–1947 (https://doi.org/10.1111/1750-3841.15163)
146. M. Hattori, X.-W. Yang, Y.-Z. Shu, N. Kakiuchi, Y. Tezuka, T. Kikuchi, T. Namba, *Chem. Pharm. Bull.* **36** (1988) 648–653 (https://doi.org/10.1248/cpb.36.648)
147. X. Chen, S. Y. Quek, B. Fedrizzi, P. A. Kilmartin, *LWT* **124** (2020) 109178 (https://doi.org/10.1016/j.lwt.2020.109178)
148. T. Brillatz, M. Kubo, S. Takahashi, N. Jozukuri, K. Takechi, E. F. Queiroz, L. Marcourt, P.-M. Allard, R. Fish, K. Harada, K. Ishizawa, A. D. Crawford, Y. Fukuyama, J.-L. Wolfender, *J. Agric. Food Chem.* **68** (2020) 7904–7915 (https://doi.org/10.1021/acs.jafc.0c02641)
149. S. Kosela, L.-H. Hu, S.-C. Yip, T. Rachmatia, T. Sukri, T. S. Daulay, G.-K. Tan, J. J. Vittal, K.-Y. Sim, *Phytochemistry* **52** (1999) 1375–1377 (https://doi.org/10.1016/S0031-9422(99)00387-8)
150. P. A. Wrang, J. Lam, *Phytochemistry* **14** (1975) 1027–1035 (https://doi.org/10.1016/0031-9422(75)85181-8)
151. J.-K. Tian, F. Sun, Y.-Y. Cheng, *J. Asian Nat. Prod. Res.* **8** (2006) 35–39 (https://doi.org/10.1080/10286020500385663)
152. H. Wang, H. Shan, H. Lü, *J. Chromatogr. Sci.* **58** (2020) 823–830 (https://doi.org/10.1093/chromsci/bmaa050)
153. N.-D. Zhao, G.-Y. Yang, Y. Zhang, L.-J. Chen, Y.-G. Chen, *Biochem. Syst. Ecol.* **58** (2015) 285–287 (https://doi.org/10.1016/j.foodchem.2019.126052)
154. Q. Zhang, J. Liu, R. Li, R. Zhao, M. Zhang, S. Wei, D. Ran, W. Jin, C. Wu, *Front. Pharmacol.* **11** (2020) (https://doi.org/10.3389/fphar.2020.528308)
155. Q. Sun, N.-Y. Xu, Q.-R. Li, S. Yao, M. Li, H.-R. Li, J. Zhang, D.-F. Chen, *J. Funct. Foods* **38** (2017) 321–328 (https://doi.org/10.1016/j.jff.2017.09.006)
156. J. L. Ingham, S. Tahara, *Zeitschrift Für Naturforsch. C* **40** (1985) 482–489 (https://doi.org/10.1515/znc-1985-7-805)
157. K. Pekala, K. Wawrzusiszyn, A. Bogucka-Kocka, *Curr. Issues Pharm. Med. Sci.* **27** (2014) 84–87 (https://doi.org/10.2478/cipms-2014-0019)
158. S. Chu, L. Chen, H. Xie, J. Xie, Y. Zhao, Z. Tong, R. Xu, H. Peng, *J. Pharm. Biomed. Anal.* **189** (2020) 113410 (https://doi.org/10.1016/j.jpba.2020.113410)
159. C. M. van Baren, S. B. González, A. L. Bandoni, P. Di Leo Lira, M. A. Bucio, A. Hernández-Barragán, P. Joseph-Nathan, *Nat. Prod. Commun.* **15** (2020) 1934578X2096844 (https://doi.org/10.1177/1934578X20968443)
160. T.-H. Chuang, H.-H. Chan, T.-S. Wu, C.-F. Li, *Molecules* **16** (2011) 9331–9339 (https://doi.org/10.3390/molecules16119331)
161. N. J. Jacobo-Herrera, N. Vartiainen, P. Bremner, S. Gibbons, J. Koistinaho, M. Heinrich, *Phyther. Res.* **20** (2006) 917–919 (https://doi.org/10.1002/ptr.1972)
162. Petrásková, Káňová, Biedermann, Křen, Valentová, *Foods* **9** (2020) 116 (https://doi.org/10.3390/foods9020116)
163. T. Mašek, N. Perin, L. Racané, M. Cindrić, H. Čipčić Paljetak, M. Perić, M. Matijašić, D. Verbanac, B. Radić, J. Šuran, K. Starčević, *Croat. Chem. Acta* **91** (2018) (https://doi.org/10.5562/cca3298)
164. S. K. Sinha, S. K. Prasad, M. A. Islam, S. S. Gurav, R. B. Patil, N. A. AlFaris, T. S. Aldayel, N. M. AlKehayez, S. M. Wabaidur, A. Shakya, *J. Biomol. Struct. Dyn.* **39** (2021) 4686–4700 (https://doi.org/10.1080/07391102.2020.1779132)
165. A. S. Awaad, N. H. El-Sayed, D. J. Maitland, T. J. Mabry, *Pharm. Biol.* **44** (2006) 258–262 (https://doi.org/10.1080/13880200600713899)

166. K. J. Park, J. M. Cha, L. Subedi, S. Y. Kim, K. R. Lee, *Phytochemistry* **167** (2019) 112085 (https://doi.org/10.1016/j.phytochem.2019.112085)
167. N. Khalil, M. Bishr, M. El-Degwy, M. Abdelhady, M. Amin, O. Salama, *Molecules* **26** (2021) 1290 (https://doi.org/10.3390/molecules26051290)
168. Elfahmi, K. Ruslan, S. Batterman, R. Bos, O. Kayser, H. J. Woerdenbag, W. J. Quax, *Biochem. Syst. Ecol.* **35** (2007) 397–402 (https://doi.org/10.1016/j.bse.2007.01.003)
169. H. Hikino, K. Aota, T. Takemoto, *Chem. Pharm. Bull.* **17** (1969) 1390–1394 (https://doi.org/10.1248/cpb.17.1390)
170. M. Tomaszewski, M. Dein, A. Novy, T. G. Hartman, M. Steinhaus, C. R. Luckett, J. P. Munafo, *J. Agric. Food Chem.* **67** (2019) 1495–1503 (https://doi.org/10.1021/acs.jafc.8b05965)
171. N. E. Bayram, K. Sorkun, G. C. Öz, B. Salih, G. Topçu, *Rec. Nat. Prod.* **12** (2018) 569–581 (http://doi.org/10.25135/rnp.78.16.12.585)
172. W.-W. Fan, F.-Q. Xu, F.-W. Dong, X.-N. Li, Y. Li, Y.-Q. Liu, J. Zhou, J.-M. Hu, *Nat. Products Bioprospect.* **3** (2013) 89–92 (https://doi.org/10.1007/s13659-013-0024-9)
173. C. P. Xie, K. F. Li, J. L. Lin, J. B. Li, *Adv. Mater. Res.* **236**–**238** (2011) 1049–1053 (https://doi.org/10.4028/www.scientific.net/AMR.236-238.1049)
174. A. Yokosuka, M. Haraguchi, T. Usui, S. Kazami, H. Osada, T. Yamori, Y. Mimaki, *Bioorg. Med. Chem. Lett.* **17** (2007) 3091–3094 (https://doi.org/10.1016/j.bmcl.2007.03.044)
175. E.-K. Soltani, R. Cerezuela, N. Charef, S. Mezaache-Aichour, M. A. Esteban, M. M. Zerroug, *Fish Shellfish Immunol.* **62** (2017) 57–67 (https://doi.org/10.1016/j.fsi.2017.01.009)
176. *Proc. R. Soc. London. Ser. B. Biol. Sci.* **232** (1987) 249–272 (https://doi.org/10.1098/rspb.1987.0073)
177. B. A. Bohm, J. E. Averetti, A. M. Powell, *Phytochemistry* **25** (1986) 2551–2553 (https://doi.org/10.1016/S0031-9422(00)84507-0)
178. F. G. Barbosa, M. da C. F. de Oliveira, R. Braz-Filho, E. R. Silveira, *Biochem. Syst. Ecol.* **32** (2004) 363–365 (https://doi.org/10.1016/j.bse.2003.07.005)
179. G. Asamenew, H.-W. Kim, M.-K. Lee, S.-H. Lee, Y. J. Kim, Y.-S. Cha, S. M. Yoo, J.-B. Kim, *Eur. Food Res. Technol.* **245** (2019) 653–665 (https://doi.org/10.1007/s00217-018-3188-z)
180. C. Junren, X. Xiaofang, L. Mengting, X. Qiuyun, L. Gangmin, Z. Huiqiong, C. Guanru, X. Xin, Y. Yanpeng, P. Fu, P. Cheng, *Chin. Med.* **16** (2021) 5 (https://doi.org/10.1186/s13020-020-00413-y)
181. R. V. N. Reddy, N. P. Reddy, S. I. Khalivulla, M. V. B. Reddy, D. Gunasekar, A. Blond, B. Bodo, *Phytochem. Lett.* **1** (2008) 23–26 (https://doi.org/10.1016/j.phytol.2007.11.001)
182. C. Li, H. Liu, L. Zhao, W. Zhang, S. Qiu, X. Yang, H. Tan, *Fitoterapia* **120** (2017) 171–176 (https://doi.org/10.1016/j.fitote.2017.06.015)
183. M. Song, K. Wang, H. Lu, S. Yan, L. Wu, X. Xue, *J. Food Compos. Anal.* **104** (2021) 104141 (https://doi.org/10.1016/j.jfca.2021.104141)
184. W. Zhu, J. Qiu, Y.-R. Zeng, P. Yi, H.-Y. Lou, J.-Y. Jian, M.-X. Zuo, L. Duan, W. Gu, L.-J. Huang, Y.-M. Li, C.-M. Yuan, X.-J. Hao, *Phytochemistry* **164** (2019) 33–40 (https://doi.org/10.1016/j.phytochem.2019.04.012)
185. V. H. Tran, R. K. Duke, A. Abu-Mellal, C. C. Duke, *Phytochemistry* **81** (2012) 126–132 (https://doi.org/10.1016/j.phytochem.2012.06.002)

186. H. Kalkan Yıldırım, E. Canbay, Ş. Öztürk, O. Aldemir, E. Y. Sözmen, *Food Sci. Biotechnol.* **27** (2018) 1727–1733 (https://doi.org/10.1007/s10068-018-0413-2)
187. E. E. Shul'ts, Z. Ganbaatar, T. N. Petrova, M. M. Shakirov, I. Y. Bagryanskaya, V. V. Taraskin, L. D. Radnaeva, D. Otgonsuren, A. G. Pokrovskii, G. A. Tolstikov, *Chem. Nat. Compd.* **48** (2012) 211–217 (https://doi.org/10.1007/s10600-012-0207-3)
188. P. Witzgall, M. Tasin, H.-R. Buser, G. Wegner-Kiß, V. S. Marco Mancebón, C. Ioriatti, A.-C. Bäckman, M. Bengtsson, L. Lehmann, W. Francke, *J. Chem. Ecol.* **31** (2005) 2923–2932 (https://doi.org/10.1007/s10886-005-8404-1)
189. G. I. Andersen Borge, G. Vogt, A. Nilsson, *Lipids* **34** (1999) 661–673 (https://doi.org/10.1007/s11745-999-0411-7)
190. D. N. Olennikov, N. I. Kashchenko, N. K. Chirikova, A. G. Vasil'eva, A. I. Gadimli, J. I. Isaev, C. Vennos, *Antioxidants* **8** (2019) 307 (https://doi.org/10.3390/antiox8080307)
191. C. K. Leung, Y. Wang, S. Malany, A. Deonarine, K. Nguyen, S. Vasile, K. P. Choe, *PLoS One* **8** (2013) e62166 (https://doi.org/10.1371/journal.pone.0062166)
192. I. Mustafa, *J. Intercult. Ethnopharmacol.* **5** (2016) 233 (https://doi.org/10.5455/jice.20160502065029)
193. K.-S. Ngo, G. D. Brown, *Phytochemistry* **50** (1999) 1213–1218 (https://doi.org/10.1016/S0031-9422(98)00652-9)
194. H. Ti, Z. Mai, Z. Wang, W. Zhang, M. Xiao, Z. Yang, P. Shaw, *Food Funct.* **12** (2021) 6697–6711 (https://doi.org/10.1039/D1FO01212F)
195. M. Nur-e-Alam, S. Ahmed, M. Yousaf, S. I. Khan, R. A. Mothana, A. J. Al-Rehaily, *J. Chem. Res.* **44** (2020) 381–387 (https://doi.org/10.1177/1747519819901100)
196. N. L. Vukovic, A. D. Obradovic, M. D. Vukic, D. Jovanovic, P. M. Djurdjevic, *Food Res. Int.* **106** (2018) 71–80 (https://doi.org/10.1016/j.foodres.2017.12.056)
197. Y. Chen, X. Shi, Y. Liu, Y. Li, Y. Zhang, *Biochem. Syst. Ecol.* **50** (2013) 72–74 (https://doi.org/10.1016/j.bse.2013.04.002)
198. R. W. Miller, D. Weisleder, R. Kleiman, R. D. Plattner, C. R. Smith, *Phytochemistry* **16** (1977) 947–951 (https://doi.org/10.1016/S0031-9422(00)86701-1)
199. S. K. Khurana, V. Krishnamoorthy, V. S. Parmar, R. Sanduja, H. L. Chawla, *Phytochemistry* **21** (1982) 2145–2146 (https://doi.org/10.1016/0031-9422(82)83074-4)
200. H. C. Y. Rao, S. Satish, *Front. Life Sci.* **8** (2015) 200–207 (https://doi.org/10.1080/21553769.2015.1033768)
201. J. Xu, H.-L. Zhu, J. Zhang, T. Du, E.-Y. Guo, W.-Y. Liu, J.-G. Luo, F. Ye, F. Feng, W. Qu, *J. Nat. Prod.* **81** (2018) 1391–1398 (https://doi.org/10.1021/acs.jnatprod.7b01076)
202. S. Yang, X. Wang, C. Duan, J. Zhang, *Biomed. Pharmacother.* **129** (2020) 110437 (https://doi.org/10.1016/j.biopha.2020.110437)
203. K. Tokimoto, T. Fujita, Y. Takeda, Y. Takaishi, *Proc. Japan Acad. Ser. B* **63** (1987) 277–280 (https://doi.org/10.2183/pjab.63.277)
204. P. D. Khalifaev, F. S. Sharopov, A. Safomuddin, S. Numonov, M. Bakri, M. Habasi, H. A. Aisa, W. N. Setzer, *Nat. Prod. Commun.* **13** (2018) 1934578X1801300 (https://doi.org/10.1177/1934578X1801300226)
205. F. C. Chong, L. S. Chua, *AgriEngineering* **2** (2020) 308–316 (https://doi.org/10.3390/agriengineering2020020)
206. M. J. O'Neill, S. A. Adesanya, M. F. Roberts, I. R. Pantry, *Phytochemistry* **25** (1986) 1315–1322 (https://doi.org/10.1016/S0031-9422(00)81280-7)
207. Q. H. Lin, J. Bin Yuan, Z. L. Ma, J. Liang, X. X. Zhai, I. A. Khan, Y. Q. Ding, G. Ren, *Nat. Prod. Commun.* **11** (2016) 1934578X1601101 (https://doi.org/10.1177/1934578X1601101217)

208. P. Okińczyc, J. Widelski, J. Szperlik, M. Żuk, T. Mroczek, K. Skalicka-Woźniak, Z. Sakipova, G. Widelska, P. M. Kuś, *Biomolecules* **11** (2021) 68 (https://doi.org/10.3390/biom11010068)
209. A. Duangjai, N. Nuengchamnong, L.-H. Lee, B.-H. Goh, S. Saokaew, N. Suphrom, *Nat. Prod. Res.* **33** (2019) 1491–1494 (https://doi.org/10.1080/14786419.2017.1416386)
210. J. Chen, Y. Li, L.-Q. Yang, Y.-Z. Li, Z.-B. Nan, K. Gao, *Food Chem.* **131** (2012) 546–551 (https://doi.org/10.1016/j.foodchem.2011.09.021)
211. K. Kinoshita, T. Takizawa, K. Koyama, K. Takahashi, N. Kondo, H. Yuasa, K.-I. Kawai, *J. Nat. Prod.* **58** (1995) 1739–1744 (https://doi.org/10.1021/np50125a016)
212. R. Wen, H.-N. Lv, Y. Jiang, P.-F. Tu, *Phytochemistry* **149** (2018) 56–63 (https://doi.org/10.1016/j.phytochem.2018.02.005)
213. Y. Zarev, K. Foubert, V. Lucia de Almeida, R. Anthonissen, E. Elgorashi, S. Apers, I. Ionkova, L. Verschaeve, L. Pieters, *Phytochemistry* **141** (2017) 140–146 (https://doi.org/10.1016/j.phytochem.2017.06.003)
214. Y. Fu, J. Shi, S.-Y. Xie, T.-Y. Zhang, O. P. Soladoye, R. E. Aluko, *J. Agric. Food Chem.* **68** (2020) 11595–11611 (https://doi.org/10.1021/acs.jafc.0c04241)
215. R. R. Espinosa, R. Inchingolo, S. M. Alencar, M. T. Rodriguez-Estrada, I. A. Castro, *Food Chem.* **182** (2015) 95–104 (https://doi.org/10.1016/j.foodchem.2015.02.130)
216. E. Wollenweber, K. Mann, J. N. Roitman, *Zeitschrift Für Naturforsch. C* **46** (1991) 495–497 (https://doi.org/10.1515/znc-1991-5-621)
217. B. T. Ngadjui, J. F. Ayafor, B. L. Sondengam, J. D. Connolly, D. S. Rycroft, *Tetrahedron* **47** (1991) 3555–3564 (https://doi.org/10.1016/S0040-4020(01)80869-3)
218. U. Jug, V. Glavnik, E. Kranjc, I. Vovk, *J. Liq. Chromatogr. Relat. Technol.* **41** (2018) 329–341 (https://doi.org/10.1080/10826076.2018.1448690)
219. E. Pi, C. Zhu, W. Fan, Y. Huang, L. Qu, Y. Li, Q. Zhao, F. Ding, L. Qiu, H. Wang, B. W. Poovaiah, L. Du, *Mol. Cell. Proteomics* **17** (2018) 1209–1224 (https://doi.org/10.1074/mcp.RA117.000417)
220. A. Monteillier, S. Cretton, O. Ciclet, L. Marcourt, S. N. Ebrahimi, P. Christen, M. Cuendet, *J. Ethnopharmacol.* **203** (2017) 214–225 (https://doi.org/10.1016/j.jep.2017.03.048)
221. S. M. Valiahdi, M. Iranshahi, A. Sahebkar, *DARU J. Pharm. Sci.* **21** (2013) 39 (https://doi.org/10.1186/2008-2231-21-39)
222. M.-W. Lin, S.-R. Yang, M.-H. Huang, S.-N. Wu, *J. Biol. Chem.* **279** (2004) 26885–26892 (https://doi.org/10.1074/jbc.M400356200)
223. S. K. Pandey, K.-H. Kim, *Ecotoxicol. Environ. Saf.* **74** (2011) 527–532 (https://doi.org/10.1016/j.ecoenv.2010.08.034)
224. L. Tang, J. Shang, C. Song, R. Yang, X. Shang, W. Mao, D. Bao, Q. Tan, *ACS Omega* **5** (2020) 7567–7575 (https://doi.org/10.1021/acsomega.0c00398)
225. N. Vera, E. Solorzano, R. Ordoñez, L. Maldonado, E. Bedascarrasbure, M. I. Isla, *Nat. Prod. Commun.* **6** (2011) 1934578X1100600 (https://doi.org/10.1177/1934578X1100600618)
226. R. D. Allan, R. J. Wells, J. K. MacLeod, *Tetrahedron Lett.* **14** (1973) 7–8 (https://doi.org/10.1016/S0040-4039(01)95562-5)
227. A. Neggad, F. Benkaci-Ali, Z. Alsafra, G. Eppe, *Chem. Biodivers.* **16** (2019) (https://doi.org/10.1002/cbdv.201900267)
228. Z. H. Mbwambo, M. C. Kapingu, M. J. Moshi, F. Machumi, S. Apers, P. Cos, D. Ferreira, J. P. J. Marais, D. Vanden Berghe, L. Maes, A. Vlietinck, L. Pieters, *J. Nat. Prod.* **69** (2006) 369–372 (https://doi.org/10.1021/np050406v)

229. S. Guzmán-Gutiérrez, A. Nieto-Camacho, J. Castillo-Arellano, E. Huerta-Salazar, G. Hernández-Pasteur, M. Silva-Miranda, O. Argüello-Nájera, O. Sepúlveda-Robles, C. Espitia, R. Reyes-Chilpa, *Molecules* **23** (2018) 334 (https://doi.org/10.3390/molecules23020334)
230. J. Martins, S. Brijesh, *J. Ethnopharmacol.* **248** (2020) 112280 (https://doi.org/10.1016/j.jep.2019.112280)
231. S. Yamamura, L. R. Simpol, K. Ozawa, K. Ohtani, H. Otsuka, R. Kasai, K. Yamasaki, W. G. Padolina, *Phytochemistry* **39** (1995) 105–110 (https://doi.org/10.1016/0031-9422(94)00845-K)
232. B. Sritularak, K. Likhitwitayawuid, J. Conrad, W. Kraus, *Phytochemistry* **61** (2002) 943–947 (https://doi.org/10.1016/S0031-9422(02)00337-0)
233. J. Du, C.-H. Wang, J. Yang, X. He, X.-L. Han, C.-C. Li, X. Chai, Y.-F. Wang, Y. Zhu, Z. Li, *Nat. Prod. Res.* **33** (2019) 673–680 (https://doi.org/10.1080/14786419.2017.1405407)
234. R. Kaur, K. K. Chahal, Urvashi, *Chem. Nat. Compd.* **56** (2020) 207–212 (https://doi.org/10.1007/s10600-020-02989-1)
235. M. Takanashi, Y. Takizawa, *J. Oleo Sci.* **51** (2002) 151–155 (https://doi.org/10.5650/jos.51.151)
236. V. Vadivel, J. Kausalya, S. Vidhyalakshmi, S. Sriram, P. Rajalakshmi, P. Brindha, *Trop. J. Nat. Prod. Res.* **1** (2017) 262–269 (https://doi.org/10.26538/tjnpr/v1i6.8)
237. J. A. Pino, K. Almora, R. Marbot, *Flavour Fragr. J.* **18** (2003) 492–496 (https://doi.org/10.1002/ffj.1248)
238. S. In, H.-A. Lee, J. Woo, E. Park, D. Choi, *Mol. Plant-Microbe Interact.* **33** (2020) 1330–1339 (https://doi.org/10.1094/MPMI-07-20-0183-R)
239. J. Sheng, J. Zhou, L. Wang, J. Xu, Q. Hu, *Eur. Food Res. Technol.* **225** (2007) 249–253 (https://doi.org/10.1007/s00217-006-0411-0)
240. S. Silici, M. Ünlü, G. Vardar-Ünlü, *World J. Microbiol. Biotechnol.* **23** (2007) 1797–1803 (https://doi.org/10.1007/s11274-007-9430-7)
241. H. W. Schmalle, B. M. Hausen, *Naturwissenschaften* **71** (1984) 581–582 (https://doi.org/10.1007/BF01189184)
242. Y.-X. Li, Y.-G. Pan, F.-P. He, M.-Q. Yuan, S.-B. Li, *Molecules* **21** (2016) 1648 (https://doi.org/10.3390/molecules21121648)
243. S. Yu, J. Li, L. Guo, C. Di, X. Qin, Z. Li, *J. Chromatogr. A* **1599** (2019) 125–135 (https://doi.org/10.1016/j.chroma.2019.04.008)
244. J. Granados-Pineda, N. Uribe-Uribe, P. García-López, M. Ramos-Godinez, J. Rivero-Cruz, J. Pérez-Rojas, *Molecules* **23** (2018) 852 (https://doi.org/10.3390/molecules23040852)
245. S. C. Dutta, B. N. Saha, M. G. Pathak, P. B. Kanjilal, R. K. Mathur, *J. Essent. Oil Res.* **9** (1997) 227–228 (https://doi.org/10.1080/10412905.1997.9699466)
246. K. R. Markham, E. Wollenweber, G. Schilling, *J. Plant Physiol.* **131** (1987) 45–48 (https://doi.org/10.1016/S0176-1617(87)80266-3)
247. L. Wang, Y. Wu, T. Huang, K. Shi, Z. Wu, *Chem. Biodivers.* **14** (2017) e1700114 (https://doi.org/10.1002/cbdv.201700114)
248. G. Jerz, Y. A. Elnakady, A. Braun, K. Jäckel, F. Sasse, A. A. Al Ghamdi, M. O. M. Omar, P. Winterhalter, *J. Chromatogr. A* **1347** (2014) 17–29 (https://doi.org/10.1016/j.chroma.2014.04.068)
249. W. Yue, W. Sun, R. S. P. Rao, N. Ye, Z. Yang, M. Chen, *Food Chem.* **277** (2019) 289–297 (https://doi.org/10.1016/j.foodchem.2018.10.113)

250. S. Süzgeç-Selçuk, A. S. Birteksöz, *South African J. Bot.* **77** (2011) 170–174 (https://doi.org/10.1016/j.sajb.2010.07.017)
251. F. Inamullah, I. Fatima, S. Khan, M. H. Kazmi, A. Malik, S. Afaq, M. S. Ali, Z. Farhad, R. B. Tareen, T. Abbas, *Zeitschrift Für Naturforsch. B* **74** (2019) 283–287 (https://doi.org/10.1002/pca.2863)
252. B. P. Mahanta, D. Sut, P. Kemprai, M. Paw, M. Lal, S. Haldar, *Phytochem. Anal.* **31** (2020) 28–36 (https://doi.org/10.1002/pca.2863)
253. F. Bohlmann, P. K. Mahanta, C. Zdero, *Phytochemistry* **17** (1978) 1935–1937 (https://doi.org/10.1016/S0031-9422(00)88737-3)
254. Z.-Y. Zhang, J.-P. Wu, B.-B. Gao, H.-T. Ren, Y.-L. Liu, X.-R. Li, K.-P. Li, Q.-M. Xu, S.-L. Yang, *J. Asian Nat. Prod. Res.* **18** (2016) 669–676 (https://doi.org/10.1080/10286020.2016.1158167)
255. K. C. Geőcze, L. C. A. Barbosa, P. H. Fidêncio, F. O. Silvério, C. F. Lima, M. C. A. Barbosa, F. M. D. Ismail, *Food Res. Int.* **54** (2013) 1–8 (https://doi.org/10.1016/j.foodres.2013.06.005)
256. L. Canonica, A. Corbella, G. Jommi, J. Křepinský, G. Ferrari, C. Casagrande, *Tetrahedron Lett.* **8** (1967) 2137–2141 (https://doi.org/10.1016/S0040-4039(00)90783-4)
257. T.-J. Hsieh, F.-R. Chang, Y.-C. Chia, C.-Y. Chen, H.-F. Chiu, Y.-C. Wu, *J. Nat. Prod.* **64** (2001) 616–619 (https://doi.org/10.1021/np0005208)
258. A. González, J. Bermejo, E. Valencia, *Planta Med.* **62** (1996) 176–177 (https://doi.org/10.1055/s-2006-957847)
259. S. Gou, M. He, B. Li, N. Zhu, J. Ni, *Nat. Prod. Res.* (2020) 1–5 (https://doi.org/10.1080/14786419.2020.1824223)
260. Y. Xing, N. Li, D. Zhou, G. Chen, K. Jiao, W. Wang, Y. Si, Y. Hou, *Planta Med.* **83** (2016) 135–142 (https://doi.org/10.1055/s-0042-109271)
261. X. A. Dominguez, S. Garcia G., H. J. Williams, C. Ortiz, A. I. Scott, J. H. Reibenspies, *J. Nat. Prod.* **52** (1989) 864–867 (https://doi.org/10.1021/np50064a035)
262. X.-L. Wang, Z.-Y. Ding, G.-Q. Liu, H. Yang, G.-Y. Zhou, *Molecules* **21** (2016) 1395 (https://doi.org/10.3390/molecules21101395)
263. T. Fukai, W. Qing-Hua, T. Nomura, *Phytochemistry* **30** (1991) 1245–1250 (https://doi.org/10.1016/S0031-9422(00)95210-5)
264. J. A. Pino, L. Cuevas-Glory, V. Fuentes, *J. Essent. Oil Res.* **20** (2008) 506–508 (https://doi.org/10.1080/10412905.2008.9700072)
265. A. Maurya, S. Mohan, S. C. Verma, *Curr. Top. Med. Chem.* **21** (2021) 851–862 10.2174/1568026621666210305102500)
266. N. N. Win, M. M. Kyaw, Prema, H. Ngwe, T. Ito, Y. Asakawa, Y. Okamoto, M. Tanaka, I. Abe, H. Morita, *Chem. Biodivers.* **16** (2019) (https://doi.org/10.1002/cbdv.201800657)
267. M.-Y. Chung, I.-H. Kim, B. H. Kim, *J. Oleo Sci.* **67** (2018) 1373–1379 (https://doi.org/10.5650/jos.ess18100)
268. R. Gil-Solsona, M. Raro, C. Sales, L. Lacalle, R. Díaz, M. Ibáñez, J. Beltran, J. V. Sancho, F. J. Hernández, *Food Control* **70** (2016) 350–359 (https://doi.org/10.1016/j.foodcont.2016.06.008)
269. Y. Qin, R. Zhou, J. Jin, J. Xie, H. Liu, P. Cai, J. Shu, Y. Zhao, L. Huang, S. Zhang, *Biomed. Chromatogr.* **34** (2020) (https://doi.org/10.1002/bmc.4841)
270. S. C. Aguiar, S. M. Cottica, J. S. Boeing, R. B. Samensari, G. T. Santos, J. V. Visentainer, L. M. Zeoula, *Anim. Feed Sci. Technol.* **193** (2014) 148–154 (https://doi.org/10.1016/j.anifeedsci.2014.04.006)

271. A. Block, M. M. Vaughan, S. A. Christensen, H. T. Alborn, J. H. Tumlinson, *Plant. Cell Environ.* **40** (2017) 1725–1734 (https://doi.org/10.1111/pce.12976)
272. C. Porcelli, S. D. Neiens, M. Steinhaus, *J. Agric. Food Chem.* **69** (2021) 4501–4508 (https://doi.org/10.1021/acs.jafc.1c00564)
273. H. Zhao, M. Zhu, K. Wang, E. Yang, J. Su, Q. Wang, N. Cheng, X. Xue, L. Wu, W. Cao, *Food Chem.* **314** (2020) 126052 (https://doi.org/10.1016/j.foodchem.2019.126052)
274. M. Korinek, Y.-H. Tsai, M. El-Shazly, K.-H. Lai, A. Backlund, S.-F. Wu, W.-C. Lai, T.-Y. Wu, S.-L. Chen, Y.-C. Wu, Y.-B. Cheng, T.-L. Hwang, B.-H. Chen, F.-R. Chang, *Front. Pharmacol.* **8** (2017) (https://doi.org/10.3389/fphar.2017.00356)
275. K. Krückert, B. Flachsbarth, S. Schulz, U. Hentschel, P. J. Weldon, *J. Nat. Prod.* **69** (2006) 863–870 (https://doi.org/10.1021/np0600797)
276. M. Isaka, P. Chinthanom, M. Sappan, K. Danwisetkanjana, T. Boonpratuang, R. Choeyklin, *J. Nat. Prod.* **79** (2016) 161–169 (https://doi.org/10.1021/acs.jnatprod.5b00826)
277. C. Ito, M. Itoigawa, M. Ju-ichi, N. Sakamoto, H. Tokuda, H. Nishino, H. Furukawa, *Planta Med.* **71** (2005) 84–87 DOI: 10.1055/s-2005-837758)
278. X.-F. Zhang, S.-L. Yang, Y.-Y. Han, L. Zhao, G.-L. Lu, T. Xia, L.-P. Gao, *Molecules* **19** (2014) 7568–7580 (https://doi.org/10.3390/molecules19067568)
279. D. Arrieta-Baez, M. de J. Perea Flores, J. V. Méndez-Méndez, H. F. Mendoza León, M. B. Gómez-Patiño, *Molecules* **25** (2020) 5955 (https://doi.org/10.3390/molecules25245955)
280. P. G. Ramírez, D. G. Ramírez, E. Z. Mejía, S. A. Ocampo, C. N. Díaz, R. I. Rojas Martínez, *Sci. Hortic. (Amsterdam).* **259** (2020) 108683 (https://doi.org/10.1016/j.scienta.2019.108683)
281. A. Tsopmo, M. Tene, P. Kamnaing, D. Ngnokam, J. F. Ayafor, O. Sterner, *Phytochemistry* **48** (1998) 345–348 (https://doi.org/10.1016/S0031-9422(97)01114-X)
282. M. Iinuma, T. Tanaka, F. Asai, *Phytochemistry* **36** (1994) 941–943 (https://doi.org/10.1016/S0031-9422(00)90467-9)
283. M.-L. Chang, H.-C. Mei, I.-C. Kuo, G. Hsiao, Y.-H. Kuo, C.-K. Lee, *Molecules* **23** (2018) 604 (https://doi.org/10.3390/molecules23030604)
284. F. Asai, M. Iinuma, T. Tanaka, M. Mizuno, *Phytochemistry* **30** (1991) 3091–3093 (https://doi.org/10.1016/S0031-9422(00)98259-1)
285. P. Pailee, C. Mahidol, S. Ruchirawat, V. Prachyawarakorn, *Phytochemistry* **162** (2019) 157–164 (https://doi.org/10.1016/j.phytochem.2019.03.013)
286. M. Iinuma, T. Tanaka, M. Takenaka, M. Mizuno, F. Asai, *Phytochemistry* **31** (1992) 2487–2490 (https://doi.org/10.1016/S0031-9422(00)90467-9)
287. M. Chauhan, *IOSR J. Appl. Chem.* **6** (2013) 01–07 (https://doi.org/10.1016/S0031-9422(00)90467-9)
288. K. H. C. Baser, M. Kürkçüoglu, *J. Essent. Oil Res.* **10** (1998) 117–118 (https://doi.org/10.1080/10412905.1998.9700856)
289. N. Shoji, A. Umeyama, K. Yoshikawa, S. Arihara, *Chem. Pharm. Bull.* **42** (1994) 1750–1755 (https://doi.org/10.1248/cpb.42.1750)
290. R. G. Powell, C. R. Smith, C. A. Glass, I. A. Wolff, *J. Org. Chem.* **31** (1966) 528–533 (https://doi.org/10.1021/jo01340a042)
291. M. Yakoubi, N. Belboukhari, K. Sekkoum, A. Cheriti, M. Bouchekara, H. Y. Aboul-Enein, *Curr. Bioact. Compd.* **11** (2015) 116–121 (https://doi.org/10.2174/1573407211666150605224634)

292. K. Szewczyk, D. Kalemba, Ł. Komsta, R. Nowak, *Molecules* **21** (2016) 1162 (https://doi.org/10.3390/molecules21091162)
293. M. B. Alam, A. Ahmed, S. Islam, H.-J. Choi, M. A. Motin, S. Kim, S.-H. Lee, *Antioxidants* **9** (2020) 1099 (https://doi.org/10.3390/antiox9111099)
294. C. Ito, T. Mizuno, M. Matsuoka, Y. Kimura, K. Sato, I. Kajiura, M. Omura, M. Ju-Ichi, H. Furukawa, *Chem. Pharm. Bull.* **36** (1988) 3292–3295 (https://doi.org/10.1248/cpb.36.3292)
295. Y. Takahashi, X.-H. Li, C. Tsukamoto, K.-J. Wang, *Genet. Resour. Crop Evol.* **64** (2017) 2161–2171 (https://doi.org/10.1007/s10722-017-0506-4)
296. M. Endo, K. Shigetomi, S. Mitsuhashi, M. Igarashi, M. Ubukata, *J. Wood Sci.* **65** (2019) 3 (https://doi.org/10.1186/s10086-019-1782-8)
297. P. B. Lalthanpuii, K. Lalchhandama, *BMC Complement. Med. Ther.* **20** (2020) 332 (https://doi.org/10.1186/s12906-020-03125-w)
298. F. O. S. Duarte, F. G. de Paula, C. S. Prado, R. R. dos Santos, C. S. Minafra-Rezende, C. Gebara, M. E. Lage, *Aquaculture* **534** (2021) 736241 (https://doi.org/10.1016/j.aquaculture.2020.736241)
299. Deepika, A. Singh, A. K. Chaudhari, S. Das, N. K. Dubey, *J. Food Sci.* **86** (2021) 149–160 (https://doi.org/10.1111/1750-3841.15545)
300. A. Wisetsai, R. Lekphrom, F. T. Schevenels, *Nat. Prod. Res.* **32** (2018) 2499–2504 (https://doi.org/10.1080/14786419.2017.1423299)
301. Chua, Chua, Figiel, Chong, Wojdyło, Szumny, Choong, *Molecules* **24** (2019) 1397 (https://doi.org/10.3390/molecules24071397)
302. S. E. Chen, E. J. Staba, *J. Nat. Prod.* **43** (1980) 463–466 (https://doi.org/10.1021/np50010a005)
303. Z. Guo, G. Wang, M. Zhang, G. Liang, Q. Li, B. Ling, *Rec. Nat. Prod.* **12** (2018) 416–425 (https://doi.org/10.1080/14786419.2020.1824223)
304. E. H. Erbiai, L. P. da Silva, R. Saidi, Z. Lamrani, J. C. G. Esteves da Silva, A. Maouni, *Biomolecules* **11** (2021) 575 (https://doi.org/10.3390/biom11040575)
305. A. Duca, *Farmacia* **67** (2019) 126–132 (https://doi.org/10.31925/farmacia.2019.1.17)
306. G. Appendino, J. Jakupovic, E. Bossio, *Phytochemistry* **49** (1998) 1719–1722 (https://doi.org/10.1016/S0031-9422(98)00296-9)
307. J. Chen, *Bioresour. Technol.* **265** (2018) 320–327 (https://doi.org/10.1016/j.biortech.2018.06.019)
308. L. Quijano, J. S. Calderón, G. G. Federico, R. M. Virginia, T. Ríos, *Phytochemistry* **24** (1985) 2337–2340 (https://doi.org/10.1016/S0031-9422(00)83037-X)
309. C. Rodriguez-Saona, J. G. Millar, J. T. Trumble, *J. Nat. Prod.* **61** (1998) 1168–1170 (https://doi.org/10.1021/np980127q)
310. A. N. Tamfu, M. Sawalda, M. T. Fotsing, R. M. T. Kouipou, E. Talla, G. F. Chi, J. J. E. Epanda, J. T. Mbafor, T. A. Baig, A. Jabeen, F. Shaheen, *Saudi J. Biol. Sci.* **27** (2020) 1659–1666 (https://doi.org/10.1016/j.sjbs.2019.11.035)
311. C. Kirres, W. Vetter, *J. Food Compos. Anal.* **67** (2018) 63–69 (https://doi.org/10.1016/j.jfca.2018.01.001)
312. G. A. dos Santos, M. S. Ferreira, D. N. de Oliveira, V. de Oliveira, E. S. Siqueira-Santos, D. E. C. Cintra, R. F. Castilho, L. A. Velloso, R. R. Catharino, *J. Mass Spectrom.* **50** (2015) 951–958 (https://doi.org/10.1002/jms.3609)
313. D. H. Marchbank, F. Berrue, R. G. Kerr, *J. Nat. Prod.* **75** (2012) 1289–1293 (https://doi.org/10.1021/np300149y)

314. S. Park, S. Y. Jeong, Y. H. Nam, J. H. Park, I. Rodriguez, J. H. Shim, T. Yasmin, H. J. Kwak, Y. Oh, M. Oh, K. W. Lee, J. S. Lee, D. H. Kim, Y. H. Park, I. S. Moon, et al., *Plants* **10** (2021) 171 (https://doi.org/10.3390/plants10010171)
315. S. Koul, T. K. Razdan, C. S. Andotra, *J. Nat. Prod.* **66** (2003) 1121–1123 (https://doi.org/10.1021/np030070u)
316. V. Kuete, L. P. Sandjo, D. E. Djeussi, M. Zeino, G. M. N. Kwamou, B. Ngadjui, T. Efferth, *Invest. New Drugs* **32** (2014) 1053–1062 (https://doi.org/10.1007/s10637-014-0137-y)
317. R. Simões, I. Miranda, H. Pereira, *Phytochemistry* **181** (2021) 112570 (https://doi.org/10.1016/j.phytochem.2020.112570)
318. A. A. Rodionov, A. I. Revelsky, I. A. Revelsky, T. N. Anokhina, E. K. Anaev, *J. Anal. Chem.* **69** (2014) 1330–1336 (https://doi.org/10.1134/S1061934814140081)
319. H. Quan, N. Sun, S. Liu, M. Li, H. Wang, Z. Wang, *J. Food Process. Preserv.* **45** (2021) (https://doi.org/10.1111/jfpp.15706)
320. C.-Y. Zhang, M. Guo, *Life* **10** (2020) 209 (https://doi.org/10.3390/life10090209)
321. S. Leonova, T. Shelenga, M. Hamberg, A. V. Konarev, I. Loskutov, A. S. Carlsson, *J. Agric. Food Chem.* **56** (2008) 7983–7991 (https://doi.org/10.1021/jf800761c)
322. J. Wezgowiec, A. Wieczynska, W. Wieckiewicz, J. Kulbacka, J. Saczko, N. Pachura, M. Wieckiewicz, R. Gancarz, K. A. Wilk, *Molecules* **25** (2020) 2426 (https://doi.org/10.3390/molecules25102426)
323. K. He, G.-X. Zhao, G. Shi, L. Zeng, J.-F. Chao, J. L. McLaughlin, *Bioorg. Med. Chem.* **5** (1997) 501–506 (https://doi.org/10.1016/S0968-0896(96)00264-7)
324. M. Tortosa, M. E. Cartea, V. M. Rodríguez, P. Velasco, *J. Sci. Food Agric.* **98** (2018) 3675–3683 (https://doi.org/10.1002/jsfa.8876)
325. A. P. J. Brunskill, H. W. Thompson, R. A. Lalancette, *Acta Crystallogr. Sect. C Cryst. Struct. Commun.* **55** (1999) 1902–1905 (https://doi.org/10.1107/S0108270199010124)
326. T. Nishitoba, H. Sato, S. Shirasu, S. Sakamura, *Agric. Biol. Chem.* **51** (1987) 619–622 (https://doi.org/10.1080/00021369.1987.10868026)
327. M. Venigalla, T. L. Roberts, R. Raju, M. Mrad, F. Bodkin, K. Kopp, K. Doyle, G. Münch, *Fitoterapia* **150** (2021) 104843 (https://doi.org/10.1016/j.fitote.2021.104843)
328. M. N. Khan, F. Ul Haq, S. Rahman, A. Ali, S. G. Musharraf, *J. Pharm. Biomed. Anal.* **178** (2020) 112918 (https://doi.org/10.1016/j.jpba.2019.112918)
329. C. Jiao, C. Song, S. Zheng, Y. Zhu, Q. Jin, Y. Cai, Y. Lin, *Int. J. Mol. Sci.* **19** (2018) 728 (https://doi.org/10.3390/ijms19030728)
330. B. O. Cho, H. W. Ryu, Y. So, J. K. Cho, H. S. Woo, C. H. Jin, K. Il Seo, J. C. Park, I. Y. Jeong, *Food Chem. Toxicol.* **62** (2013) 638–644 (https://doi.org/10.1016/j.fct.2013.09.011)
331. J.-J. Chen, M.-J. Cheng, C.-W. Shu, P.-J. Sung, Y.-P. Lim, L.-Y. Cheng, S.-L. Wang, L.-C. Chen, *Chem. Nat. Compd.* **53** (2017) 632–634 (https://doi.org/10.1007/s10600-017-2077-1)
332. C. Zdero, F. Bohlmann, R. M. King, *Phytochemistry* **30** (1991) 1591–1595 (https://doi.org/10.1016/0031-9422(91)84214-D)
333. H. Pan, S. Nie, P. Kou, L. Wang, Z. Wang, Z. Liu, C. Zhao, X. Wang, Y. Fu, *J. Mol. Liq.* **337** (2021) 116591 (https://doi.org/10.1016/j.molliq.2021.116591)
334. P. Satyal, B. K. Chhetri, N. S. Dosoky, S. Shrestha, A. Poudel, W. N. Setzer, *Nat. Prod. Commun.* **10** (2015) 1934578X1501001 (https://doi.org/10.1177/1934578X1501001028)

335. W. M. Abdel-Mageed, A. A. El-Gamal, S. M. Al-Massarani, O. A. Basudan, F. A. Badria, M. S. Abdel-Kader, A. J. Al-Rehaily, H. Y. Aati, *Plants* **10** (2021) 119 (https://doi.org/10.3390/plants10010119)
336. M. Mansour, M. F. Mohamed, A. Elhalwagi, H. A. El-Itriby, H. H. Shawki, I. A. Abdelhamid, *Biomed Res. Int.* **2019** (2019) 1–13 (https://doi.org/10.1155/2019/2698570)
337. K. Günther-Jordanland, C. Dawid, T. Hofmann, *J. Agric. Food Chem.* **68** (2020) 10097–10108 (https://doi.org/10.1021/acs.jafc.0c04022)
338. M. N. Kardar, T. Zhang, G. D. Coxon, D. G. Watson, J. Fearnley, V. Seidel, *Phytochemistry* **106** (2014) 156–163 (https://doi.org/10.1016/j.phytochem.2014.07.016)
339. L. Bowen, C. Li, L. Bin, T. Ying, L. Shijun, D. Junxing, *Nat. Prod. Res.* **34** (2020) 847–850 (https://doi.org/10.1080/14786419.2018.1501692)
340. M. Stumpe, J.-G. Carsjens, I. Stenzel, C. Göbel, I. Lang, K. Pawlowski, B. Hause, I. Feussner, *Phytochemistry* **66** (2005) 781–791 (https://doi.org/10.1016/j.phytochem.2005.01.020)
341. Ö. G. Çelemli, F. Hatjina, L. Charistos, A. Schiesser, A. Özkırım, *Zeitschrift Für Naturforsch. C* **68** (2013) 429–438 (https://doi.org/10.1515/znc-2013-11-1201)
342. H.-Y. Wang, W. Zhang, J.-H. Dong, H. Wu, Y.-H. Wang, H.-X. Xiao, *BMC Chem.* **15** (2021) 26 (https://doi.org/10.1186/s13065-021-00754-1)
343. A. A. Mahamat, J. N. Nyemb, I. S. Gade, A. T. Ngenge, E. Talla, H. Céline, L. Sophie, J. T. Mbafor, *Open Chem.* **18** (2020) 239–243 (https://doi.org/10.1515/chem-2020-0016)
344. M. B. Alam, M. Naznin, S. Islam, F. H. Alshammari, H.-J. Choi, B.-R. Song, S. Kim, S.-H. Lee, *Antioxidants* **10** (2021) 719 (https://doi.org/10.3390/antiox10050719)
345. M. Miyazawa, E. Horiuchi, J. Kawata, *J. Oleo Sci.* **56** (2007) 457–461 (https://doi.org/10.5650/jos.56.457)
346. J.-Y. Sun, X.-K. Wang, M. A. Smith, *J. Am. Oil Chem. Soc.* **95** (2018) 21–27 (https://doi.org/10.1002/aocs.12020)
347. O. Taglialatela-Scafati, F. Pollastro, A. Minassi, G. Chianese, L. De Petrocellis, V. Di Marzo, G. Appendino, *European J. Org. Chem.* **2012** (2012) 5162–5170 (https://doi.org/10.1002/ejoc.201200650)
348. J. Gross, G. Eckhardt, *Phytochemistry* **20** (1981) 2267–2269 (https://doi.org/10.1016/0031-9422(81)80127-6)
349. L. Burdejova, E. Vitova, *Chem. Pap.* **74** (2020) 1679–1690 (https://doi.org/10.1007/s11696-019-01020-4)
350. F. Sciubba, A. Tomassini, G. Giorgi, E. Brasili, G. Pasqua, G. Capuani, W. Aureli, A. Miccheli, *Appl. Sci.* **10** (2020) 8493 (https://doi.org/10.3390/app10238493)
351. H.-T.-T. Pham, H.-W. Kim, S. Han, B. Ryu, T.-P. Doan, J.-P. An, V.-O. Tran, W.-K. Oh, *J. Nat. Prod.* **82** (2019) 3249–3266 (https://doi.org/10.1021/acs.jnatprod.9b00328)
352. G. Satyanarayana Reddy, J. L. Omdahl, M. Robinson, G. Wang, G. T. R. Palmore, D. Vicchio, A. L. Yergey, K.-Y. Tserng, M. R. Uskokovic, *Arch. Biochem. Biophys.* **455** (2006) 18–30 (https://doi.org/10.1016/j.abb.2006.08.021)
353. P. Hartz, M. Milhim, S. Trenkamp, R. Bernhardt, F. Hannemann, *Metab. Eng.* **49** (2018) 47–58 (https://doi.org/10.1016/j.ymben.2018.07.017)
354. M. Li, X. Hu, Y. Wang, X. Zhang, J. Li, Z. Song, Y. Liu, W. Feng, *Rapid Commun. Mass Spectrom.* **35** (2021) (https://doi.org/10.1002/rcm.9029)
355. E. R. M. Antunes, R. S. Duarte, T. Moritz, A. C. H. F. Sawaya, *Ind. Crops Prod.* **158** (2020) 113014 (https://doi.org/10.1016/j.indcrop.2020.113014)
356. F.-E. Wu, Z.-M. Gu, L. Zeng, G.-X. Zhao, Y. Zhang, J. L. McLaughlin, S. Sastrodihardjo, *J. Nat. Prod.* **58** (1995) 830–836 (https://doi.org/10.1021/np50120a002)

357. N. W. Santos, E. H. Yoshimura, C. E. Mareze-Costa, E. Machado, B. C. Agustinho, L. M. Pereira, M. N. Brito, N. A. Brito, L. M. Zeoula, *PLoS One* **12** (2017) e0172909 (https://doi.org/10.1371/journal.pone.0172909)
358. Y. Li, X. Xu, J. Yang, X. Wu, Q. Fu, *Nat. Prod. Res.* **30** (2016) 973–978 (https://doi.org/10.1080/14786419.2015.1089241)
359. B. M. Izzularab, M. Megeed, M. Yehia, *Environ. Toxicol.* **36** (2021) 55–66 (https://doi.org/10.1002/tox.23010)
360. K. Hroboňová, J. Lehotay, J. Čižmárik, J. Sádecká, *J. Liq. Chromatogr. Relat. Technol.* **36** (2013) 486–503 (https://doi.org/10.1080/10826070802548721)
361. Y. Huang, Z. Huang, C. Watanabe, L. Wang, *J. Anal. Appl. Pyrolysis* **137** (2019) 227–236 (https://doi.org/10.1016/j.jaap.2018.11.030)
362. S. M. O'Gorman, R. R. Torgerson, *Int. J. Dermatol.* **55** (2016) e386–e391 (https://doi.org/10.1111/ijd.13044)
363. A. Shaikh, S. Tekale, S. Wagh, M. Padul, *Biomed. Chromatogr.* **34** (2020) (https://doi.org/10.1002/bmc.4966)
364. K. Khan, S. Firdous, A. Ahmad, N. Fayyaz, M. Nadir, M. Rasheed, S. Faizi, *Pharm. Biol.* **54** (2016) 2597–2605 (https://doi.org/10.3109/13880209.2016.1172320)
365. A. Restivo, I. Degano, E. Ribechini, M. P. Colombini, *PLoS One* **9** (2014) e88762 (https://doi.org/10.1371/journal.pone.0088762)
366. R. Socha, D. Gałkowska, M. Bugaj, L. Juszczak, *Nat. Prod. Res.* **29** (2015) 416–422 (https://doi.org/10.1080/14786419.2014.949705)
367. I. Escriche, M. Juan-Borrás, *Food Res. Int.* **106** (2018) 834–841 (https://doi.org/10.1016/j.foodres.2018.01.055)
368. M. Viuda-Martos, Y. Ruiz-Navajas, J. Fernández-López, J. A. Pérez-Álvarez, *J. Food Sci.* **73** (2008) R117–R124 (https://doi.org/10.1111/j.1750-3841.2008.00966.x)
369. J. Wagh, K. Chanchal, S. Sonal, B. Praveena, G. Archana, G. N. Kumar, *Plant Soil* **409** (2016) 51–64 (https://doi.org/10.1007/s11104-016-2937-7)
370. H. Chi, A. K. Hsieh, C. L. Ng, H. K. Lee, S. F. Y. Li, *J. Chromatogr. A* **680** (1994) 593–597 (https://doi.org/10.1016/0021-9673(94)85159-X)
371. M. Funakoshi-Tago, K. Ohsawa, T. Ishikawa, F. Nakamura, F. Ueda, Y. Narukawa, F. Kiuchi, H. Tamura, K. Tago, T. Kasahara, *Int. Immunopharmacol.* **40** (2016) 550–560 (https://doi.org/10.1016/j.intimp.2016.10.008)
372. B. C. Q. Nguyen, N. Taira, H. Maruta, S. Tawata, *Phyther. Res.* **30** (2016) 120–127 (https://doi.org/10.1002/ptr.5510)
373. T. Suzuki, T. Nishimaki-Mogami, H. Kawai, T. Kobayashi, Y. Shinozaki, Y. Sato, T. Hashimoto, Y. Asakawa, K. Inoue, Y. Ohno, T. Hayakawa, T. Kawanishi, *Phytomedicine* **13** (2006) 401–411 (https://doi.org/10.1016/j.phymed.2005.09.003)
374. S. J. Bloor, K. A. Mitchell, *J. Ethnopharmacol.* **274** (2021) 114035 (https://doi.org/10.1016/j.jep.2021.114035)
375. E. Guzelmeric, P. I. Yuksel, B. K. Yaman, H. Sipahi, C. Celik, H. Kırmızıbekmez, A. Aydın, E. Yesilada, *J. Pharm. Biomed. Anal.* **203** (2021) 114196 (https://doi.org/10.1016/j.jpba.2021.114196)
376. *Trop. J. Nat. Prod. Res.* **4** (2021) 1208–1214 (https://doi.org/10.26538/tjnpr/v4i12.30)
377. R. M. Pop, I. C. Bocsan, A. D. Buzoianu, V. S. Chedea, S. A. Socaci, M. Pecoraro, A. Popolo, *Molecules* **25** (2020) 5259 (https://doi.org/10.3390/molecules25225259)
378. L. Chen, Y. Liu, L. Chen, X. Zhang, F. Feng, F. Zhang, *Chinese J. Chromatogr.* **37** (2019) 40 DOI: 10.3724/SP.J.1123.2018.09003)

379. J. B. Žižić, N. L. Vuković, M. B. Jadranin, B. D. Anđelković, V. V Tešević, M. M. Kacaniova, S. B. Sukdolak, S. D. Marković, *J. Sci. Food Agric.* **93** (2013) 3001–3009 (https://doi.org/10.1002/jsfa.6132)
380. H. I. Guler, G. Tatar, O. Yildiz, A. O. Belduz, S. Kolayli, *Arch. Microbiol.* **203** (2021) 3557–3564 (https://doi.org/10.1007/s00203-021-02351-1)
381. S. Hammami, H. Jannet, A. Bergaoui, L. Ciavatta, G. Cimino, Z. Mighri, *Molecules* **9** (2004) 602–608 (https://doi.org/10.3390/90700602)
382. A. Khan, A. H. Gilani, *Eur. J. Nutr.* **45** (2006) 463–469 (https://doi.org/10.1007/s00394-006-0620-0)
383. Z. Mao, *Int. J. Agric. Biol.* **25** (2021) 723–729 DOI: 10.17957/IJAB/15.1721)
384. V. A. Isidorov, L. Szczepaniak, S. Bakier, *Food Chem.* **142** (2014) 101–106 (https://doi.org/10.1016/j.foodchem.2013.07.032)
385. R. Pavlovic, G. Borgonovo, V. Leoni, L. Giupponi, G. Ceciliani, S. Sala, A. Bassoli, A. Giorgi, *Molecules* **25** (2020) 504 (https://doi.org/10.3390/molecules25030504)
386. M. De Rosso, C. Mayr Marangon, R. Flamini, *J. Mass Spectrom.* **55** (2020) e4472 (https://doi.org/10.1002/jms.4472)
387. Y. Yuan, S. Zheng, L. Zeng, Z. Deng, B. Zhang, H. Li, *J. Food Sci.* **84** (2019) 3850–3865 (https://doi.org/10.1111/1750-3841.14934)
388. M. De Rosso, A. Panighel, A. Dalla Vedova, R. Flamini, *J. Mass Spectrom.* (2020) e4639 (https://doi.org/10.1002/jms.4639)
389. A. Vachálková, L. Novotný, A. Solivajsová, V. Suchý, *Bioelectrochemistry Bioenerg.* **36** (1995) 137–143 (https://doi.org/10.1016/0302-4598(94)01754-O)
390. S. Zeghoud, A. Rebiai, H. Hemmami, B. Ben Seghir, N. Elboughdiri, S. Ghareba, D. Ghernaout, N. Abbas, *ACS Omega* **6** (2021) 4878–4887 (https://doi.org/10.1021/acsomega.0c05816)
391. W. Zhou, J. Shan, S. Wang, B. Cai, L. Di, *Food Funct.* **6** (2015) 3072–3080 (https://doi.org/10.1039/C5FO00358J)
392. A. P. Tiveron, P. L. Rosalen, A. G. Ferreira, S. S. Thomasi, A. P. Massarioli, M. Ikegaki, M. Franchin, A. G. de O. Sartori, S. M. de Alencar, *Nat. Prod. Res.* (2020) 1–5 (https://doi.org/10.1080/14786419.2020.1839459)
393. C. Nagy, A. Pesti, M. Andrási, G. Vasas, A. Gáspár, *J. Pharm. Biomed. Anal.* **202** (2021) 114131 (https://doi.org/10.1016/j.jpba.2021.114131)
394. M. Maulidiyah, D. Akhmad, A. Erviana, M. Andi, W. Dwiprayogo, S. La Ode Agus, A. Zul, M. Faizal, N. Ishmah Farah Adiba, N. Muhammad, *J. Appl. Pharm. Sci.* (2020) (https://doi.org/10.7324/JAPS.2021.110210)
395. J. Gabaston, C. Leborgne, P. Waffo-Téguo, E. Pedrot, T. Richard, J. Mérillon, J. Valls Fonayet, *J. Sep. Sci.* **43** (2020) 1080–1088 (https://doi.org/10.1002/jssc.201901066)
396. C.-P. Zhang, G. Liu, F.-L. Hu, *Nat. Prod. Res.* **26** (2012) 270–273 (https://doi.org/10.1080/14786419.2010.541877)
397. D. A. Nair, T. J. James, S. L. Sreelatha, B. J. Kariyil, *Plant Sci. Today* **7** (2020) (https://doi.org/10.14719/pst.2020.7.4.936)
398. P. Kachlicki, J. Einhorn, D. Muth, L. Kerhoas, M. Stobiecki, *J. Mass Spectrom.* **43** (2008) 572–586 (https://doi.org/10.1002/jms.1344)
399. M. Hou, R. Wang, S. Zhao, Z. Wang, *Acta Pharm. Sin. B* **11** (2021) 1813–1834 (https://doi.org/10.1016/j.apsb.2020.12.017)
400. D. Kavvadias, A. A. Abou-Mandour, F.-C. Czygan, H. Beckmann, P. Sand, P. Riederer, P. Schreier, *Biochem. Biophys. Res. Commun.* **269** (2000) 290–295 (https://doi.org/10.1006/bbrc.2000.2283)

401. G. Gazzani, M. Daglia, A. Papetti, *Curr. Opin. Biotechnol.* **23** (2012) 153–159 (https://doi.org/10.1016/j.copbio.2011.09.003)
402. G. Beyer, M. F. Melzig, *Biol. Pharm. Bull.* **28** (2005) 1183–1186 (https://doi.org/10.1248/bpb.28.1183)
403. A. Goossens, *Cosmetics* **3** (2016) 5 (https://doi.org/10.3390/cosmetics3010005)
404. M. P. Turski, M. Turska, W. Zgrajka, D. Kuc, W. A. Turski, *Amino Acids* **36** (2009) 75–80 (https://doi.org/10.1007/s00726-008-0031-z)
405. F. Caldas, F. Augusto Filho, H. Facundo, R. Alves, F. Santos, G. Silva, C. Camara, T. Silva, *Quim. Nova* **2018** (2018) (http://dx.doi.org/10.21577/0100-4042.20170305)
406. I. Bonadies, F. Cimino, V. Guarino, *Mater. Res. Express* **6** (2019) 075407 (https://doi.org/10.1088/2053-1591/ab178e)
407. M. Sahlan, A. Devina, D. K. Pratami, H. Situmorang, S. Farida, A. Munim, B. Kusumoputro, M. Yohda, A. Faried, M. Gozan, M. Ledyawati, *Saudi J. Biol. Sci.* **26** (2019) 1531–1538 (https://doi.org/10.1016/j.sjbs.2018.12.008)
408. M. P. Rubinho, P. L. N. de Carvalho, A. L. L. E. Reis, Ern, E. Reis, S. M. de Alencar, A. L. T. G. Ruiz, J. E. de Carvalho, M. Ikegaki, *Nat. Prod. Res.* **34** (2020) 3139–3144 (https://doi.org/10.1080/14786419.2019.1607851)
409. Q. Liu, H.-L. Wu, Z. Liu, R. Xiao, T. Wang, Y. Hu, Y.-J. Ding, R.-Q. Yu, *Anal. Methods* **10** (2018) 5577–5588 (https://doi.org/10.1039/C8AY01986J)
410. B. Trusheva, D. Ivanova, M. Popova, V. Bankova, *Nat. Prod. Commun.* **12** (2017) 1934578X1701200 (https://doi.org/10.1177/1934578X1701200214)
411. Y.-S. Wang, H. Zhang, K.-W. Wang, T.-T. Zhang, X.-F. Fan, *Chem. Nat. Compd.* **56** (2020) 373–375 (https://doi.org/10.1007/s10600-020-03037-8)
412. F. Cepleanu, K. Ohtani, M. Hamburger, K. Hostettmann, M. P. Gupta, P. Solis, *Helv. Chim. Acta* **76** (1993) 1379–1388 (https://doi.org/10.1002/hlca.19930760324)
413. O. Cuesta-Rubio, M. Campo Fernández, I. Márquez Hernández, C. G. J. Jaramillo, V. H. González, R. Montes De Oca Porto, D. Marrero Delange, L. Monzote Fidalgo, A. L. Piccinelli, L. Campone, L. Rastrelli, *Fitoterapia* **120** (2017) 177–183 (https://doi.org/10.1016/j.fitote.2017.06.016)
414. A. A. da S. Filho, D. O. Resende, M. J. Fukui, F. F. Santos, P. M. Pauletti, W. R. Cunha, M. L. A. Silva, L. E. Gregório, J. K. Bastos, N. P. D. Nanayakkara, *Fitoterapia* **80** (2009) 478–482 (https://doi.org/10.1016/j.fitote.2009.06.007)
415. M. D. Herrera, J. A. Acosta-Gallegos, R. Reynoso-Camacho, I. F. Pérez-Ramírez, *Food Chem.* **294** (2019) 368–377 (https://doi.org/10.1016/j.foodchem.2019.05.076)
416. Y. Barlak, O. Değer, M. Uçar, T. N. Çakiroğlu, *Turkish J. Biol.* **39** (2015) 194–201 doi:10.3906/biy-1402-48)
417. K. Hroboňová, J. Lehotay, J. Čižmárik, *J. Liq. Chromatogr. Relat. Technol.* **32** (2008) 125–135 (https://doi.org/10.1080/10826070802548721)
418. S. Alanazi, N. Alenzi, J. Fearnley, W. Harnett, D. G. Watson, *Metabolites* **10** (2020) 413 (https://doi.org/10.3390/metabo10100413)
419. A. Chattopadhyay, M. Navab, G. Hough, F. Gao, D. Meriwether, V. Grijalva, J. R. Springstead, M. N. Palgnachari, R. Namiri-Kalantari, F. Su, B. J. Van Lenten, A. C. Wagner, G. M. Anantharamaiah, R. Farias-Eisner, S. T. Reddy, et al., *J. Lipid Res.* **54** (2013) 995–1010 (https://doi.org/10.1194/jlr.M033555)
420. F. Han, J. Liang, B.-Y. Yang, H.-X. Kuang, Y.-G. Xia, *J. Pharm. Biomed. Anal.* **203** (2021) 114176 (https://doi.org/10.1016/j.jpba.2021.114176).