



Table S2  
DAG detected in sebum by RR-RP-HPLC/ESI TOF-MS and MS/MS

	Species	RT (min)	SD	[M+NH <sub>4</sub> ] <sup>+</sup> formula	calculated m/z	[M+NH <sub>4</sub> -R1COONH <sub>4</sub> ] <sup>+</sup> formula	calculated m/z	[M+NH <sub>4</sub> -R2COONH <sub>4</sub> ] <sup>+</sup> formula	calculated m/z	NL (QqQ)	substituent FA	
DB:0	DAG 28:0	19.50	0.025	C31 H64 NO5	530.4784	C17 H33 O3	285.2431	R1=R2	285.2431	245	14:0; 14:0	
	DAG 29:0	19.87	0.034	C32 H66 N O5	544.4941	C17 H33 O3	285.2431	C18 H35 O3	299.2586	245; 259	14:0; 15:0	
	DAG 30:0	20.47	0.032	C33 H68 N O5	558.5097	C17 H33 O3	285.2431	C19 H37 O3	313.2743	245; 273	14:0; 16:0	
	DAG 31:0	20.85	0.047	C34 H70 NO5	572.5254	C18 H35 O3	299.2586	C19 H37 O3	313.2743	259; 273	15:0; 16:0	
	DAG 31:0	"	"	"	"	C17 H33 O3	285.2431	C20 H39 O3	327.2899	245; 287	14:0; 17:0	
	DAG 32:0	21.33	0.037	C35 H72 N O5	586.5411	C19 H37 O3	313.2743	R1=R2	313.2743	273	16:0; 16:0	
	DAG 32:0	"	"	"	"	C17 H33 O3	285.2431	C21 H41 O3	341.3056	245; 301	14:0; 18:0	
	DAG 32:0	"	"	"	"	C18 H35 O3	299.2586	C20 H39 O3	327.2899	259; 287	15:0; 17:0	
	DAG 33:0	21.64	0.034	C36 H74 NO5	600.5567	C19 H37 O3	313.2743	C20 H39 O3	327.2899	273; 287	16:0; 17:0	
	DAG 34:0	22.11	0.036	C37 H76 NO5	614.5723	C19 H37 O3	313.2743	C21 H41 O3	341.3056	273; 301	16:0; 18:0	
	DAG 34:0	"	"	"	"	"	"	R1=R2	327.2899	287	17:0; 17:0	
	DAG 35:0	22.18	0.035	C38 H78 NO5	628.5881	C20 H39 O3	327.2899	C21 H41 O3	341.3056	287; 301	17:0; 18:0	
	DAG 36:0	22.50	0.020	C39 H80 NO5	642.6036	C21 H41 O3	341.3056	R1=R2	341.3056	301	18:0; 18:0	
	DB:1	DAG 28:1	18.83	0.048	C31 H62 NO5	528.4628	C17 H33 O3	285.2431	C17 H31 O3	283.2273	243; 245	14:1; 14:0
		DAG 29:1	19.24	0.046	C32 H64 NO5	542.4784	C17 H31 O3	283.2273	C18 H35 O3	299.2586	243; 259	14:1; 15:0
		DAG 30:1	19.88	0.044	C33 H66 N O5	556.4941	C17 H31 O3	283.2273	C19 H37 O3	313.2743	243; 273	14:1; 16:0
DAG 30:1		"	"	"	"	C17 H33 O3	285.2431	C19 H35 O3	311.2586	245; 271	14:0; 16:1	
DAG 31:1		20.31	0.077	C34 H68 NO5	570.5097	C18 H33 O3	297.2431	C19 H37 O3	313.2743	257; 273	15:1; 16:0	
DAG 31:1		"	"	"	"	C16 H29 O3	269.2117	C21 H41 O3	341.3056	229; 301	13:1; 18:0	
DAG 31:1		"	"	"	"	C18 H35 O3	299.2586	C19 H35 O3	311.2586	259; 271	15:0; 16:1	
DAG 32:1		20.80	0.040	C35 H70 NO5	584.5254	C17 H33 O3	285.2431	C21 H39 O3	339.2899	245; 299	14:0; 18:1	
DAG 32:1		"	"	"	"	C19 H35 O3	311.2586	C19 H37 O3	313.2743	271; 273	16:1; 16:0	
DAG 33:1		21.15	0.037	C36 H72 N O5	598.5411	C18 H33 O3	297.2431	C21 H41 O3	341.3056	257; 301	15:1; 18:0	
DAG 33:1		"	"	"	"	C18 H35 O3	299.2586	C21 H39 O3	339.2899	259; 299	15:0; 18:1	
DAG 33:1		"	"	"	"	C19 H35 O3	311.2586	C20 H39 O3	327.2899	271; 287	16:1; 17:0	
DAG 33:1		"	"	"	"	C19 H37 O3	313.2743	C20 H37 O3	325.2743	273; 285	16:0; 17:1	
DAG 34:1		21.55	0.035	C37 H74 N O5	612.5567	C19 H37 O3	313.2743	C21 H39 O3	339.2899	273; 299	16:0; 18:1	
DAG 34:1		"	"	"	"	C19 H35 O3	311.2586	C21 H41 O3	341.3056	271; 301	16:1; 18:0	
DAG 35:1		21.73	0.154	C38 H76 NO5	626.5723	C19 H37 O3	313.2743	C22 H41 O3	353.3056	273; 313	16:0; 19:1	
DAG 35:1		"	"	"	"	C19 H35 O3	311.2586	C22 H43 O3	355.3212	271; 315	16:1; 19:0	
DAG 35:1		"	"	"	"	C20 H39 O3	327.2899	C21 H39 O3	339.2899	287; 299	17:0; 18:1	
DAG 36:1		22.29	0.043	C39 H78 NO5	640.5881	C19 H37 O3	313.2743	C23 H43 O3	367.3212	273; 327	16:0; 20:1	
DAG 36:1		"	"	"	"	C21 H39 O3	339.2899	C21 H41 O3	341.3056	299; 301	18:1; 18:0	
DB:2		DAG 28:2	18.48	0.058	C31 H60 NO5	526.4471	C17 H31 O3	283.2273	R1=R2	283.2273	243	14:1; 14:1
		DAG 30:2	19.25	0.045	C33 H64 NO5	554.4784	C17 H31 O3	283.2273	C19 H35 O3	311.2586	243; 271	14:1; 16:1
		DAG 31:2	19.77	0.045	C34 H66 NO5	568.4941	C18 H33 O3	297.2431	C19 H35 O3	311.2586	257; 271	15:1; 16:1
		DAG 32:2	20.24	0.038	C35 H68 NO5	582.5097	C19 H35 O3	311.2586	R1=R2	311.2586	271	16:1; 16:1
	DAG 32:2	"	"	"	"	C17 H31 O3	283.2273	C21 H39 O3	339.2899	243; 299	14:1; 18:1	
	DAG 32:2	"	"	"	"	C17 H33 O3	285.2431	C21 H37 O3	337.2743	245; 297	14:0; 18:2	
	DAG 33:2	20.63	0.037	C36 H70 N O5	596.5254	C19 H35 O3	311.2586	C20 H37 O3	325.2743	271; 285	16:1; 17:1	
	DAG 33:2	"	"	"	"	C18 H33 O3	297.2431	C21 H39 O3	339.2899	257; 299	15:1; 18:1	
	DAG 33:2	"	"	"	"	C18 H35 O3	299.2586	C21 H37 O3	337.2743	259; 297	15:0; 18:2	
	DAG 34:2	21.04	0.044	C37 H72 NO5	610.5411	C19 H35 O3	311.2586	C21 H39 O3	339.2899	271; 299	16:1; 18:1	
	DAG 34:2	"	"	"	"	C19 H37 O3	313.2743	C21 H37 O3	337.2743	273; 297	16:0; 18:2	
	DAG 35:2	21.25	0.184	C38 H74 NO5	624.5567	C20 H39 O3	327.2899	C21 H37 O3	337.2743	287; 297	17:0; 18:2	
	DAG 35:2	"	"	"	"	C19 H35 O3	311.2586	C22 H41 O3	353.3056	271; 313	16:1; 19:1	
	DAG 35:2	"	"	"	"	C20 H37 O3	325.2743	C21 H39 O3	339.2899	285; 299	17:1; 18:1	
	DAG 36:2	21.75	0.032	C39 H76 NO5	638.5723	C21 H39 O3	339.2899	R1=R2	339.2899	299	18:1; 18:1	
	DB:3	DAG 34:3	20.62	0.037	C37 H70 NO5	608.5254	C19 H35 O3	311.2586	C21 H37 O3	337.2743	271; 297	16:1; 18:2
DAG 34:3		"	"	"	"	C17 H31 O3	283.2273	C23 H41 O3	365.3056	243; 325	14:1; 20:2	
DAG 36:3		21.35	0.077	C39 H74 NO5	636.5567	C21 H37 O3	337.2743	C21 H39 O3	339.2899	297; 299	18:2; 18:1	
DB:4	DAG 36:4	20.68	0.038	C39 H72 NO5	634.5411	C21 H37 O3	337.2743	R1=R2	337.2743	297	18:2; 18:2	

Table S3

WE tentatively identified in sebum by RR-RP-HPLC/ESI TOF-MS and MS/MS

No.	FA 16:1-WE	FOH	RT (min)	SD	[M+H] <sup>+</sup> formula	calculated m/z	average m/z	SD	ppm	
DB:1	1	WE 28:1	12:0	21.6	0.04	C28 H55 O2	423.4202	423.4199	0.0012	2.41
	2	WE 29:1	13:0	22.0	0.04	C29 H57 O2	437.4359	437.4363	0.0017	3.56
	3	WE 30:1	14:0	22.4	0.04	C30 H59 O2	451.4515	451.4520	0.0015	3.33
	4	WE 31:1	15:0	22.8	0.04	C31 H61 O2	465.4672	465.4675	0.0015	2.90
	5	WE 32:1	16:0	23.2	0.04	C32 H63 O2	479.4828	479.4834	0.0016	3.11
	6	WE 33:1	17:0	23.6	0.04	C33 H65 O2	493.4985	493.4990	0.0015	3.02
	7	WE 34:1	18:0	24.0	0.05	C34 H67 O2	507.5141	507.5146	0.0017	3.14
	8	WE 35:1	19:0	24.4	0.06	C35 H69 O2	521.5298	521.5297	0.0018	2.83
	9	WE 36:1	20:0	24.9	0.07	C36 H71 O2	535.5454	535.5447	0.0017	2.72
	10	WE 37:1	21:0	25.3	0.07	C37 H73 O2	549.5611	549.5612	0.0015	2.05
	11	WE 38:1	22:0	25.8	0.12	C38 H75 O2	563.5767	563.5775	0.0021	3.60
	12	WE 39:1	23:0	26.4	0.09	C39 H77 O2	577.5924	577.5928	0.0027	3.84
	13	WE 40:1	24:0	27.0	0.13	C40 H79 O2	591.6081	591.6084	0.0021	3.20
	14	WE 41:1	25:0	27.6	0.11	C41 H81 O2	605.6231	605.6219	0.0027	4.44
	15	WE 42:1	26:0	28.2	0.12	C42 H83 O2	619.6393	619.6393	0.0021	2.52
DB:2	1	WE 30:2	14:1	21.9	0.03	C30 H57 O2	449.4353	449.4344	0.0016	2.10
	2	WE 31:2	15:1	22.3	0.03	C31 H59 O2	463.4509	463.4511	0.0014	1.17
	3	WE 32:2	16:1	22.7	0.03	C32 H61 O2	477.4666	477.4668	0.0013	1.65
	4	WE 33:2	17:1	23.0	0.05	C33 H63 O2	491.4823	491.4824	0.0016	2.50
	5	WE 34:2	18:1	23.4	0.04	C34 H65 O2	505.4979	505.4986	0.0015	2.44
	6	WE 35:2	19:1	23.7	0.04	C35 H67 O2	519.5136	519.5145	0.0016	3.17
	7	WE 36:2	20:1	24.1	0.05	C36 H69 O2	533.5292	533.5311	0.0009	2.80
	8	WE 37:2	21:1	24.6	0.05	C37 H71 O2	547.5449	547.5455	0.0015	2.03
	9	WE 38:2	22:1	25.0	0.06	C38 H73 O2	561.5605	561.5613	0.0015	2.27
	10	WE 39:2	23:1	25.5	0.05	C39 H75 O2	575.5762	575.5761	0.0016	1.08
	11	WE 40:2	24:1	26.1	0.08	C40 H77 O2	589.5918	589.5922	0.0017	1.92
	12	WE 41:2	25:1	26.5	0.12	C41 H79 O2	603.6075	603.6071	0.0018	2.03
	13	WE 42:2	26:1	27.1	0.10	C42 H81 O2	617.6231	617.6227	0.0018	2.13

Table S4  
 CE tentatively identified in sebum with RR-RP-HPLC/ESI TOF-MS and MS/MS

No.	Species	RT	SD	[M+Na] <sup>+</sup> formula	calculated m/z	detected m/z	SD	ppm	PI (QqQ) [RCOOH+Na] <sup>+</sup>
1	CE 14:1	26.7	0.05	C41 H70 Na O2	617.5274	617.5295	0.0031	3.4	249.2
2	CE 15:1	27.4	0.05	C42 H72 Na O2	631.5431	631.5447	0.0056	2.5	263.1
3	CE 16:0	29.5	0.16	C43 H76 Na O2	647.5738	647.5759	0.0017	3.2	279.3
4	CE 16:1	28.1	0.06	C43 H74 Na O2	645.5581	645.5591	0.0018	1.6	277.4
5	CE 16:2	27.1	0.05	C43 H72 Na O2	643.5431	643.5432	0.0058	0.2	275.2
6	CE 17:1	28.8	0.07	C44 H76 Na O2	659.5743	659.5755	0.0037	1.9	291.1
7	CE 18:0	31.4	0.10	C45 H80 Na O2	675.6056	675.6034	0.0021	3.3	307.3
8	CE 18:1	29.8	0.08	C45 H78 Na O2	673.5911	673.5897	0.0028	2.1	305.3
9	CE 18:2	28.5	0.06	C45 H76 Na O2	671.5738	671.5745	0.0045	1.0	303.2

Table S5  
 FFA tentatively identified in sebum by RR-RP-HPLC/ESI TOF-MS

No.	Species	RT (min)	SD	[M-H] <sup>-</sup> formula	calculated m/z	average m/z	SD	ppm
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DB:0	No.	Species	RT (min)	SD	[M-H] <sup>-</sup> formula	calculated m/z	average m/z	SD	ppm
	1	FFA 12:0	4.8	0.06	C12 H23 O2	199.1704	199.1702	0.0006	2.03
	2	FFA 13:0	5.9	0.16	C13 H25 O2	213.1861	213.1855	0.0005	2.73
	3	FFA 14:0	7.5	0.08	C14 H27 O2	227.2017	227.2022	0.0007	2.46
	4	FFA 15:0	9.0	0.08	C15 H29 O2	241.2173	241.2175	0.0004	1.25
	5	FFA 16:0	10.4	0.08	C16 H31 O2	255.2331	255.2337	0.0002	2.18
	6	FFA 17:0	11.7	0.21	C17 H33 O2	269.2486	269.2489	0.0002	1.23
	7	FFA 18:0	13.2	0.07	C18 H35 O2	283.2643	283.2651	0.0003	3.00
	8	FFA 19:0	14.4	0.08	C19 H37 O2	297.2799	297.2821	0.0042	1.94
	9	FFA 20:0	15.5	0.09	C20 H39 O2	311.2956	311.2961	0.0004	1.89
	10	FFA 21:0	16.4	0.07	C21 H41 O2	325.3112	325.3124	0.0010	3.78
	11	FFA 22:0	17.3	0.08	C22 H43 O2	339.3269	339.3276	0.0006	3.04
	12	FFA 23:0	18.1	0.08	C23 H45 O2	353.3425	353.3430	0.0003	1.43
	13	FFA 24:0	18.8	0.10	C24 H47 O2	367.3576	367.3474	0.0081	2.63
	14	FFA 25:0	19.4	0.07	C25 H49 O2	381.3733	381.3754	0.0003	4.05
	15	FFA 26:0	20.1	0.17	C26 H51 O2	395.3889	395.3914	0.0011	4.65
	16	FFA 27:0	20.7	0.05	C27 H53 O2	409.4046	409.4065	0.0003	3.44
	17	FFA 28:0	21.2	0.05	C28 H55 O2	423.4202	423.4223	0.0004	3.68
	18	FFA 29:0	21.6	0.10	C29 H57 O2	437.4359	437.3869	0.0999	1.57
	19	FFA 30:0	22.0	0.06	C30 H59 O2	451.4515	451.4525	0.0012	2.16

DB:2	No.	Species	RT (min)	SD	[M-H] <sup>-</sup> formula	calculated m/z	average m/z	SD	ppm
	1	FFA 16:2	6.9	0.08	C16 H27 O2	251.2017	251.2014	0.0002	0.67
	2	FFA 17:2	8.4	0.14	C17 H29 O2	265.2173	265.2169	0.0005	3.50
	3	FFA 18:2	9.8	0.09	C18 H31 O2	279.2331	279.2336	0.0004	2.40
	4	FFA 19:2	11.3	0.08	C19 H33 O2	293.2486	293.2492	0.0008	2.48
	5	FFA 20:2	12.4	0.08	C20 H35 O2	307.2643	307.2649	0.0002	2.00
	6	FFA 21:2	13.5	0.10	C21 H37 O2	321.2794	321.2795	0.0012	2.83
	7	FFA 22:2	14.6	0.08	C22 H39 O2	335.2951	335.2959	0.0012	2.87

No.	Species	RT (min)	SD	[M-H] <sup>-</sup> formula	calculated m/z	average m/z	SD	ppm
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DB:1	No.	Species	RT (min)	SD	[M-H] <sup>-</sup> formula	calculated m/z	average m/z	SD	ppm
	1	FFA 14:1	5.8	0.07	C14 H25 O2	225.1861	225.1864	0.0004	1.77
	2	FFA 15:1	7.2	0.20	C15 H27 O2	239.2017	239.2018	0.0003	2.18
	3	FFA 16:1	8.6	0.08	C16 H29 O2	253.2173	253.2177	0.0005	1.83
	4	FFA 17:1	10.1	0.08	C17 H31 O2	267.2331	267.2334	0.0005	2.27
	5	FFA 18:1	11.3	0.08	C18 H33 O2	281.2486	281.2493	0.0004	2.44
	6	FFA 19:1	12.6	0.07	C19 H35 O2	295.2637	295.2644	0.0009	2.42
	7	FFA 20:1	13.8	0.07	C20 H37 O2	309.2799	309.2808	0.0006	2.73
	8	FFA 21:1	14.9	0.09	C21 H39 O2	323.2951	323.2954	0.0011	2.48
	9	FFA 22:1	15.9	0.08	C22 H41 O2	337.3107	337.3109	0.0006	1.14
	10	FFA 23:1	16.8	0.07	C23 H43 O2	351.3263	351.3278	0.0012	3.64
	11	FFA 24:1	17.6	0.08	C24 H45 O2	365.3421	365.4175	0.1507	2.22
	12	FFA 25:1	18.3	0.08	C25 H47 O2	379.3576	379.3587	0.0013	3.37
	13	FFA 26:1	19.0	0.09	C26 H49 O2	393.3733	393.3741	0.0020	4.64
	14	FFA 27:1	19.7	0.13	C27 H51 O2	407.3889	407.3897	0.0011	1.69
	15	FFA 28:1	20.3	0.11	C28 H53 O2	421.4046	421.4056	0.0008	3.34
	16	FFA 29:1	20.7	0.08	C29 H55 O2	435.4202	435.4204	0.0018	1.05
	17	FFA 30:1	21.2	0.05	C30 H57 O2	449.4359	449.4371	0.0009	2.36

DB:3	No.	Species	RT (min)	SD	[M-H] <sup>-</sup> formula	calculated m/z	average m/z	SD	ppm
	1	FFA 18:3	8.2	0.09	C18 H29 O2	277.2168	277.2167	0.0009	2.79
	2	FFA 20:3	11.0	0.08	C20 H33 O2	305.2481	305.2484	0.0008	2.02
	3	FFA 22:3	13.4	0.07	C22 H37 O2	333.2794	333.2802	0.0004	1.07

DB:4	No.	Species	RT (min)	SD	[M-H] <sup>-</sup> formula	calculated m/z	average m/z	SD	ppm
	1	FFA 20:4	9.7	0.32	C20 H31 O2	303.2324	303.2329	0.0008	2.06
	2	FFA 22:4	11.9	0.09	C22 H35 O2	331.2637	331.2650	0.0018	3.81