

Table 1 Suppl. Content of lipid molecular species [pmol g⁻¹] in *Arabidopsis thaliana*. Plants without treatments were used as controls and compared with those treated with 50 µg cm⁻³ oligochitosan for 1, 3, and 6 h. Means ± SEs, n = 6. Different letters indicate significant differences (the Duncan's test, P < 0.05) after treatment with oligochitosan. PG - phosphatidylglycerol; Lyso-PG - lyso-phosphatidylglycerol; SQDG - sulfoquinovosyl-diacylglycerol; MGDG - monogalactosyldiacylglycerol; Lyso-MGDG - lyso-monogalactosyldiacylglycerol; DGDG - digalactosyldiacylglycerol; Lyso-DGDG - lyso-digalactosyldiacylglycerol; PC - phosphatidylcholine; PE - phosphatidylethanolamine.

Identification	Control group	Treated group (1 h)	Treated group (3 h)	Treated group (6 h)
PG(16:1/18:4-O)	144.46±6.51 ^c	180.94±6.91 ^d	103.93±3.85 ^b	77.42±2.52 ^a
PG(16:0/18:4-O)	18.43±1.12 ^b	21.73±2.20 ^b	13.53±1.38 ^a	9.94±0.25 ^a
PG(16:1/18:3-O)	25.97±2.92 ^a	37.06±2.67 ^b	26.64±0.34 ^a	26.03±0.80 ^a
PG(16:1/18:3)	204.58±9.21 ^a	237.00±2.33 ^b	305.96±14.71 ^c	316.21±11.59 ^c
PG(16:0/18:3)	198.43±3.19 ^b	142.88±17.11 ^a	138.67±8.27 ^a	130.51±5.88 ^a
PG(16:1/18:2)	88.85±3.50 ^b	61.32±14.50 ^a	76.45±0.78 ^{ab}	73.32±0.31 ^{ab}
PG(16:0/18:2)	111.73±6.64 ^a	116.34±0.79 ^{ab}	128.17±5.85 ^b	129.02±6.72 ^b
PG(16:1/18:1)	123.41±7.03 ^b	103.83±8.07 ^a	103.14±0.04 ^a	105.57±5.66 ^a
PG(16:1/16:1)	89.78±3.98	87.94±0.66	77.40±1.98	75.94±8.95
PG(16:0/16:0)	68.68±3.19 ^c	54.29±1.15 ^b	47.88±4.87 ^{ab}	42.63±2.02 ^a
PG(16:0/18:1)	218.96±3.75 ^b	181.39±13.22 ^a	167.56±0.89 ^a	154.92±14.47 ^a
Lyso-PG(16:1)	32.15±0.29 ^b	35.13±2.21 ^b	16.14±0.17 ^a	15.26±0.29 ^a
SQDG(18:3/18:3)	311.21±6.16 ^b	188.57±21.46 ^a	172.51±4.29 ^a	191.92±14.54 ^a
SQDG(16:0/18:3)	209.95±22.35 ^b	176.22±29.60 ^{ab}	146.23±14.57 ^a	162.37±0.39 ^{ab}
SQDG(16:0/18:2)	423.52±22.41 ^c	275.41±0.11 ^a	289.95±0.55 ^{ab}	312.28±12.26 ^b
SQDG(16:0/16:0)	234.39±8.44 ^b	148.65±20.45 ^a	143.22±5.48 ^a	147.17±5.27 ^a
SQDG(16:0/18:1)	274.55±0.94 ^b	255.68±14.66 ^b	211.45±0.88 ^a	225.57±3.08 ^a
MGDG(18:4-O/18:1-O)	395.87±2.34 ^c	331.71±4.73 ^b	367.82±2.67 ^c	273.18±25.31 ^a
MGDG(18:4-O/16:4-O)	2153.21±3.36 ^b	2577.05±36.71 ^c	2210.76±15.63 ^b	1709.29±32.71 ^a
MGDG(18:4-O/18:4-O)	332.20±0.82 ^b	541.89±9.00 ^c	414.06±2.32 ^d	278.65±28.50 ^a
MGDG(16:0-O/18:3)	206.23±1.74 ^c	103.18±0.84 ^a	154.93±18.76 ^b	150.95±5.79 ^b
MGDG(18:4-O/16:3)	482.73±18.80 ^c	493.51±8.59 ^c	338.10±3.49 ^b	282.40±30.62 ^a
MGDG(18:3/16:4-O)	489.98±18.17 ^b	458.85±18.61 ^b	313.06±8.44 ^a	329.77±1.68 ^a
MGDG(18:3/16:3-O)	102.50±2.04 ^a	100.32±1.99 ^a	109.93±10.03 ^a	133.01±1.28 ^b
MGDG(18:4-O/18:3)	253.10±1.31 ^b	279.51±15.02 ^b	187.10±10.09 ^a	165.59±6.65 ^a
MGDG(18:4-O/16:1)	52.03±2.04 ^a	89.32±2.44 ^c	71.11±1.08 ^b	67.74±4.78 ^b
MGDG(18:4-O/16:0)	47.13±5.57 ^a	69.98±6.15 ^c	55.27±0.97 ^b	40.52±0.89 ^{ab}
MGDG(18:3/16:3)	3001.86±31.66 ^c	2416.23±98.41 ^a	2655.46±93.28 ^b	3065.44±44.42 ^c
MGDG(18:3/16:2)	641.57±2.87 ^b	553.44±26.15 ^a	601.96±30.65 ^{ab}	752.22±5.37 ^c
MGDG(18:3/18:3)	1510.58±74.24 ^b	1301.84±21.11 ^a	1350.85±34.92 ^{ab}	1564.26±79.22 ^c
MGDG(18:3/16:1)	315.35±6.48 ^b	286.76±7.97 ^a	291.23±7.64 ^a	329.57±10.58 ^b
Lyso-MGDG(18:4-O)	67.19±2.64 ^b	95.44±0.67 ^c	72.91±2.76 ^b	51.23±4.90 ^a
Lyso-MGDG(16:4-O)	210.70±4.84 ^b	321.10±15.86 ^c	208.48±7.32 ^b	172.85±10.01 ^a
Lyso-MGDG(16:3)	250.90±10.74 ^c	208.74±9.22 ^b	162.85±9.06 ^a	165.22±12.17 ^a
DGDG(18:4-O/18:4-O)	233.23±18.88 ^b	311.51±8.25 ^c	256.60±0.80 ^b	167.49±13.40 ^a
DGDG(18:4-O/18:3)	192.50±3.90 ^c	214.09±9.78 ^d	147.40±3.06 ^b	111.75±3.94 ^a
DGDG(18:3/16:3)	491.83±10.41 ^c	367.38±9.11 ^a	397.05±13.46 ^a	452.71±10.95 ^b
DGDG(18:3/18:3)	2145.21±8.91	1932.07±41.49	1874.02±277.81	2204.61±147.39
DGDG(18:3/16:0)	517.65±1.63 ^a	423.04±7.15 ^a	444.05±8.79 ^a	427.48±24.07 ^a
Lyso-DGDG(18:3)	210.83±4.39 ^b	196.50±12.38 ^b	152.57±4.72 ^a	133.69±0.44 ^a
PC(18:3/18:3)	49.85±0.33 ^a	45.90±2.39 ^a	48.57±3.00 ^a	64.41±1.64 ^b
PC(18:3/18:2)	135.80±5.66 ^a	128.23±0.94 ^a	132.36±1.72 ^a	158.22±9.63 ^b
PC(16:0/18:3)	120.02±4.33 ^{bc}	99.54±5.71 ^a	113.65±2.86 ^{ab}	131.34±7.99 ^c
PC(18:2/18:2)	132.90±4.24	121.08±9.01	122.22±7.03	140.64±11.71
PC(16:0/18:2)	117.21±4.00 ^a	106.55±2.85 ^a	135.30±2.80 ^b	149.46±6.43 ^c
PE(18:3/18:3)	27.67±2.34 ^b	21.35±0.44 ^a	21.62±1.41 ^a	25.64±2.21 ^{ab}
PE(18:3/18:2)	89.58±4.48 ^b	71.97±4.40 ^a	70.60±1.63 ^a	77.91±3.29 ^a
PE(16:0/18:3)	65.00±0.61 ^b	54.07±3.14 ^a	56.96±1.66 ^{ab}	61.38±4.39 ^{ab}
PE(18:2/18:2)	46.88±2.24 ^b	30.20±2.13 ^a	29.24±1.28 ^a	31.23±2.52 ^a
PE(16:0/18:2)	63.99±1.32 ^c	53.28±0.86 ^a	56.27±0.35 ^{ab}	62.26±4.68 ^{bc}
PE(16:0/18:1)	31.92±0.76 ^b	44.76±6.46 ^c	29.24±1.28 ^a	18.07±1.51 ^a
Lyso-PE(18:2-O)	504.04±36.37 ^c	220.90±26.87 ^a	318.27±1.39 ^b	356.01±21.80 ^b
Lyso-PE(18:2)	48.05±0.57 ^c	3.95±1.26 ^a	6.98±3.14 ^a	29.58±2.00 ^b
PI(16:0/18:3)	140.04±5.43 ^b	119.89±0.35 ^a	120.68±4.63 ^a	113.93±1.23 ^a

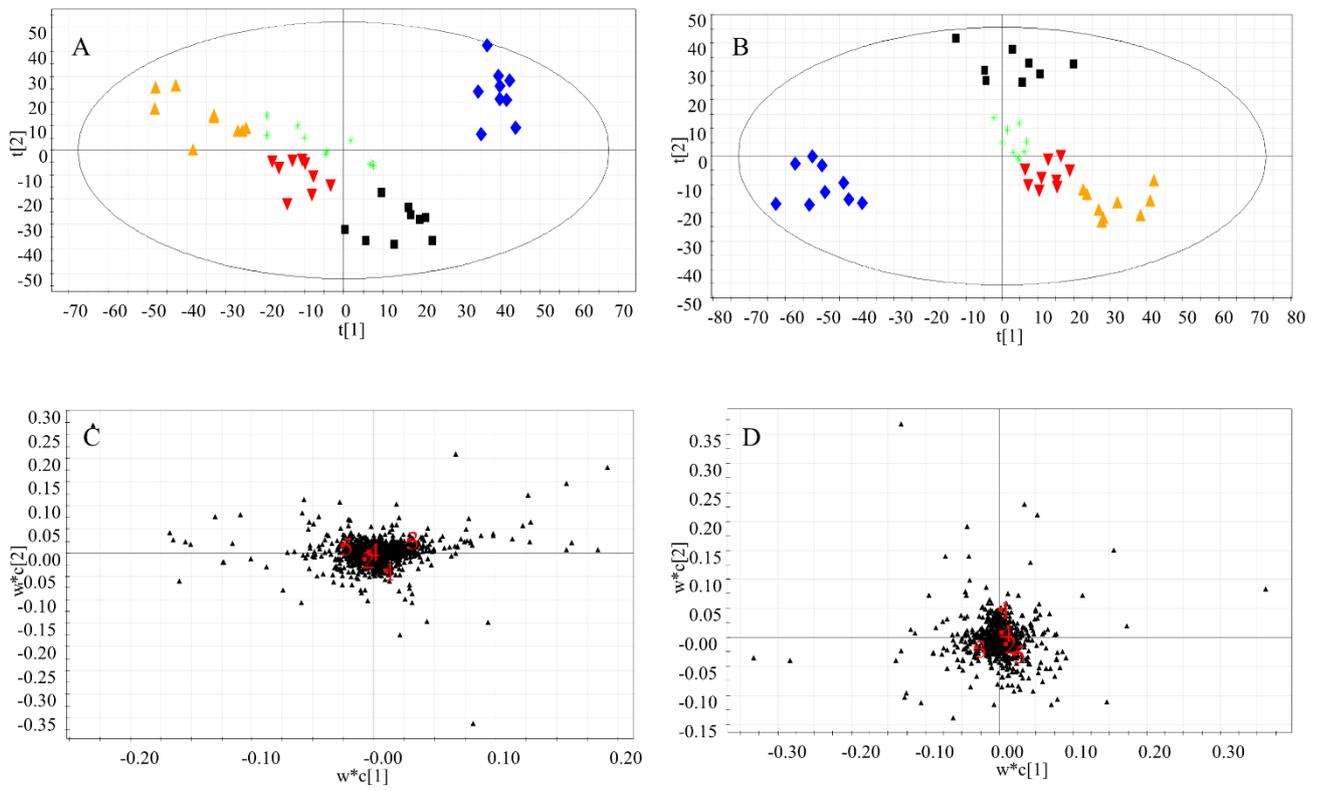


Fig. 1 Suppl. A score scatter plot (t_1 - t_2 ; A, B) and a loading plot ($w*c[1]$ - $w*c[2]$; C, D) of projections to latent structures discriminant analysis on *Arabidopsis thaliana* in positive (A, C) and negative (B, D) ion scan modes. The scatter plot of the first two score vectors (t_1 - t_2) provides a summary of all observations or samples. t_1 - all sample scores on the first principal component axis of x space; t_2 - all sample scores on the second principal component axis of x space. Samples were collected from control group (■), and treated with oligochitosan for 0.5 h (▼), 1 h (◆), 3 h (*), and 6 h (▲), successively in score scatter plots. The loading plot summarizes the influence and correlation structure between variables in both the X matrix (▲ - the areas of the ultra performance liquid chromatography-quadrupole-time of flight mass spectrometry analysis peaks) and Y matrix (■ - design variables samples, 1 - control group, 2 - treated with oligochitosan for 0.5 h, 3 - treated with oligochitosan for 1 h, 4 - treated with oligochitosan for 3 h, and 5 - treated with oligochitosan for 6 h). $w*c[1]$ - the first principal component obtained the combined weight of X and Y data; $w*c[2]$ - the second principal component obtained the combined weight of X and Y data.