

Table 1: The OPLS_DA model quality for samples collected after 1 hour and 2 hours following photon treatment.

OPLS-DA permutation test (n=100)				
R ² X	R ² Y	Q ²	R ²	γ ²
0.97	0.55	0.64	(0.0, 028)	(0.0, -69)

Table 2: Compounds confirmed and identified on LC-MS

Compound	Mass	Calc. mass	mDa	PPM	DBE	i-FIT	Norm	Conf (%)	Formula
Alanine	88.04003	88.0399	0.4	4.5	1.5	542.9	n/a	n/a	C ₃ H ₆ NO ₂
Azelaic acid	187.0976	187.0970	0.6	3.2	2.5	871.4	n/a	n/a	C ₉ H ₁₅ O ₄
Sucrose	341.1084	341.1048	0.0	0.0	2.5	176.1	n/a	n/a	C ₁₂ H ₂₁ O ₁₁

Table 2: Concentrations for annotated metabolites in mM from Chenomx NMR Suite(C=Untreated: T-treated).

Compound	1 h	2 h	12 h	24 h	1 week	2 weeks	3 weeks
Salicylic acid	C=8.0515 T=61.2668	C=61.8920 T=99.6389	C=66.1391 T=100.9292	C=88.7063 T=118.3719	C=89.5631 T=127.8851	C=69.5948 T=80.6585	C=71.0298 T=97.6599
Azelaic acid	C=2.3874 T=18.3070	C=75.4871 T=88.9191	C=36.0912 T=92.8909	C=28.5654 T=102.3415	C=42.2524 T=112.2540	C=29.2702 T=143.2366	C=23.2236 T=38.2362
Malate	C=5.7930 T=61.2262	C=110.3014 T=123.5443	C=121.2196 T=122.2546	C=35.9970 T=98.9431	C=63.0245 T=110.2171	C=73.2222 T=76.6454	C=68.0110 T=99.5329
Asparagine	C=5.3402 T=64.7817	C=145.5256 T=176.2590	C=128.1791 T=131.3983	C=38.9255 T=61.5405	C=63.7282 T=66.7366	C=78.0129 T=76.9525	C=73.6290 T=72.3424
Ascorbate	C=2.8260 T=36.6614	C=234.1769 T=61.6628	C=72.6089 T=72.6191	C=21.3203 T=33.6399	C=36.4304 T=60.8625	C=42.9346 T=44.2433	C=40.1966 T=59.2993
T-aconitate	C=1.4088 T=17.5528	C=27.5498 T=29.5153	C=27.7622 T=21.5368	C=13.4319 T=24.0816	C=28.4138 T=17.2553	C=21.7288 T=24.1136	C=19.1793 T=22.0070
GABA	C=5.5651 T=65.3455	C=35.0102 T=150.1994	C=103.4500 T=78.6347	C=48.7456 T=57.4160	C=76.1648 T=79.4757	C=65.1742 T=83.7884	C=69.3121 T=80.8904
Lactulose	C=2.8403 T=38.6958	C=62.3188 T=59.0827	C=61.1081 T=60.1731	C=30.9460 T=35.8414	C=70.6747 T= 36.6314	C=43.6219 T=40.5819	C=44.5228 T=49.5752
Alanine	C=5.2077 T=67.0641	C=71.1276 T=91.6889	C=77.8603 T=1.6492	C=31.6506 T=5.5282	C=53.6971 T=2.1491	C=33.5815 T=13.8375	C=46.1253 T=1.7569
Chlorogenic acid	C=12.6613 T=3.5342	C=20.0203 T=60.4345	C= 41.0204 T=82.3502	C=50.3134 T=91.0502	C=52.2335 T=92.0233	C=43.1245 T=44.3201	C=40.9124 T=41.2203
Sucrose	C=5.4381 T=8.3421	C=18.2301 T=50.5432	C= 28.2013 T=70.5403	C=39.8104 T=89.0201	C=44.3213 T=96.2403	C=41.1324 T=42.5403	C=38.2901 T=40.0135

Maltose	C=4.2307 T=5.0124	C=15.4532 T=31.0346	C= 21.0854 T=42.0543	C=33.0328 T=50.0304	C=35.0301 T=60.5043	C=30.4012 T=59.0230	C=28.0450 T=34.0454
Trehalose	C=2.0125 T=5.0345	C=12.0343 T=22.5903	C= 18.4056 T=41.0450	C=21.6504 T=58.045	C=22.0543 T=60.7408	C=19.4083 T=51.0345	C=14.4056 T=37.9023