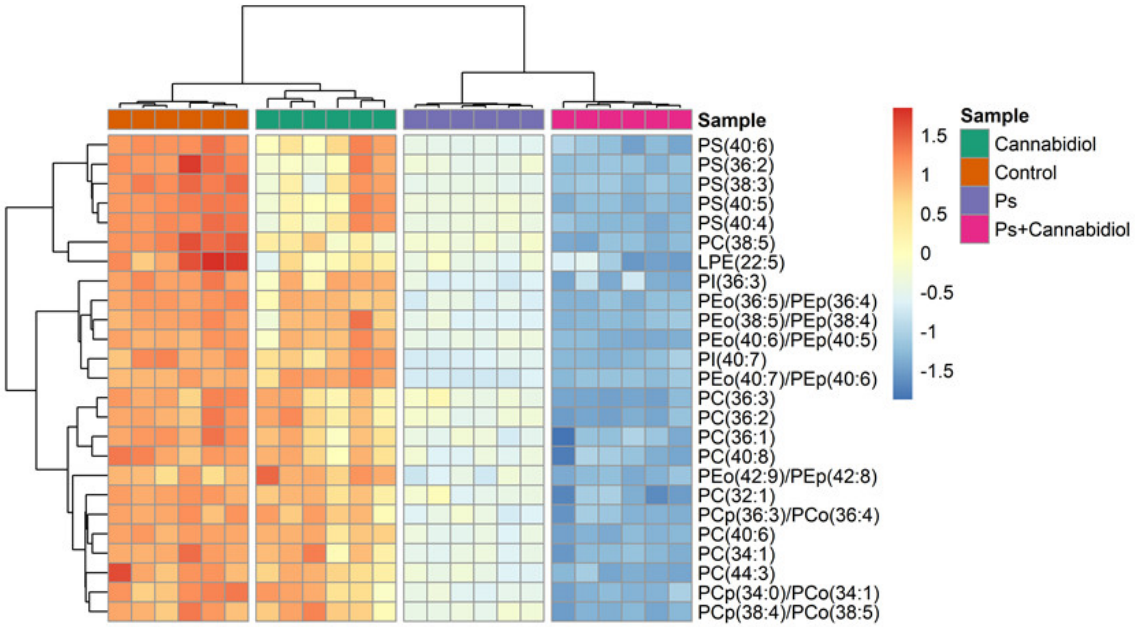


Figure S1. Two-dimensional hierarchical clustering heat map of the main 25 phospholipid species (lowest p-values in Kruskal–Wallis analysis) of the four groups (Control, CBD, Ps, and Ps+CBD). The relative abundance of each species is indicated on the colour scale, with the figures indicating the difference in fold compared to the overall average. The dendrogram at the top represents the clustering of the sample groups. The dendrogram on the left represents the clustering of individual phospholipid species (relative to the change in relative abundance).

The main 25 phospholipid species from the second dataset selected according to Kruskal–Wallis analysis (lowest p-values) are shown in Figure S2. The primary split in the upper hierarchical dendrogram shows that the samples independently clustered into four major groups. Clustering of individual phospholipids (with respect to the similarity of their changes in phospholipid expression) shows that they cluster into three main groups. The first group included two PC species and two PC plasmalogen species, which were most abundant in the UVB cluster. The second group contained two LPE species and one PC species, which were least abundant in the CBD groups and most abundant in the UVB group. The third group was mainly composed of PC species and ether-linked PE species which were more abundant in the UVB and UVB+CBD clusters.

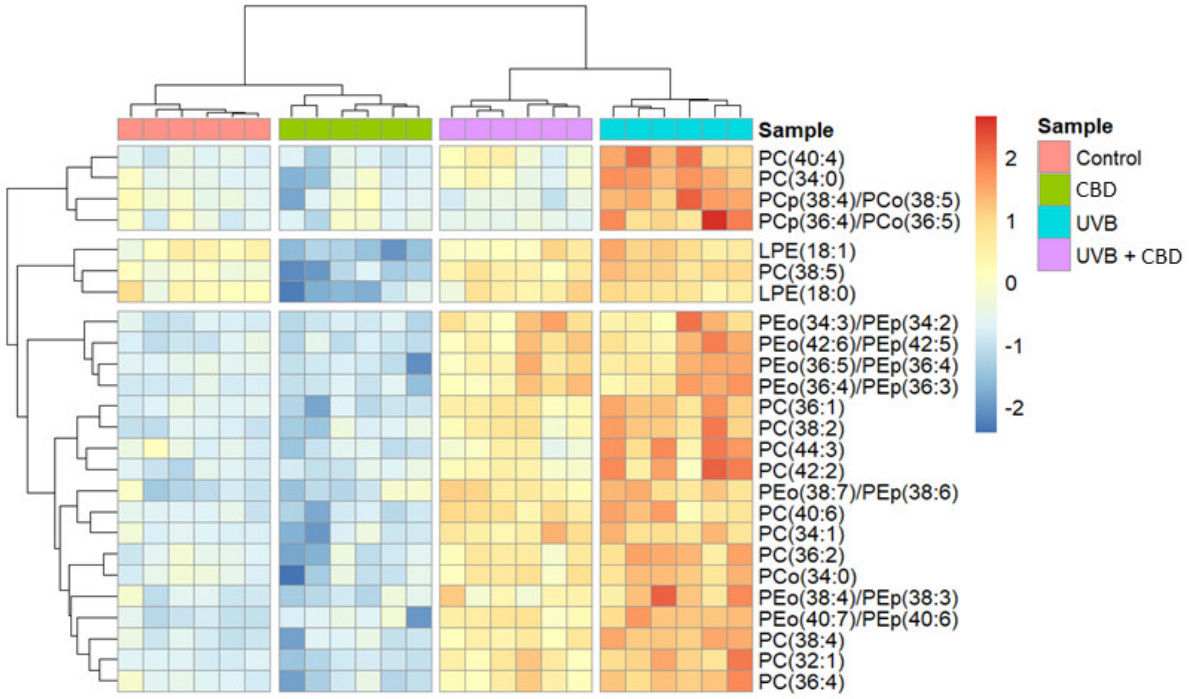


Figure S2. Two-dimensional hierarchical clustering heat map of the main 25 phospholipid species (lowest p-values in Kruskal–Wallis analysis) of the four groups (Control, CBD, UVB and UVB+CBD). The relative abundance of each species is shown on the colour scale, with the numbers indicating the fold difference from the overall mean. The dendrogram at the top represents the clustering of the sample groups. The dendrogram on the left represents the clustering of individual phospholipid species (relative to the observed changes in relative abundance).

Figure S3 shows the main 25 phospholipid species from the third dataset selected using Kruskal–Wallis univariate analysis (lowest p-values). The primary split in the upper hierarchical dendrogram shows that the samples clustered independently into four main groups, but that not all samples of psoriatic keratinocyte exposed to UVB were properly clustered. The individual phospholipids (grouped by similarity of changes of the phospholipid expression) were clustered into three main groups. The first was represented by the SM(d42:2) specie, which was most abundant in psoriatic keratinocytes treated with CBD and least abundant in psoriatic keratinocytes treated with CBD after UVB exposure. The second group consisted mainly of PS, while the third group included PC species and ether-linked PE species, which were less abundant in CBD-treated psoriatic keratinocytes compared to the other groups.

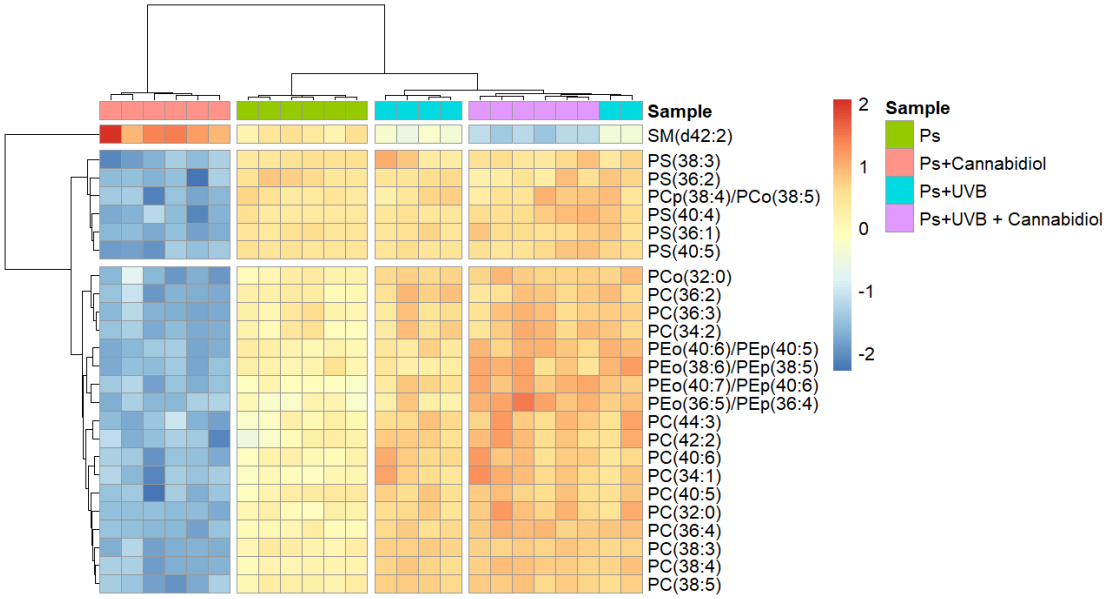


Figure S3. Two-dimensional hierarchical clustering heat map of the main 25 phospholipid species (according to lowest p-values in Kruskal–Wallis) from the four groups (Ps, Ps+CBD, Ps+UVB and Ps+UVB+CBD). The relative abundance of each species is shown on the colour scale, with the numbers indicating the fold difference from the overall average. The dendrogram at the top represents the clustering of the sample groups. The dendrogram at the left represents the clustering of individual phospholipid species (relative to the observed changes in relative abundance).

Table S1. Peak area of each phospholipid molecular species identified in the keratinocytes in keratinocytes, isolated from the skin of healthy subjects (Control) and psoriatic patients (Ps). These cells were not treated or treated with CBD (4μM). The following groups of keratinocytes were examined: Control, CBD, Ps, and Ps+CBD. Data obtained using MZmine software (XLSX).

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X
1	Name	505	506	507	508	509	510	505C	506C	507C	508C	509C	510C	602	603	605	606	607	611	602C	603C	605C	606C	607C
2	Label	Control	Control	Control	Control	Control	Control	Cannabidi	Cannabidi	Cannabidi	Cannabidi	Cannabidi	Cannabidi	Ps	Ps	Ps	Ps	Ps	Ps	Ps+Cannal	Ps+Cannal	Ps+Cannal	Ps+Cannal	Ps+Cannal
3	PC(34:1)	1.446333	1.43833	1.629387	1.496522	1.446411	1.454116	1.403019	1.16507	1.451626	1.087743	1.580505	1.410492	1.745256	1.904952	1.875218	1.828324	1.915135	1.770435	1.118317	1.166173	0.895962	1.213026	1.161835
4	PC(32:0)	0.733743	0.746284	0.868121	0.832015	0.720831	0.773635	0.691998	0.48401	0.798734	0.664281	0.833396	0.74269	0.988753	1.076061	1.06516	0.955528	1.04578	0.902184	0.451975	0.450728	0.46171	0.464836	0.420711
5	PC(38:4)	0.879496	0.857457	0.993696	0.938606	0.874488	0.899067	0.856998	0.699431	0.919834	0.926577	0.973822	0.881086	1.150742	1.213143	1.215895	1.192196	1.214354	1.21645	0.518562	0.519463	0.478381	0.62223	0.537852
6	PC(36:4)	0.655584	0.634812	0.77488	0.68063	0.616991	0.640882	0.549122	0.43213	0.605761	0.525404	0.689643	0.570385	0.902728	0.919613	0.935729	0.949261	0.90723	1.056718	0.359348	0.40419	0.403651	0.423042	0.426976
7	PC(36:1)	0.4864	0.496075	0.477928	0.529477	0.501442	0.504524	0.461326	0.430119	0.487119	0.359572	0.439694	0.464162	0.607376	0.724794	0.655546	0.684463	0.703567	0.654693	0.492707	0.485385	0.313998	0.534638	0.479861
8	PC(36:2)	0.575008	0.581509	0.536709	0.630287	0.560395	0.591881	0.543583	0.432851	0.611378	0.451772	0.520607	0.574125	0.741972	0.66989	0.746439	0.782453	0.683148	0.771895	0.315026	0.320519	0.287352	0.350011	0.311599
9	PC(34:2)	0.538358	0.566329	0.388275	0.581082	0.551794	0.592944	0.529722	0.40906	0.557839	0.351108	0.372744	0.569226	0.654847	0.586596	0.610355	0.749997	0.57768	0.803729	0.2476	0.270988	0.249879	0.280645	0.252991
10	PC(34:0)	0.275808	0.263491	0.321146	0.286729	0.268907	0.277428	0.26084	0.206632	0.278127	0.216989	0.311512	0.269105	0.38746	0.363571	0.407206	0.367895	0.386026	0.353734	0.247226	0.265348	0.200747	0.255196	0.254269
11	PC(38:5)	0.344241	0.346573	0.388139	0.370446	0.355062	0.382913	0.255462	0.202372	0.272393	0.212515	0.305089	0.263556	0.406132	0.423609	0.454389	0.444767	0.453125	0.441783	0.198796	0.182536	0.193106	0.235108	0.237053
12	PC(36:3)	0.323107	0.306613	0.278044	0.336014	0.316562	0.332372	0.297568	0.231701	0.315854	0.226785	0.261362	0.31243	0.388577	0.374499	0.362646	0.424218	0.359073	0.476098	0.139479	0.144078	0.148796	0.151385	0.141721
13	PCp(46:11	0.107828	0.106028	0.093263	0.102265	0.092972	0.103257	0.094831	0.093812	0.10431	0.111836	0.095128	0.105322	0.135378	0.114632	0.120851	0.125198	0.108129	0.128567	0.065529	0.093379	0.085563	0.078725	0.08434
14	PC(38:3)	0.201689	0.204953	0.22184	0.233516	0.217153	0.216781	0.223667	0.17072	0.240521	0.223856	0.228495	0.223285	0.245749	0.243019	0.273671	0.267576	0.264801	0.252463	0.124381	0.122029	0.115003	0.121471	0.121976
15	PC(40:5)	0.15052	0.145569	0.159852	0.157819	0.155316	0.152429	0.161529	0.138293	0.164131	0.128924	0.166246	0.158526	0.166577	0.204092	0.184067	0.198311	0.20334	0.202074	0.092895	0.104731	0.073595	0.100616	0.101875
16	PCp(40:7),	0.079895	0.075483	0.066719	0.07589	0.076415	0.082534	0.073358	0.058083	0.072855	0.078973	0.06405	0.079232	0.084162	0.094118	0.079517	0.091242	0.087078	0.09726	0.063841	0.06166	0.072825	0.060039	0.071732
17	PC(40:6)	0.136799	0.139597	0.138511	0.136191	0.12968	0.135233	0.125789	0.123076	0.132105	0.112229	0.134356	0.131176	0.14781	0.155856	0.165009	0.169448	0.165366	0.156189	0.085763	0.086388	0.072721	0.092809	0.078067
18	PC(38:6)	0.116199	0.115168	0.101505	0.130473	0.133423	0.131197	0.132089	0.108545	0.129168	0.083056	0.10049	0.129886	0.14099	0.127442	0.138978	0.141405	0.138151	0.13497	0.094507	0.07487	0.077817	0.099451	0.068384
19	PCp(34:0),	0.145329	0.126924	0.146323	0.149739	0.129915	0.152161	0.12212	0.09226	0.140755	0.119417	0.137544	0.143031	0.165698	0.158201	0.164587	0.170072	0.156158	0.180022	0.090222	0.091581	0.077126	0.091314	0.096229
20	PC(32:1)	0.08927	0.086795	0.090884	0.0902	0.088569	0.086257	0.08414	0.072444	0.08569	0.077467	0.08634	0.081945	0.119918	0.113186	0.120755	0.131045	0.117071	0.142189	0.061837	0.090185	0.059442	0.075449	0.091035
21	PCp(36:3),	0.115334	0.112587	0.120301	0.107727	0.114246	0.119703	0.110818	0.08236	0.104495	0.105071	0.116692	0.116112	0.118133	0.154226	0.122667	0.127271	0.141199	0.137723	0.070459	0.090195	0.050979	0.070854	0.084165
22	PCp(42:8),	0.083301	0.074634	0.080476	0.079113	0.078999	0.092897	0.077419	0.093862	0.07753	0.080549	0.078866	0.091039	0.088966	0.084471	0.090013	0.095709	0.089615	0.10364	0.094806	0.082889	0.079611	0.0878	0.086939
23	PC(36:0)	0.073262	0.064032	0.069906	0.06474	0.071013	0.071984	0.068883	0.069814	0.062798	0.054745	0.067808	0.069824	0.076322	0.082479	0.08169	0.095387	0.090268	0.099756	0.074803	0.096878	0.048802	0.096334	0.086847
24	PCp(38:4),	0.133818	0.129934	0.147941	0.138119	0.123595	0.125581	0.121123	0.095136	0.135357	0.122429	0.144982	0.123069	0.177194	0.162942	0.169571	0.156721	0.155053	0.158499	0.0689	0.077717	0.060751	0.081034	0.073833
25	PCp(44:11	0.054699	0.057522	0.055774	0.065506	0.047818	0.058463	0.045906	0.046059	0.062885	0.064195	0.072743	0.056125	0.067284	0.075923	0.067505	0.068247	0.070214	0.067618	0.05304	0.077564	0.058403	0.045391	0.069739
26	PCo(32:0)	0.096005	0.096124	0.09853	0.095969	0.090329	0.093554	0.08762	0.055334	0.09309	0.060705	0.095574	0.090748	0.110797	0.123973	0.120171	0.1325	0.124158	0.135957	0.046878	0.041711	0.049549	0.04921	0.041827
27	PC(40:4)	0.08697	0.095112	0.093705	0.097715	0.089668	0.092094	0.087874	0.09138	0.09576	0.079615	0.09183	0.090252	0.129083	0.115637	0.134186	0.122424	0.121106	0.114288	0.072828	0.085981	0.053428	0.072636	0.08111
28	PCp(38:3),	0.083626	0.078372	0.089588	0.088162	0.080143	0.089089	0.077739	0.060651	0.085518	0.078659	0.086901	0.086416	0.093532	0.092842	0.097099	0.097313	0.093776	0.101018	0.056612	0.062054	0.038568	0.057796	0.065229
29	PC(42:2)	0.051352	0.054592	0.05485	0.0494	0.052964	0.055961	0.055083	0.05339	0.051376	0.050766	0.057044	0.058199	0.057816	0.077958	0.063087	0.069265	0.073662	0.076262	0.041662	0.043327	0.039832	0.046155	0.032549
30	PC(44:3)	0.064025	0.054859	0.056948	0.05723	0.051494	0.05271	0.048919	0.044774	0.054369	0.049965	0.054101	0.050074	0.066579	0.077316	0.067754	0.07681	0.072818	0.072872	0.043348	0.053338	0.046527	0.044449	0.041375
31	PCp(46:12	0.04499	0.041973	0.043075	0.04415	0.041245	0.045861	0.042482	0.040096	0.045475	0.040074	0.044367	0.047237	0.049411	0.047797	0.04824	0.051269	0.046946	0.054504	0.030215	0.038299	0.041574	0.04078	0.034474
32	PCp(36:4),	0.042982	0.04293	0.049831	0.050532	0.044771	0.046957	0.043876	0.044159	0.049522	0.040597	0.048835	0.046018	0.049913	0.061254	0.054271	0.055282	0.056877	0.058414	0.037261	0.051076	0.03136	0.048618	0.04322
33	PC(38:2)	0.060487	0.064896	0.061423	0.067598	0.061937	0.066282	0.065653	0.057276	0.071654	0.055706	0.065109	0.070259	0.076043	0.092806	0.08201	0.084144	0.087104	0.082439	0.052757	0.067049	0.037559	0.061367	0.066895
34	PC(40:7)	0.075223	0.079225	0.061463	0.085262	0.073145	0.074968	0.074608	0.080956	0.086967	0.055609	0.062692	0.076467	0.080866	0.072838	0.094484	0.101901	0.084012	0.079859	0.057489	0.050789	0.026877	0.052814	0.050308
35	PC(40:8)	0.055317	0.054524	0.047158	0.051927	0.050795	0.051065	0.049271	0.043501	0.050369	0.035503	0.045743	0.049533	0.058424	0.05753	0.065104	0.068845	0.064648	0.056331	0.032803	0.045467	0.019886	0.038782	0.043124
36	PCo(34:0)	0.050124	0.050422	0.046306	0.053909	0.046713	0.052571	0.044378	0.030756	0.051214	0.040649	0.043991	0.049943	0.063728	0.059822	0.063209	0.066915	0.058481	0.067671	0.03758	0.041926	0.023967	0.040369	0.042818
37	PCp(48:12	0.024244	0.026923	0.029277	0.026574	0.022584	0.027937	0.021003	0.018613	0.024714	0.020666	0.027228	0.025981	0.029005	0.030574	0.031045	0.030546	0.02863	0.034447	0.021154	0.030012	0.019605	0.022727	0.025498
38	PCp(36:1),	0.028751	0.030162	0.021531	0.028281	0.027046	0.027848	0.026235	0.017952	0.027433	0.021076	0.020885	0.027013	0.030556	0.032947	0.027335	0.032616	0.028715	0.033711	0.023144	0.018766	0.012771	0.016934	0.018304
39	PC(30:0)	0.03144	0.033311	0.03468	0.029004	0.033441	0.031247	0.031769	0.037256	0.027554	0.038669	0.042446	0.029684	0.033968	0.044194	0.037123	0.037479	0.046885	0.03833	0.023089	0.023466	0.019369	0.027787	0.037488
40	LPC(16:0)	0.082714	0.074519	0.111604	0.081843	0.088722	0.085082	0.021722	0.093158	0.086849	0.013993	0.117184	0.047444	0.086004	0.088078	0.106874	0.09687	0.097364	0.098288	0.151768	0.134098	0.377486	0.371303	0.151657
41	LPC(18:0)	0.07471	0.088416	0.111466	0.094356	0.091682	0.086074	0.046995	0.096266	0.078446	0.040552	0.117039	0.067776	0.09608	0.113184	0.11751	0.11141	0.109331	0.113442	0.184196	0.193809	0.398526	0.366257	0.192293

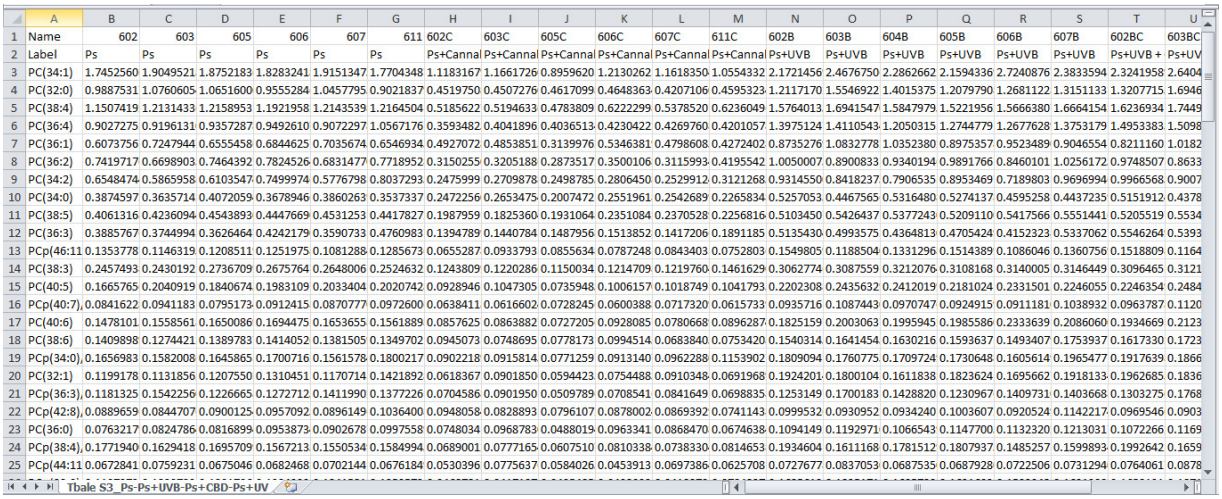
Table S1

Table S2. Peak area of each phospholipid molecular species identified in the keratinocytes, isolated from the skin of healthy subjects (Control). These cells were not treated or treated with CBD (4μM) or/and UVB (60 mJ/cm²). The following groups of keratinocytes were studied: Control, CBD, UVB, and UVB+CBD. Data obtained using MZmine software (XLSX).

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
1	Name	505	506	507	508	509	510	505C	506C	507C	508C	509C	510C	502B	503B	504B	505B	506B	507B	502BC	503BC
2	Label	Control	Control	Control	Control	Control	Control	Cannabidi	Cannabidi	Cannabidi	Cannabidi	Cannabidi	Cannabidi	UVB	UVB	UVB	UVB	UVB	UVB	UVB + Can	UVB +
3	PC(34:1)	1.4463326	1.4383297	1.6293867	1.4965215	1.4464114	1.4541158	1.4030191	1.1650698	1.4516259	1.0877429	1.5805051	1.4104923	2.0441794	2.3715745	2.1210499	2.1601267	2.3838580	2.0867539	1.9575307	2.0573
4	PC(32:0)	0.7337429	0.7462835	0.8681206	0.8320145	0.7208312	0.7736353	0.6919980	0.4840098	0.7987339	0.6642807	0.8333958	0.7426899	1.2437634	1.4058375	1.2621993	1.0790423	1.3707278	1.0307322	1.1277282	0.8740
5	PC(38:4)	0.8794958	0.8574571	0.9936959	0.9386060	0.8744880	0.8990669	0.8569982	0.6994306	0.9198339	0.9265766	0.9738220	0.8810855	1.4219880	1.5688296	1.4380947	1.4457855	1.5542199	1.5338339	1.2316317	1.1281
6	PC(36:4)	0.6555841	0.6348118	0.7748803	0.6806304	0.6169905	0.6408823	0.5491215	0.4321300	0.6057610	0.5254039	0.6896434	0.5703852	1.1498709	1.2044143	1.0965772	1.2178917	1.1974690	1.4725529	0.8341083	0.8621
7	PC(36:1)	0.4863999	0.4960750	0.4779283	0.5294767	0.5014415	0.5045237	0.4613262	0.4301194	0.4871185	0.3595722	0.4396940	0.4641618	0.7283514	0.9535139	0.8331633	0.8394484	0.9056933	0.8048631	0.6971509	0.6787
8	PC(36:2)	0.5750084	0.5815090	0.5367087	0.6302865	0.5603950	0.5918813	0.5435832	0.4328513	0.6113779	0.4517718	0.5206074	0.5741249	0.9089350	0.7582716	0.9561698	0.9346187	0.8059003	0.9519092	0.7864327	0.6939
9	PC(34:2)	0.5383583	0.5663290	0.3882748	0.5810818	0.5517941	0.5929439	0.5297224	0.4090603	0.5578385	0.3511084	0.3727438	0.5692261	0.7713365	0.6068627	0.8324346	0.9189130	0.6035654	1.0145147	0.7153868	0.6867
10	PC(34:0)	0.2758083	0.2634907	0.3211460	0.2867291	0.2689068	0.2774277	0.2608396	0.2066320	0.2781272	0.2169889	0.3115116	0.2691049	0.4991110	0.4636521	0.4932658	0.4490602	0.5031459	0.4300396	0.3480053	0.3201
11	PC(38:5)	0.3442411	0.3465730	0.3881393	0.3704457	0.3550616	0.3829126	0.2554615	0.2023715	0.2723926	0.2125149	0.3050887	0.2635563	0.4680222	0.5006458	0.5206392	0.5190881	0.5511889	0.5006528	0.4811680	0.4245
12	PC(36:3)	0.3231066	0.3066128	0.2780443	0.3360144	0.3165616	0.3323718	0.2975679	0.2317014	0.3158535	0.2267850	0.2613616	0.3124295	0.4540468	0.4423859	0.4472486	0.5124213	0.4015849	0.6198248	0.3725888	0.3660
13	PCp(46:11	0.1078282	0.1060275	0.0932625	0.1022650	0.0929720	0.1032571	0.0948314	0.0938118	0.1043103	0.1118358	0.0951278	0.1053223	0.1629275	0.1232363	0.1484398	0.1481300	0.1232856	0.1538775	0.1092874	0.0933
14	PC(38:3)	0.2016886	0.2049527	0.2218400	0.2335155	0.2171528	0.2167813	0.2236674	0.1707195	0.2405209	0.2238561	0.2284952	0.2232848	0.2898101	0.2810857	0.3255019	0.3016374	0.3124483	0.2881450	0.2701746	0.2574
15	PC(40:5)	0.1505202	0.1455685	0.1598522	0.1578185	0.1553163	0.1524289	0.1615289	0.1382926	0.1641313	0.1289235	0.1662463	0.1585261	0.1826328	0.2626153	0.2082826	0.2388033	0.2513645	0.2517195	0.1694248	0.1780
16	PCp(40:7),	0.0798951	0.0754833	0.0667187	0.0758902	0.0764150	0.0825335	0.0733584	0.0580830	0.0728545	0.0789734	0.0640500	0.0792322	0.0884293	0.1127532	0.0923158	0.1065929	0.0977403	0.1119865	0.0881623	0.0799
17	PC(40:6)	0.1367994	0.1395970	0.1385109	0.1361910	0.1296797	0.1352327	0.1257893	0.1230763	0.1321053	0.1122289	0.1343556	0.1311757	0.1588208	0.1721153	0.1915064	0.2027039	0.2010514	0.1771452	0.1806168	0.1830
18	PC(38:6)	0.1161993	0.1151680	0.1015048	0.1304731	0.1334230	0.1311974	0.1320887	0.1085451	0.1291684	0.0830563	0.1004897	0.1298855	0.1657804	0.1397162	0.1764519	0.1523373	0.1428781	0.1387429	0.1704911	0.1442
19	PCp(34:0),	0.1453287	0.1269238	0.1463232	0.1497393	0.1299149	0.1521606	0.1221200	0.0922604	0.1407550	0.1194167	0.1375439	0.1430309	0.1860679	0.1894779	0.1828497	0.1904038	0.1824007	0.2078829	0.1661289	0.1335
20	PC(32:1)	0.0892697	0.0867947	0.0908838	0.0901996	0.0885686	0.0862574	0.0841402	0.0724443	0.0856896	0.0774670	0.0863396	0.0819445	0.1505659	0.1395765	0.1506261	0.1718906	0.1455741	0.1981211	0.1163612	0.1282
21	PCp(36:3),	0.1153342	0.1125872	0.1203013	0.1077265	0.1142456	0.1197028	0.1108182	0.0823599	0.1044947	0.1050709	0.1166923	0.1161118	0.1209307	0.1958639	0.1250317	0.1468159	0.1681524	0.1557423	0.1220011	0.1140
22	PCp(42:8),	0.0833005	0.0746339	0.0804759	0.0791127	0.0789987	0.0928967	0.0774187	0.0938615	0.0775304	0.0805489	0.0788664	0.0910387	0.0946313	0.0943075	0.0995491	0.1123057	0.1002312	0.1143834	0.1023814	0.0811
23	PC(36:0)	0.0732623	0.0640315	0.0699056	0.0647400	0.0710131	0.0719836	0.0688827	0.0698138	0.0627978	0.0547454	0.0678084	0.0698241	0.0793812	0.1009257	0.0934742	0.1260346	0.1095225	0.1275281	0.0875320	0.0890
24	PCp(38:4),	0.1338184	0.1299340	0.1479409	0.1381191	0.1235949	0.1255806	0.1211230	0.0951358	0.1353567	0.1224288	0.1449821	0.1230690	0.2205695	0.1959495	0.1912010	0.1753235	0.1865120	0.1914182	0.1267610	0.1183
25	PCp(44:11	0.0546987	0.0575224	0.0557736	0.0655056	0.0478182	0.0584634	0.0459055	0.0460593	0.0628854	0.0641947	0.0727427	0.0561249	0.0798695	0.0943238	0.0792356	0.0709879	0.0926106	0.0767735	0.0632282	0.0492

Table S2_C-UVB-CBD-UVB+CBD

Table S3. Peak area of each phospholipid molecular species identified in the keratinocytes, isolated from the skin of psoriatic patients (Ps). These cells were not treated or treated with CBD (4μM) or/and UVB (60 mJ/cm²). The following groups of keratinocytes were examined: Ps, Ps+CBD, Ps+UVB and Ps+UVB+CBD. Data obtained using MZmine software (XLSX).



	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
1	Name	602	603	605	606	607	611	602C	603C	605C	606C	607C	611C	602B	603B	604B	605B	606B	607B	602BC	603BC
2	Label	Ps	Ps	Ps	Ps	Ps	Ps	Ps+Cannal	Ps+Cannal	Ps+Cannal	Ps+Cannal	Ps+Cannal	Ps+Cannal	Ps+UVB	Ps+UVB	Ps+UVB	Ps+UVB	Ps+UVB	Ps+UVB	Ps+UVB +	Ps+UV
3	PC(34:1)	1.7452560	1.9049521	1.8752183	1.8283241	1.9151347	1.7704348	1.1183167	1.1661726	0.8959620	1.2130262	1.1618350	1.0554332	2.1721456	2.4676750	2.2862662	2.1594336	2.7240876	2.3833594	2.3241958	2.6404
4	PC(32:0)	0.9887531	1.0760605	1.0651600	0.9555284	1.0457795	0.9021837	0.4519750	0.4507276	0.4617099	0.4648363	0.4207106	0.4595323	1.2117170	1.5546922	1.4015375	1.2079790	1.2681122	1.1351133	1.3207715	1.6946
5	PC(38:4)	1.1507419	1.2131433	1.2158953	1.1921958	1.2143539	1.2164504	0.5185622	0.5194633	0.4783809	0.6222299	0.5378520	0.6236049	1.5764013	1.6941547	1.5847979	1.5221956	1.5666380	1.6664154	1.6236934	1.7449
6	PC(36:4)	0.9027275	0.9196131	0.9357287	0.9492610	0.9072297	1.0567176	0.3593482	0.4041896	0.4036513	0.4230422	0.4269760	0.4201057	1.3975124	1.4110543	1.2050315	1.2744779	1.2677628	1.3753179	1.4953383	1.5098
7	PC(36:1)	0.6073756	0.7247944	0.6555458	0.6844625	0.7035674	0.6546934	0.4927072	0.4853851	0.3139976	0.5346381	0.4798608	0.4272402	0.8735276	1.0832778	1.0352380	0.8975357	0.9523489	0.9046554	0.8211160	1.0182
8	PC(36:2)	0.7419717	0.6698903	0.7464392	0.7824526	0.6831477	0.7718952	0.3150255	0.3205188	0.2873517	0.3500106	0.3115993	0.4195542	1.0050007	0.8900833	0.9340194	0.9891766	0.8460101	1.0256172	0.9748507	0.8633
9	PC(34:2)	0.6548474	0.5865958	0.6103547	0.7499974	0.5776798	0.8037293	0.2475999	0.2709878	0.2498785	0.2806450	0.2529912	0.3121268	0.9314550	0.8418237	0.7906535	0.8953469	0.7189803	0.9696994	0.9966568	0.9007
10	PC(34:0)	0.3874597	0.3635714	0.4072059	0.3678946	0.3860263	0.3537337	0.2472256	0.2653475	0.2007472	0.2551961	0.2542689	0.2265834	0.5257053	0.4467565	0.5316480	0.5274137	0.4595258	0.4437235	0.5151912	0.4378
11	PC(38:5)	0.4061316	0.4236094	0.4543893	0.4447669	0.4531253	0.4417827	0.1987959	0.1825360	0.1931064	0.2351084	0.2370528	0.2256816	0.5103450	0.5426437	0.5372243	0.5209110	0.5417566	0.5551441	0.5205519	0.5534
12	PC(36:3)	0.3885767	0.3744994	0.3626464	0.4242179	0.3590733	0.4760983	0.1394789	0.1440784	0.1487956	0.1513852	0.1417206	0.1891185	0.5135430	0.4993575	0.4364813	0.4705424	0.4152323	0.5337062	0.5546264	0.5393
13	PCp(46:11	0.1353778	0.1146319	0.1208511	0.1251975	0.1081288	0.1285673	0.0655287	0.0933793	0.0855634	0.0787248	0.0843403	0.0752803	0.1549805	0.1188504	0.1331296	0.1514389	0.1086046	0.1360756	0.1518809	0.1164
14	PC(38:3)	0.2457493	0.2430192	0.2736709	0.2675764	0.2648006	0.2524632	0.1243809	0.1220286	0.1150034	0.1214709	0.1219760	0.1461629	0.3062774	0.3087559	0.3212076	0.3108168	0.3140005	0.3146449	0.3096465	0.3121
15	PC(40:5)	0.1665765	0.2040919	0.1840674	0.1983109	0.2033404	0.2020742	0.0928946	0.1047305	0.0735948	0.1006157	0.1018749	0.1041793	0.2202308	0.2435632	0.2412019	0.2181024	0.2331501	0.2246055	0.2246354	0.2484
16	PCp(40:7),	0.0841622	0.0941183	0.0795173	0.0912415	0.0870777	0.0972600	0.0638411	0.0616602	0.0728245	0.0600388	0.0717320	0.0615733	0.0935716	0.1087443	0.0970747	0.0924915	0.0911181	0.1038932	0.0963787	0.1120
17	PC(40:6)	0.1478101	0.1558561	0.1650086	0.1694475	0.1653655	0.1561889	0.0857625	0.0863882	0.0727205	0.0928085	0.0780668	0.0896287	0.1825159	0.2003063	0.1995945	0.1985586	0.2333639	0.2086060	0.1934669	0.2123
18	PC(38:6)	0.1409898	0.1274421	0.1389783	0.1414052	0.1381505	0.1349702	0.0945073	0.0748695	0.0778173	0.0994514	0.0683840	0.0753420	0.1540314	0.1641454	0.1630216	0.1593637	0.1493407	0.1753937	0.1617330	0.1723
19	PCp(34:0),	0.1656983	0.1582008	0.1645865	0.1700716	0.1561578	0.1800217	0.0902218	0.0915814	0.0771259	0.0913140	0.0962288	0.1153902	0.1809094	0.1760775	0.1709724	0.1730648	0.1605614	0.1965477	0.1917639	0.1866
20	PC(32:1)	0.1199178	0.1131856	0.1207550	0.1310451	0.1170714	0.1421892	0.0618367	0.0901850	0.0594423	0.0754488	0.0910348	0.0691968	0.1924201	0.1800104	0.1611838	0.1823624	0.1695662	0.1918133	0.1962685	0.1836
21	PCp(36:3),	0.1181325	0.1542256	0.1226665	0.1272712	0.1411990	0.1377226	0.0704586	0.0901950	0.0509789	0.0708541	0.0841649	0.0698835	0.1253149	0.1700183	0.1428820	0.1230967	0.1409731	0.1403668	0.1303275	0.1768
22	PCp(42:8),	0.0889659	0.0844707	0.0900125	0.0957092	0.0896149	0.1036400	0.0948058	0.0828893	0.0796107	0.0878002	0.0869392	0.0741143	0.0999532	0.0930952	0.0934240	0.1003607	0.0920524	0.1142217	0.0969546	0.0903
23	PC(36:0)	0.0763217	0.0824786	0.0816899	0.0953873	0.0902678	0.0997558	0.0748034	0.0968783	0.0488019	0.0963341	0.0868470	0.0674638	0.1094149	0.1192971	0.1066543	0.1147700	0.1132320	0.1213031	0.1072266	0.1169
24	PCp(38:4),	0.1771940	0.1629418	0.1695709	0.1567213	0.1550534	0.1584994	0.0689001	0.0777165	0.0607510	0.0810338	0.0738330	0.0814653	0.1934604	0.1611168	0.1781512	0.1807937	0.1485257	0.1599893	0.1992642	0.1659
25	PCp(44:11	0.0672841	0.0759231	0.0675046	0.0682468	0.0702144	0.0676184	0.0530396	0.0775637	0.0584026	0.0453913	0.0697386	0.0625708	0.0727677	0.0837053	0.0687535	0.0687928	0.0722506	0.0731294	0.0764061	0.0878

Tbale S3_Ps-Ps+UVB-Ps+CBD-Ps+UV

We used the results of the univariate analysis to create a dendrogram with a two-dimensional hierarchical clustering, using the 25 main phospholipid species, according to Kruskal–Wallis analysis (Figure S1). The primary split in the upper hierarchical dendrogram shows that the samples are clustered independently in the four main experimental groups. The clustering of the individual phospholipids (with regard to their similar expression changes) shows that they cluster into one main group mainly composed of PC, PS, PI and ether-linked PE species which were more abundant in the Control and CBD cluster. All the phospholipid species were least abundant in Ps+CBD group.

Table S4. The alteration observed in the molecular species of PC, PEo. PS, PI and SM in the keratinocytes, isolated from the skin of healthy subjects (Control) and psoriatic patients (Ps) comparing control with CBD, control with Ps, control with Ps+CBD, Ps with Ps+CBD along with their respective fold change. All the alteration are significant at the $P < 0.05$ level. CBD, 4μM.

Phospholipid specie	CBD vs control		Ps vs control		Ps+CBD vs control		Ps+CBD vs Ps	
	Adaptation	Fold change	Adaptation	Fold change	Adaptation	Fold change	Adaptation	Fold change
PC(32:1)			↓	1.53	↓	0.71	↓	0.60
PC (36:1)			↓	1.59	↓	0.72	↓	0.68
PC (40:6)			↓	1.82	↓	0.59	↓	0.53
PC (40:8)			↓	1.79	↓	0.63	↓	0.57
PC (38:5)			↓	1.78	↓	0.81	↓	0.48
PC (44:3)			↓	1.66	↓	0.67	↓	0.62
PC (36:3)			↓	1.70	↓	0.68	↓	0.38
PI (36:3)			↓	2.33	↓	0.51		
PS (40:5)			↓	2.06	↓	0.67	↓	0.36
PS (36:2)			↓	2.17	↓	0.68	↓	0.42
PS (40:6)			↓	2.07	↓	0.60	↓	0.53
PS (38:3)			↓	2.01	↓	0.66	↓	0.55
PS (40:4)			↓	2.01	↓	0.68	↓	0.43
SM(d41:2)			↑	0.95	↑	0.79		
PEo(36:5)/PEp(36:4)			↓	1.77	↓	0.63	↓	0.67
PEo(38:5)/PEp(38:4)			↓	1.82	↓	0.60	↓	0.64
PEo(36:1)/PEp(36:0)					↓	1.61	↑	2.75
PEo(40:4)/PEp(40:3)					↓	0.60	↑	1.16
PCp(34:0)/PCo(34:1)			↓	1.83	↓	0.61	↓	0.56

Table S5. The alteration observed in the molecular species of PC, PEo, PCp and LPE in the keratinocytes, isolated from the skin of healthy subjects (Control) comparing control with CBD, control with UVB, control with UVB+CBD, UVB with UVB+CBD along with their respective fold change. All the alteration are significant at the $P < 0.05$ level. CBD, 4μM; UVB, (60 mJ/cm^2).

Phospholipid specie	CBD vs control		UVB vs control		UVB+CBD vs control		UVB+CBD vs UVB	
	Adaptation	Fold change	Adaptation	Fold change	Adaptation	Fold change	Adaptation	Fold change
PC(36:1)			↑	1.69	↑	0.73		
PC (38:4)			↑	1.64	↑	0.75		
PC (32:1)			↑	1.79	↑	0.68		
PC (38:5)			↑	1.41				
PC (36:4)			↑	1.82				
PC (40:6)			↑	1.35	↑	0.77		
PC (40:4)			↑	1.65			↓	0.70
PC (38:2)			↑	1.65	↑	0.74		
PC (34:0)			↑	1.67			↓	0.65
PC (34:1)			↑	1.47	↑	0.72		
PC (36:2)			↑	1.54				
PEo(36:5)/PEp(36:4)			↑	1.43	↑	0.76		
PEo(42:6)/PEp(42:5)			↑	1.48	↑	0.73		
PEo(40:7)/PEp(40:6)								
PCp(38:4)/PCo(38:5)			↑	1.44			↓	1.56
LPE (18:1)	↓	0.71						

Table S6. The alteration observed in the molecular species of PC, PS, PEo and SM in the keratinocytes, isolated from the skin of psoriatic patients (Ps) comparing Ps with Ps+CBD, Ps with Ps+UVB, Ps with Ps+UVB+CBD, Ps+UVB+CBD vs PS+UVB along with their respective fold change. All the alteration are significant at the $P < 0.05$ level. CBD, 4μM; UVB, (60 mJ/cm^2).

Phospholipid specie	Ps+CBD vs Ps		Ps+UVB vs Ps		Ps+UVB+CBD vs Ps		Ps+UVB+CBD vs Ps+UVB	
	Adaptation	Fold change	Adaptation	Fold change	Adaptation	Fold change	Adaptation	Fold change
PC(36:1)	↓	0.68						
PC (36:4)	↓	0.43	↑	1.40	↑	1.50		
PC (38:3)	↓	0.49	↑	1.21	↑	1.22		
PC (38:4)	↓	0.46	↑	1.33	↑	1.37		
PC (38:5)	↓	0.48	↑	1.22				
PC (32:0)	↓	0.45	↑	1.32	↑	1.44		
PC (40:6)	↓	0.53	↑	1.27				
PC (36:3)	↓	0.38	↑	1.20	↑	1.30		
PC (36:2)	↓	0.46	↑	1.29				
PC (34:2)	↓	0.41	↑	1.29	↑	1.38		
PC (40:5)	↓	0.50	↑	1.19	↑	1.22		
PS (40:5)	↓	0.36						
PS (40:4)	↓	0.43						
PS (36:2)	↓	0.42						
PEo(40:7)/PEp(40:6)	↓	0.74	↑	1.17	↑	1.25		
PEo(40:6)/PEp(40:5)	↓	0.50			↑	1.32		
SM (d42:2)	↑	1.48					↓	0.71

Reference

1. Kolde, R., 2019. Pheatmap: Pretty Heatmaps. R Package Version 1012. https. CRANR-project. org/package= pheatmap [Google Scholar].

2. Team, R.C., 2013. R: A language and environment for statistical computing. Vienna, Austria.

Wickham, H., 2016. ggplot2: elegant graphics for data analysis. springer.