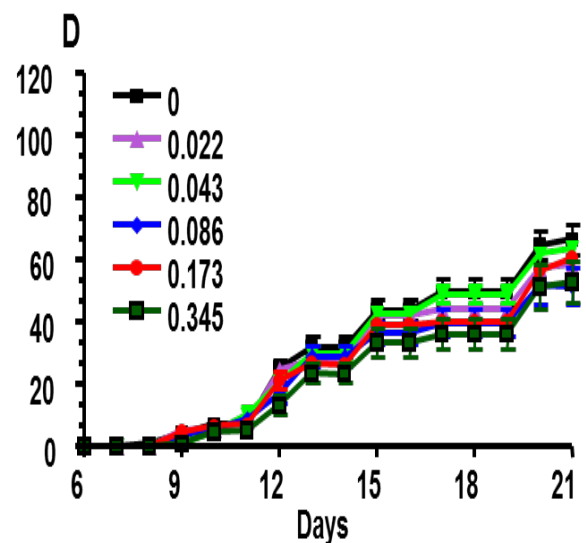
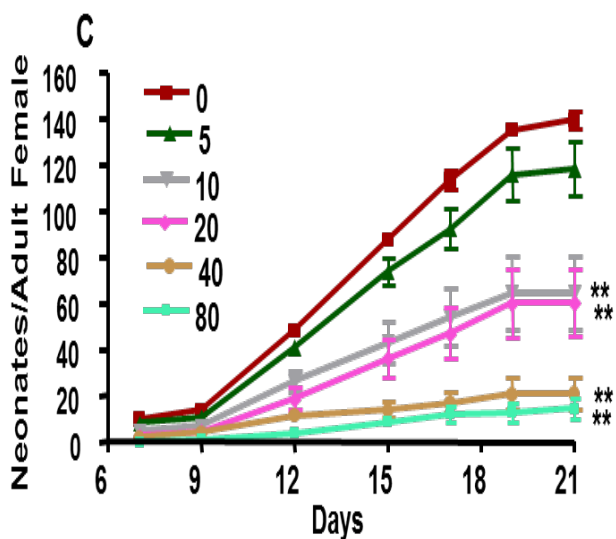
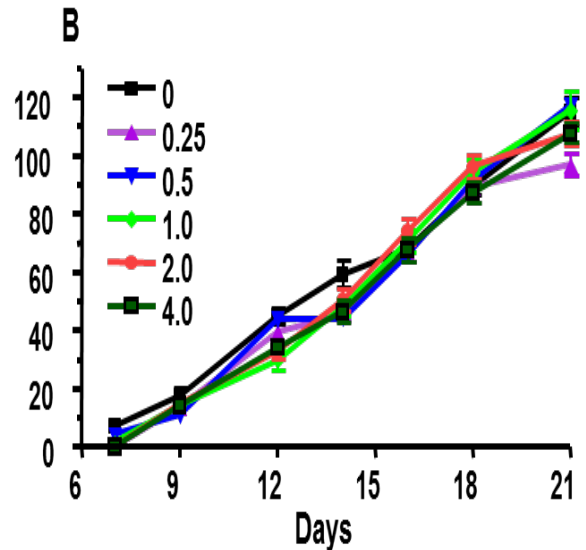
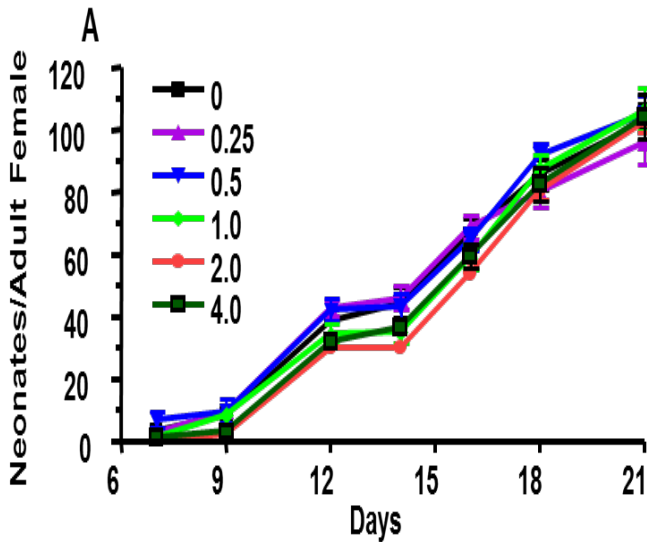
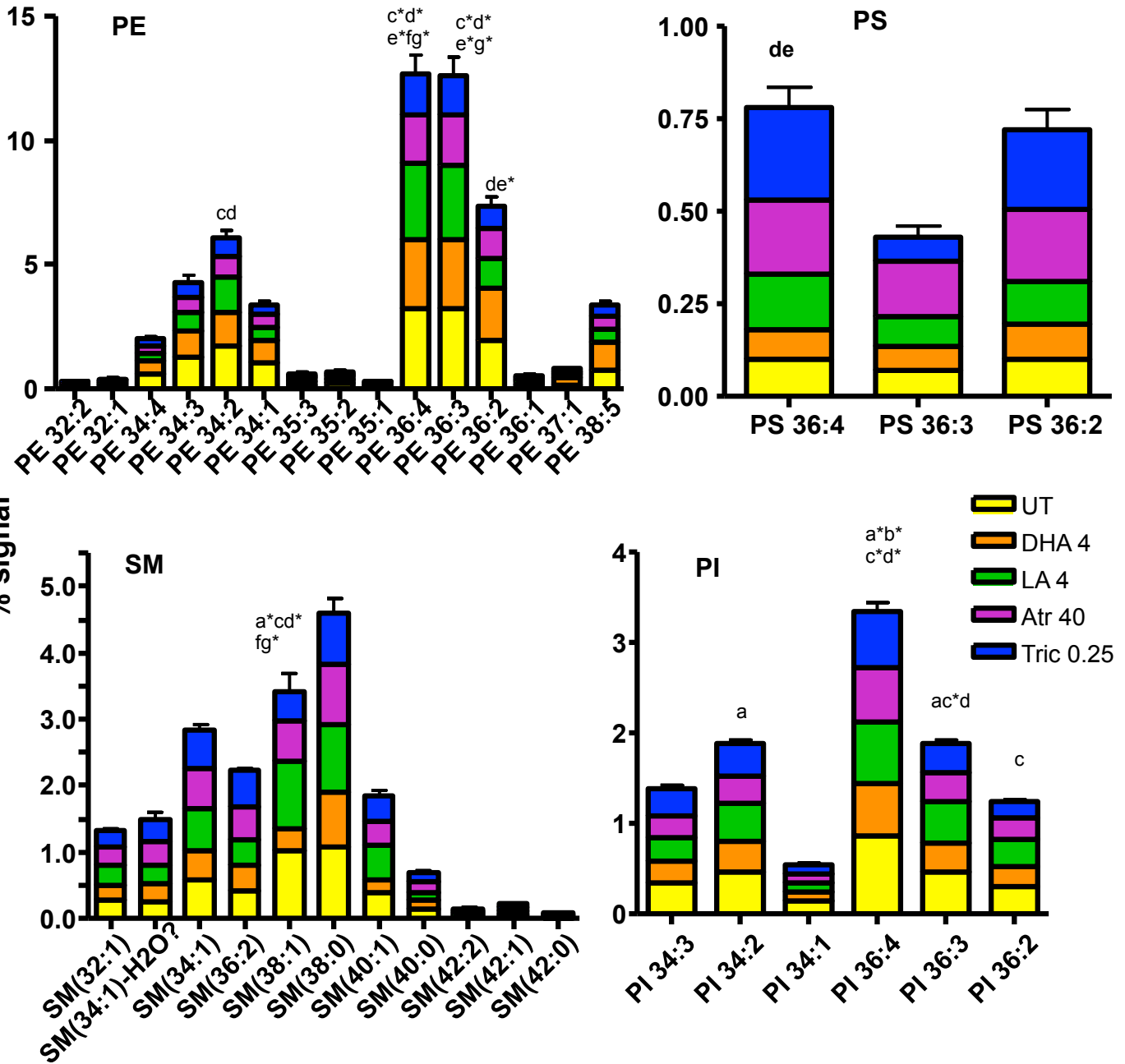


Supplemental Figures:

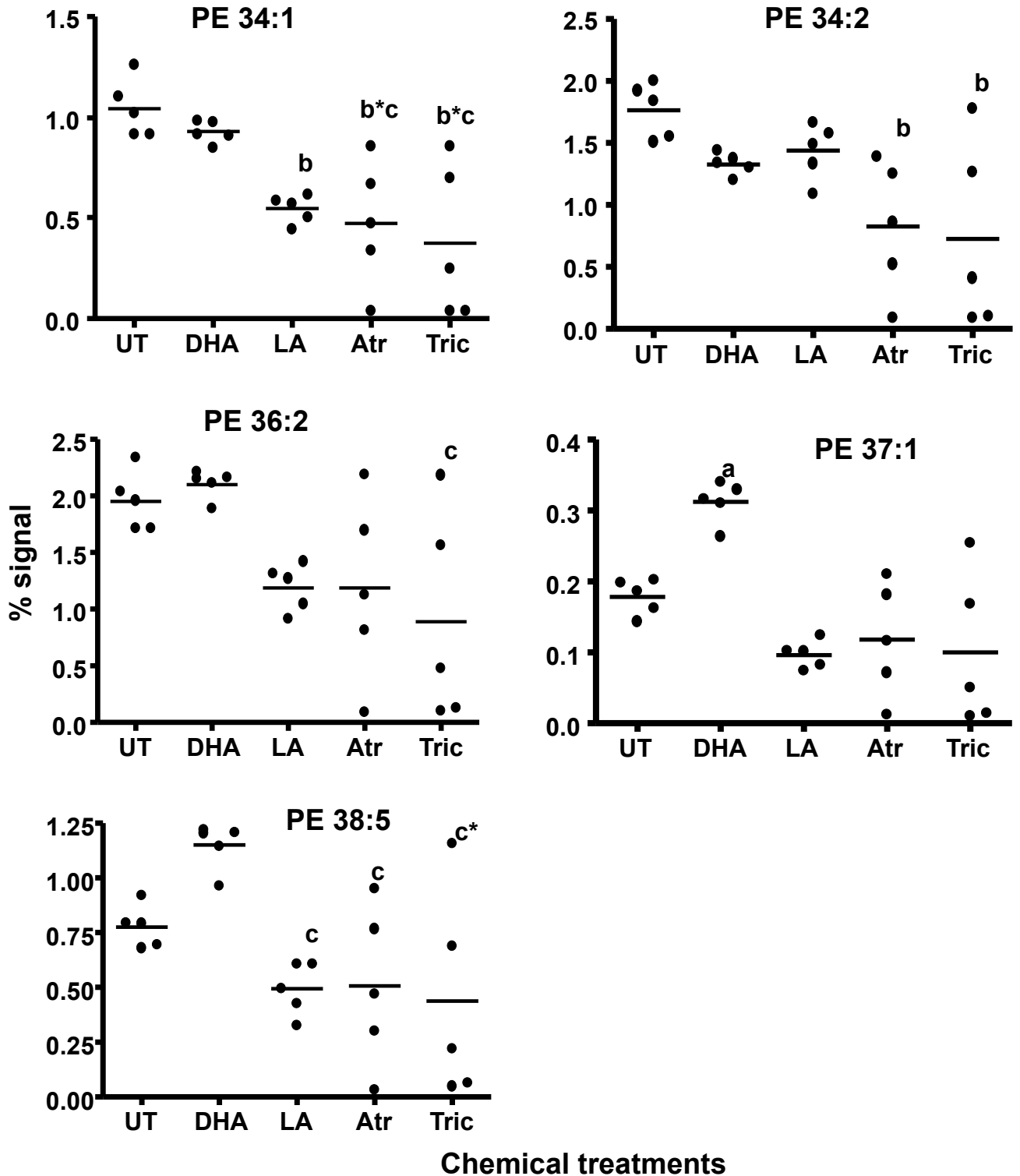
Suppl. File 1: Effects of the fatty acids and toxicants tested on fecundity during 21-day toxicity tests. Reproductive fitness was determined in *D. magna* exposed to (A) DHA, (B) LA, (C) atrazine, and (D) triclosan. Data are presented as mean neonates produced per reproductive female. Statistical significance was measured using one-way ANOVA followed by Fisher's Least Significant Difference as the post-hoc test with a p-value of 0.05 considered significant. Atrazine significantly reduced reproduction at concentrations at and above 10 μM (C). No other chemicals significantly repressed reproduction.



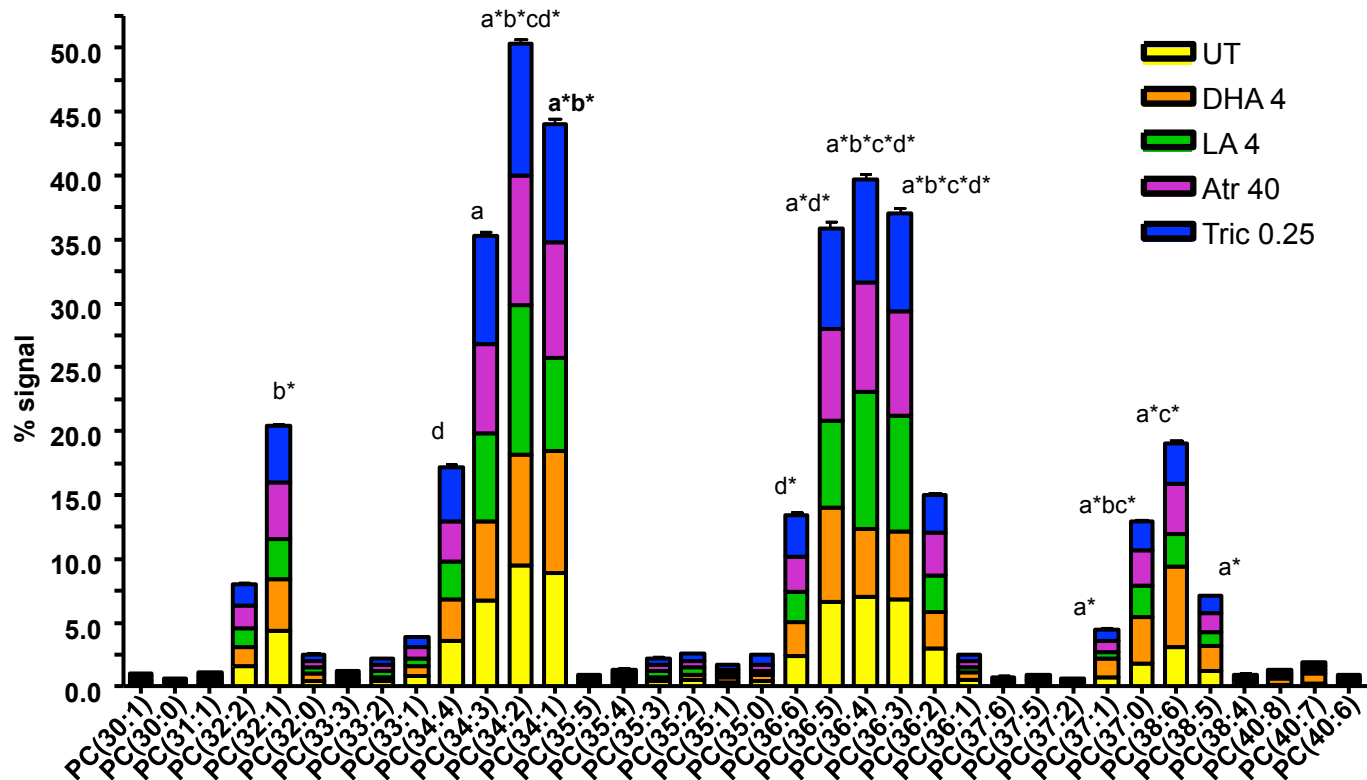
Suppl. File 2: Changes in phosphatidylethanolamine (PE), phosphatidylserine (PS), sphingomyelin (SM) and phosphatidylinositol (PI) species composition among different exposure groups. Changes in percent signal of individual polar lipids following chemical treatment were analyzed by two-way ANOVA (with repeated measures) followed by the Bonferroni post-hoc test. Statistical differences in each of the polar lipid species are noted in the table below. ‘a’ indicates UT vs DHA, ‘b’ is UT vs LA, ‘c’ is UT vs Atr, ‘d’ is UT vs Tric, ‘e’ is DHA vs Atr, ‘f’ is LA vs Atr and ‘g’ is LA vs Tric (only letter = p<0.01, * indicates p<0.001)



Suppl. File 3: Relative concentrations of phosphatidylethanolamine (PE)-based polar lipids following exposure to different chemicals for 4 days. Changes in the percent signal of PE based polar lipids were determined by one-way ANOVA followed by Tukey's post-hoc test (n = 5). Each dot represents an individual daphnid, and the mean is represented by a horizontal line. An 'a' indicates statistical differences from all other treatments, 'b' is different from untreated group, 'c' is different from DHA, 'd' is different from LA, 'e' is different from atrazine and 'f' is different from triclosan (p<0.05, * p<0.01 and **p<0.001).

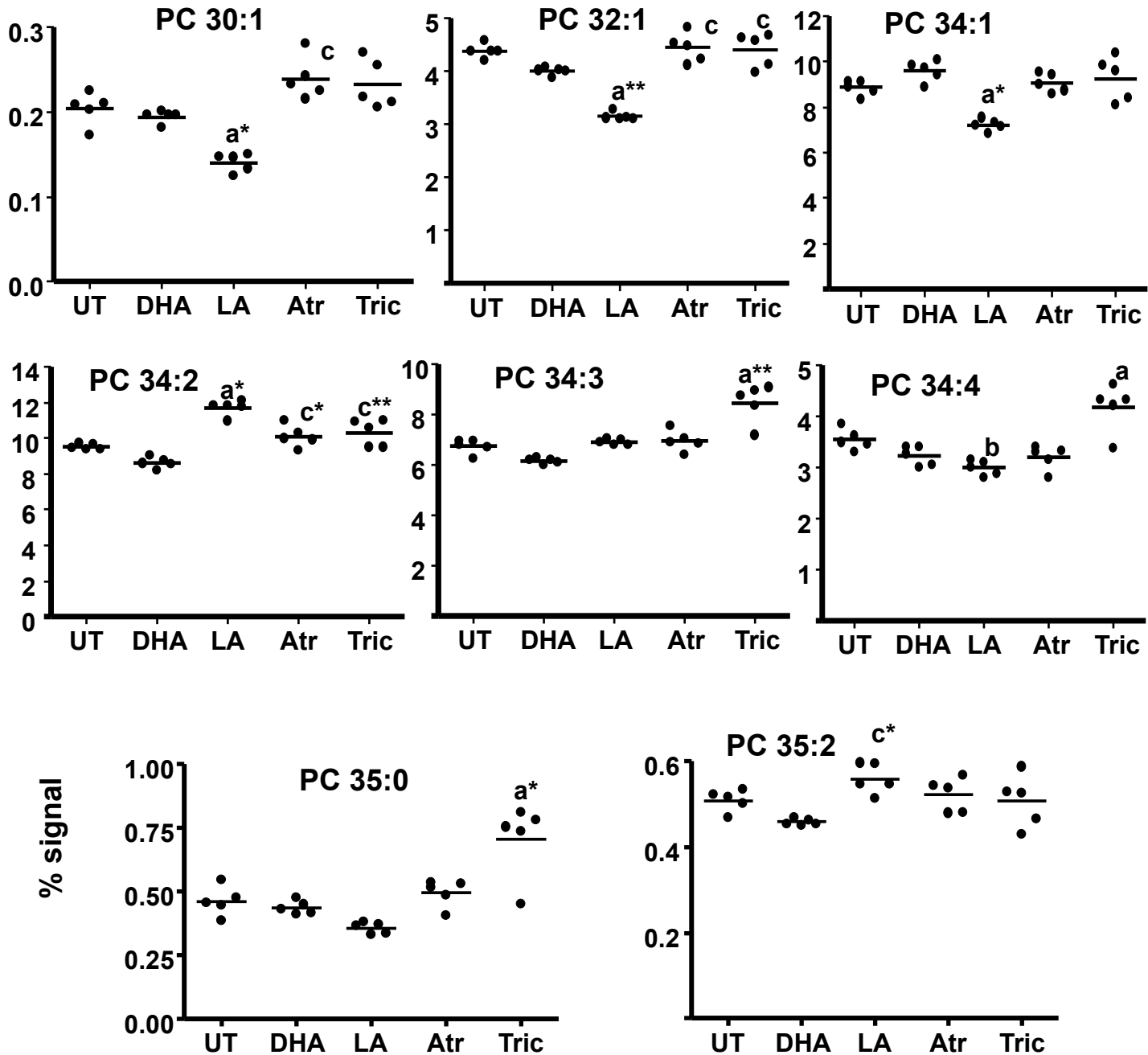


Suppl. File 4: Changes in phosphatidylcholine (PC) species composition among daphnids exposed to different chemicals. Changes in percent signal of individual PC species following chemical treatment were analyzed by two-way ANOVA (with repeated measures) followed by the Bonferroni post-hoc test. Statistical differences are described below the graph. Statistical differences between different groups are noted with letters; ‘a’ indicates UT vs DHA, ‘b’ is UT vs LA, ‘c’ is UT vs Atr, ‘d’ is UT vs Tric, ‘e’ is DHA vs Tric, ‘f’ is LA vs Atr and ‘g’ is LA vs Tric (only letter = $p < 0.01$, * indicates $p < 0.001$).

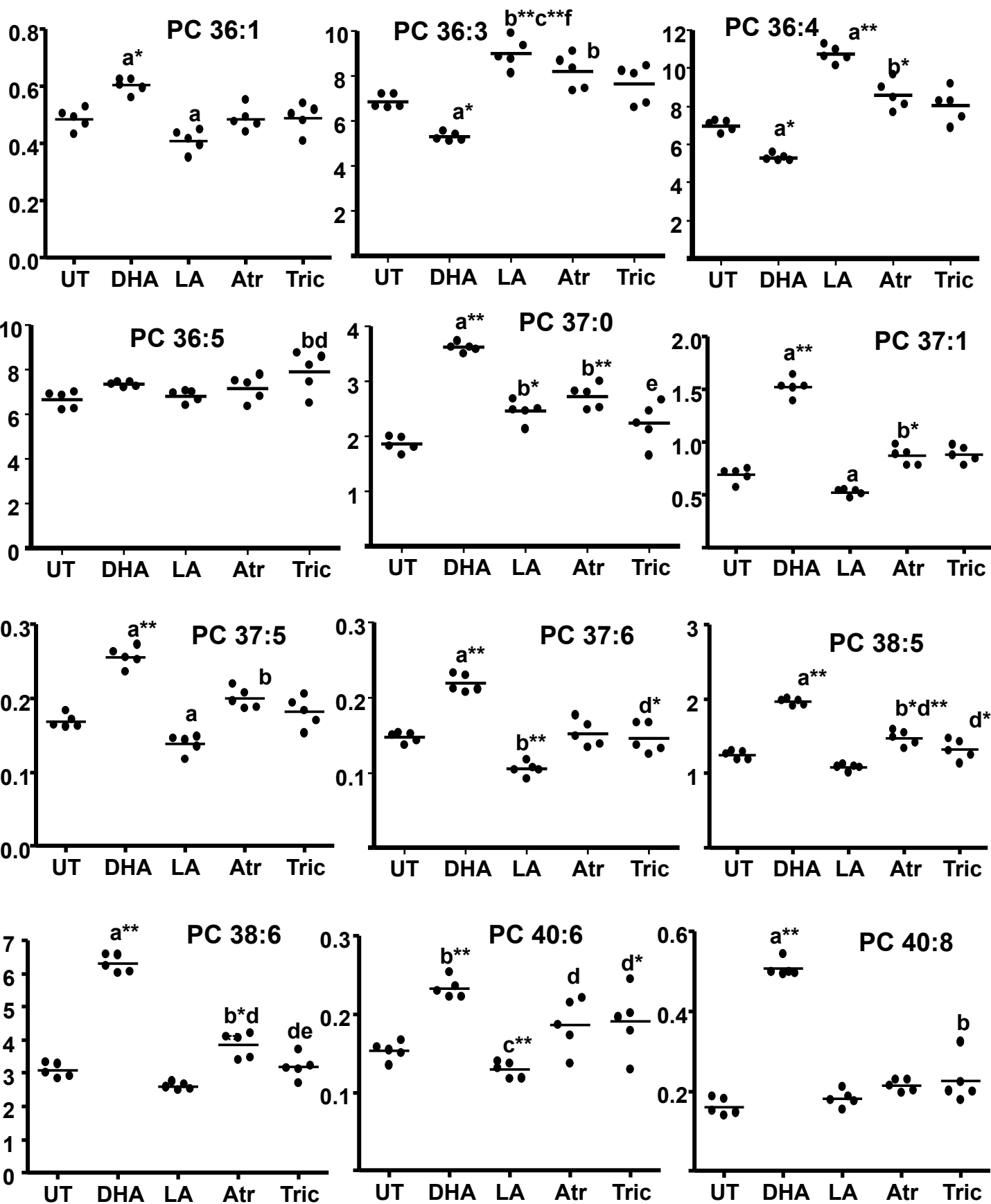


Differences between groups	Significant differences among PC isoforms
UT vs DHA	PC 34:3 $p < 0.01$, PC 34:2 $p < 0.001$, PC 34:1 $p < 0.001$, PC 36:5 $p < 0.001$, PC 36:4 $p < 0.001$, PC 36:3 $p < 0.001$, PC 37:1 $p < 0.001$, PC 37:0 $p < 0.001$, PC 38:6 $p < 0.001$, PC 38:5 $p < 0.001$, PC 40:7 $p < 0.05$
UT vs LA	PC 32:1 $p < 0.001$, PC 34:4 $p < 0.05$, PC 34:2 $p < 0.001$, PC 34:1 $p < 0.001$, PC 36:4 $p < 0.001$, PC 36:3 $p < 0.001$, PC 37:0 $p < 0.01$
UT vs Atr	PC 34:2 $p < 0.01$, PC 36:5 $p < 0.05$, PC 36:4 $p < 0.001$, PC 36:3 $p < 0.001$, PC 37:0 $p < 0.001$, PC 38:6 $p < 0.001$
UT vs Tric	PC 34:4 $p < 0.01$, PC 34:3 $p < 0.001$, PC 34:2 $p < 0.001$, PC 36:6 $p < 0.001$, PC 36:5 $p < 0.001$, PC 36:4 $p < 0.001$, PC 36:3 $p < 0.001$
DHA vs LA	PC 32:1 $p < 0.001$, PC 34:3 $p < 0.001$, PC 34:2 $p < 0.001$, PC 34:1 $p < 0.001$, PC 36:5 $p < 0.05$, PC 36:4 $p < 0.001$, PC 36:3 $p < 0.001$, PC 37:1 $p < 0.001$, PC 38:6 $p < 0.001$, PC 38:5 $p < 0.001$
DHA vs Atr	PC 34:3 $p < 0.001$, PC 34:2 $p < 0.001$, PC 34:1 $p < 0.05$, PC 36:4 $p < 0.001$, PC 36:3 $p < 0.001$, PC 37:0 $p < 0.001$, PC 37:1 $p < 0.001$, PC 38:6 $p < 0.001$
DHA vs Tric	PC 34:4 $p < 0.001$, PC 34:3 $p < 0.001$, PC 34:2 $p < 0.001$, PC 36:6 $p < 0.01$, PC 36:5 $p < 0.05$, PC 36:4 $p < 0.001$, PC 36:3 $p < 0.001$, PC 37:1 $p < 0.01$, PC 37:1 $p < 0.001$, PC 38:5 $p < 0.01$, PC 38:6 $p < 0.001$
LA vs Atr	PC 32:1 $p < 0.001$, PC 34:2 $p < 0.001$, PC 34:1 $p < 0.001$, PC 36:4 $p < 0.001$, PC 36:3 $p < 0.001$, PC 36:2 $p < 0.05$, PC 38:6 $p < 0.001$
LA vs Tric	PC 32:1 $p < 0.001$, PC 34:4 $p < 0.001$, PC 34:3 $p < 0.001$, PC 34:2 $p < 0.001$, PC 34:1 $p < 0.001$, PC 36:6 $p < 0.001$, PC 36:5 $p < 0.001$, PC 36:4 $p < 0.001$, PC 36:3 $p < 0.001$, PC 38:6 $p < 0.01$
Atr vs Tric	PC 34:4 $p < 0.001$, PC 34:3 $p < 0.001$, PC 36:5 $p < 0.001$, PC 36:4 $p < 0.05$, PC 36:3 $p < 0.05$, PC 38:6 $p < 0.001$

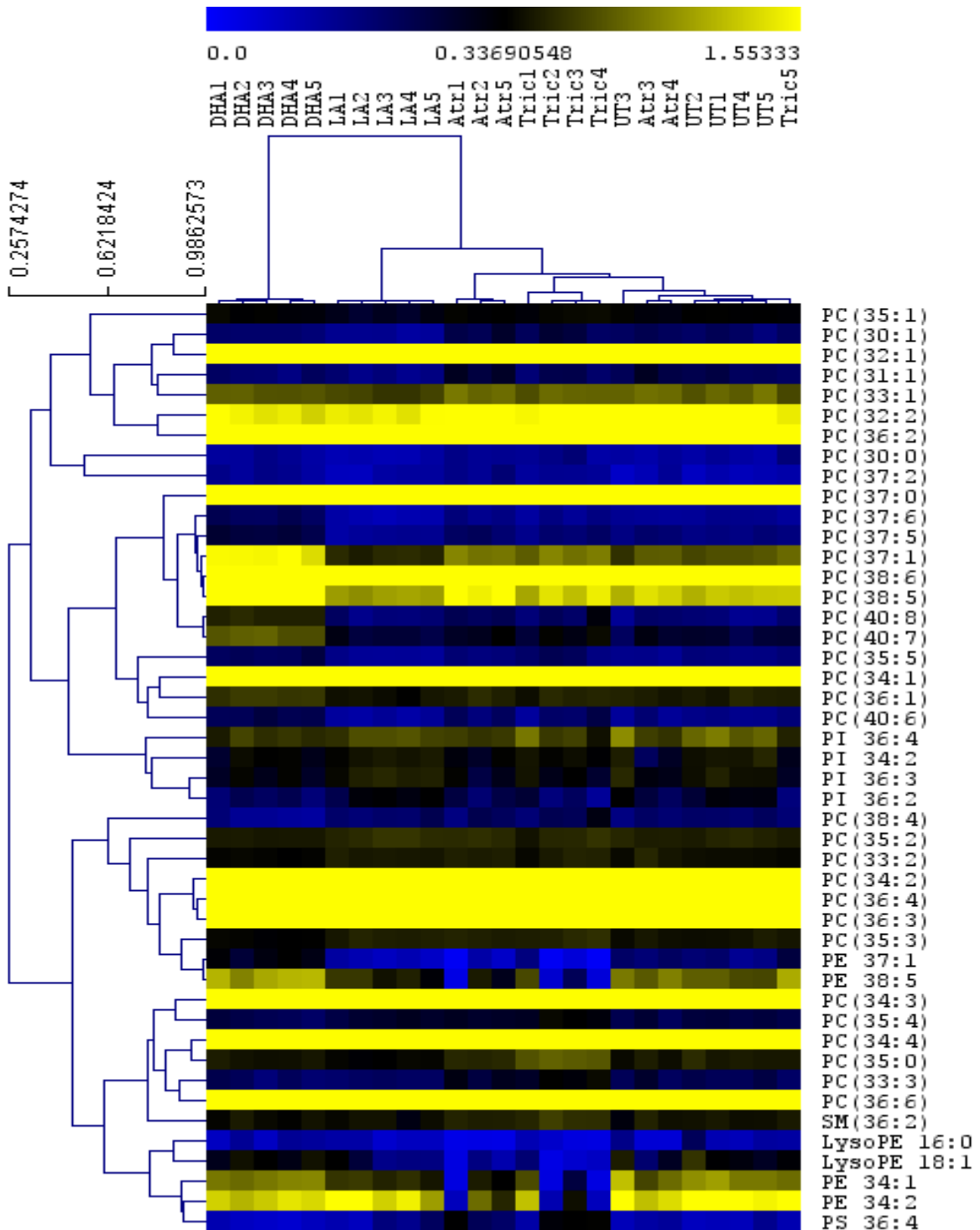
Suppl. File 5: Relative concentrations of phosphatidylcholine (PC)-based polar lipids following exposure to different chemicals for 4 days. Changes in the percent signal of PC based polar lipids were determined by one-way ANOVA followed by Tukey's post-hoc test (n = 5). Each dot represents an individual daphnid, and the mean is represented by a horizontal line. An 'a' indicates statistical differences from all other treatments, 'b' is different from untreated group, 'c' is different from DHA, 'd' is different from LA, 'e' is different from atrazine and 'f' is different from triclosan (p<0.05, * p<0.01 and **p<0.001).



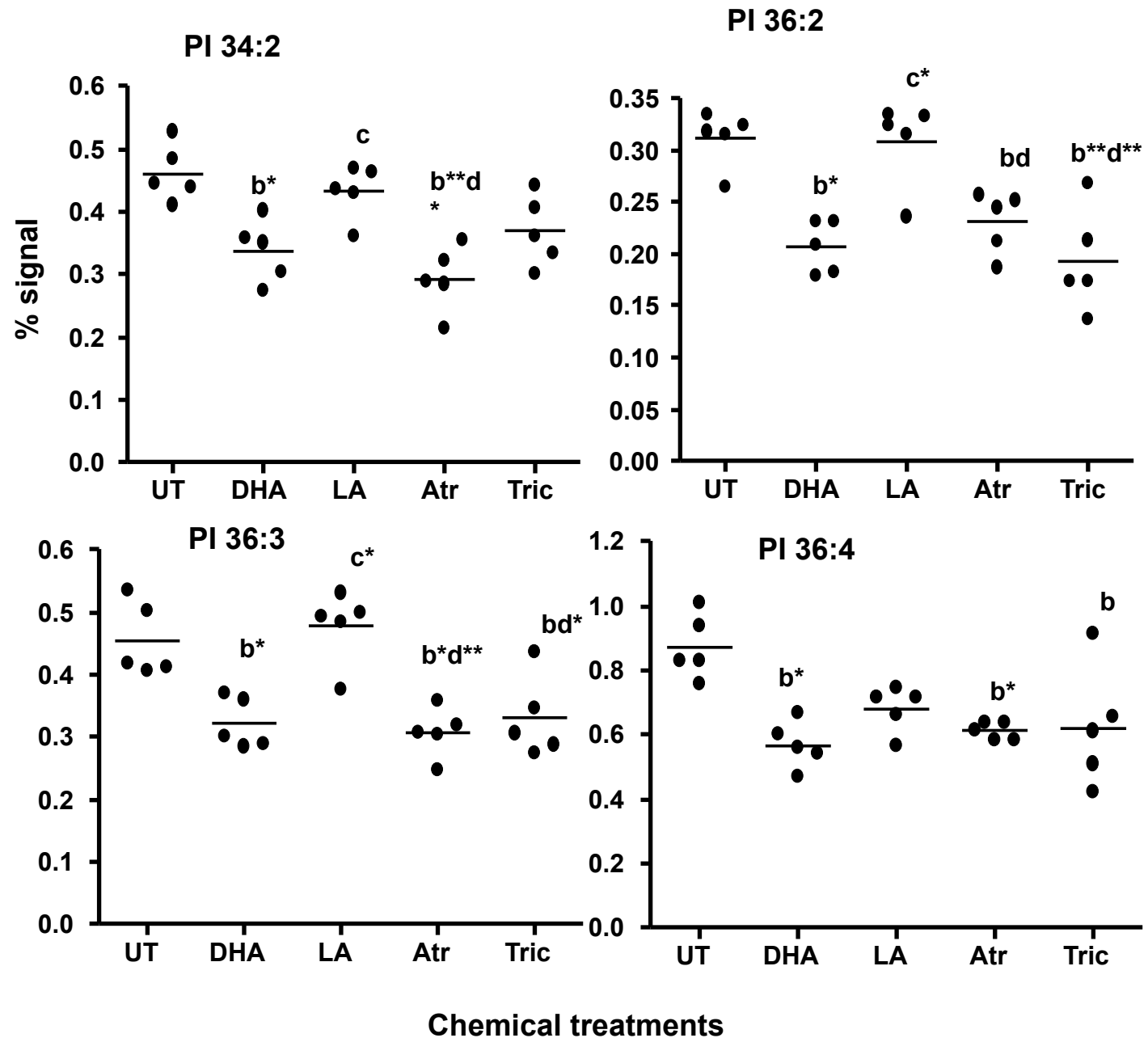
Chemical treatments



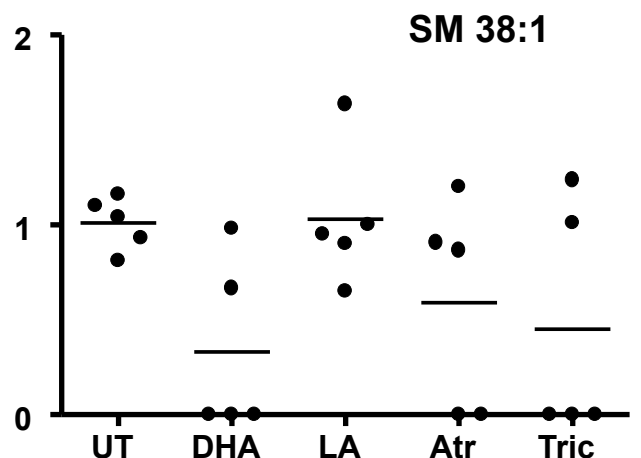
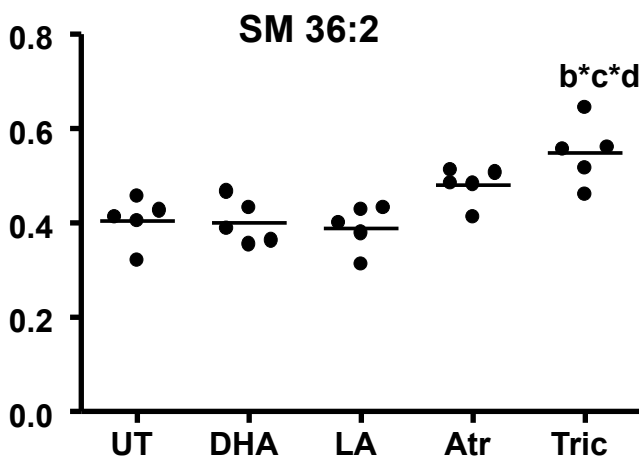
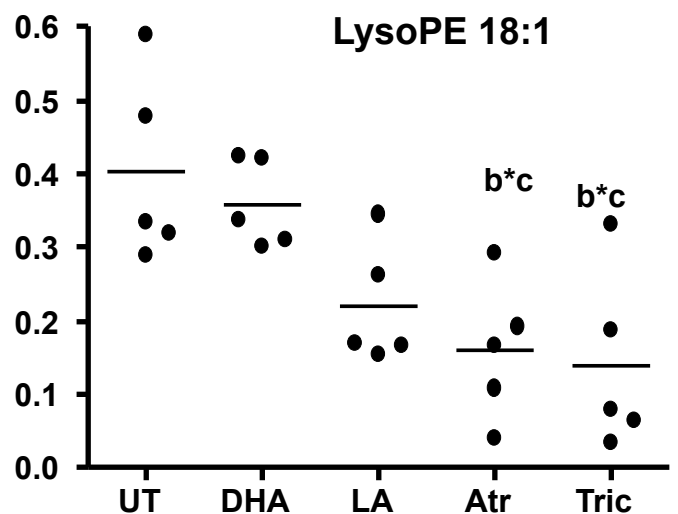
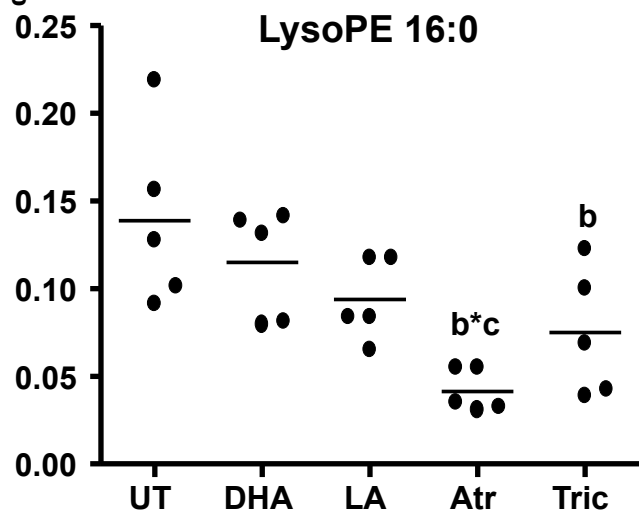
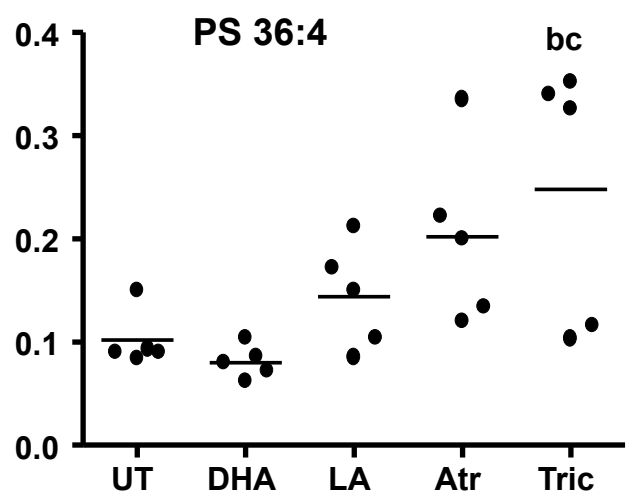
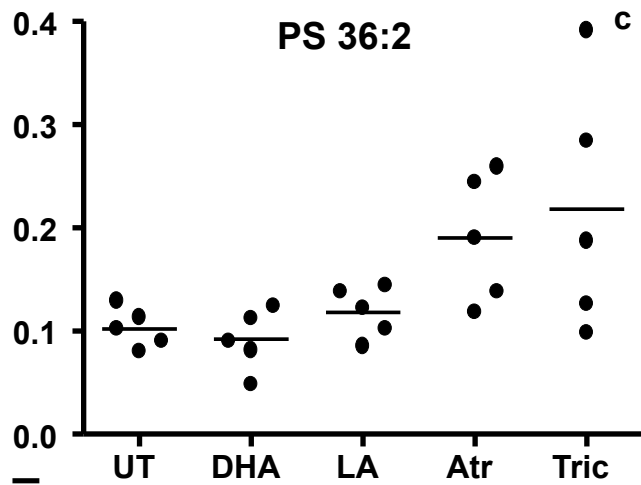
Suppl. File. 6: Hierarchical Clustering (HCL) was used to cluster and visualize significant changes in the concentrations of individual lipids using MultiExperiment Viewer (MeV). DHA forms its own clade and atrazine, triclosan, and untreated daphnids cluster together.



Suppl. File 7: Relative concentrations of phosphatidlinositol (PI), phosphatidylserine (PS), and sphingomyeline (SM) -based polar lipids following exposure to different chemicals for 4 days. Changes in the percent signal of individual species were determined by one-way ANOVA followed by Tukey's post-hoc test (n = 5). Each dot represents an individual daphnid, and the mean is represented by a horizontal line. An 'a' indicates statistical differences from all other treatments, 'b' is different from untreated group, 'c' is different from DHA, 'd' is different from LA, 'e' is different from atrazine and 'f' is different from triclosan (p<0.05, * p<0.01 and **p<0.001).



Suppl File 7 continued



Chemical treatments