

Supplemental Information For:

Sterols are key to coral larvae survival, swimming capacity, and thermal tolerance.

Short title: Sterols are key to coral reproductive success

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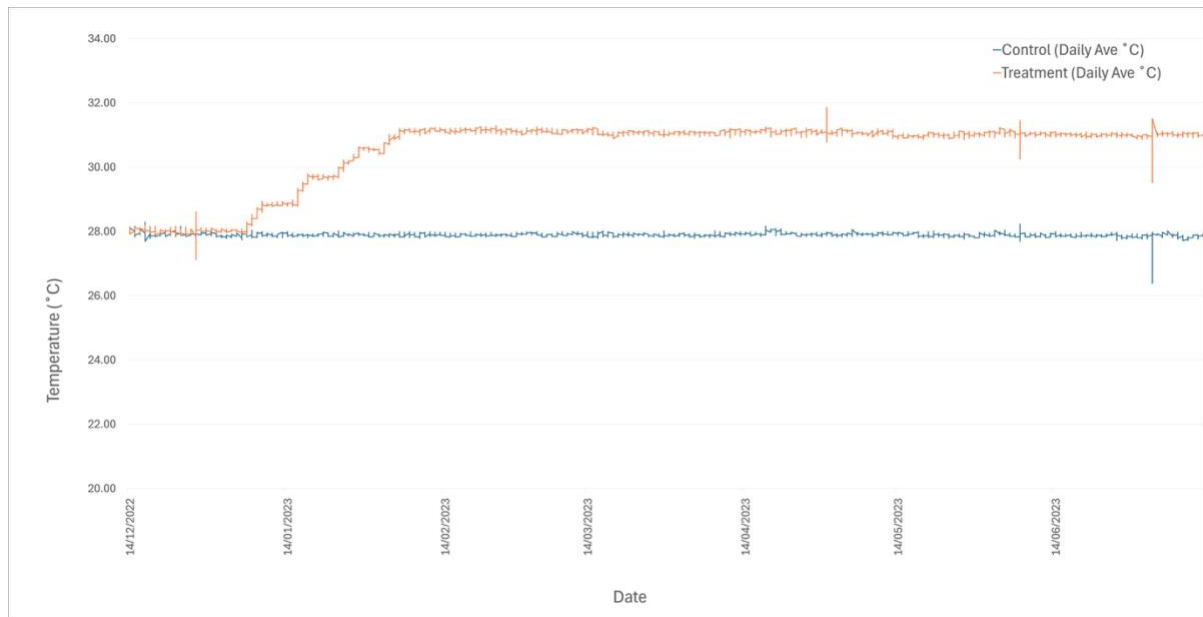
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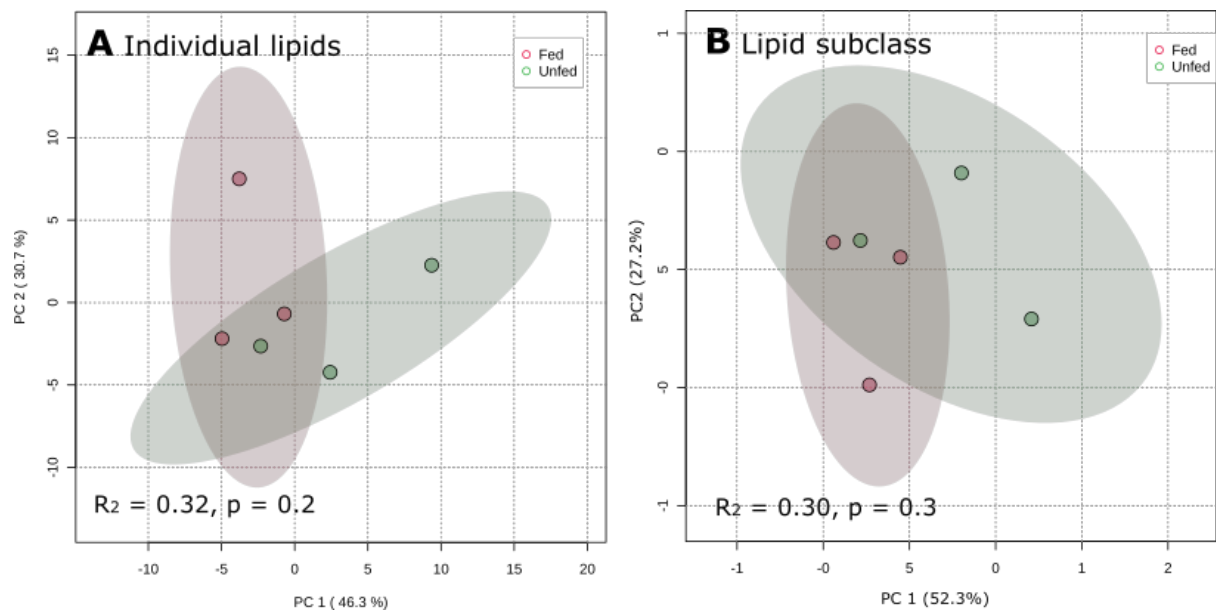
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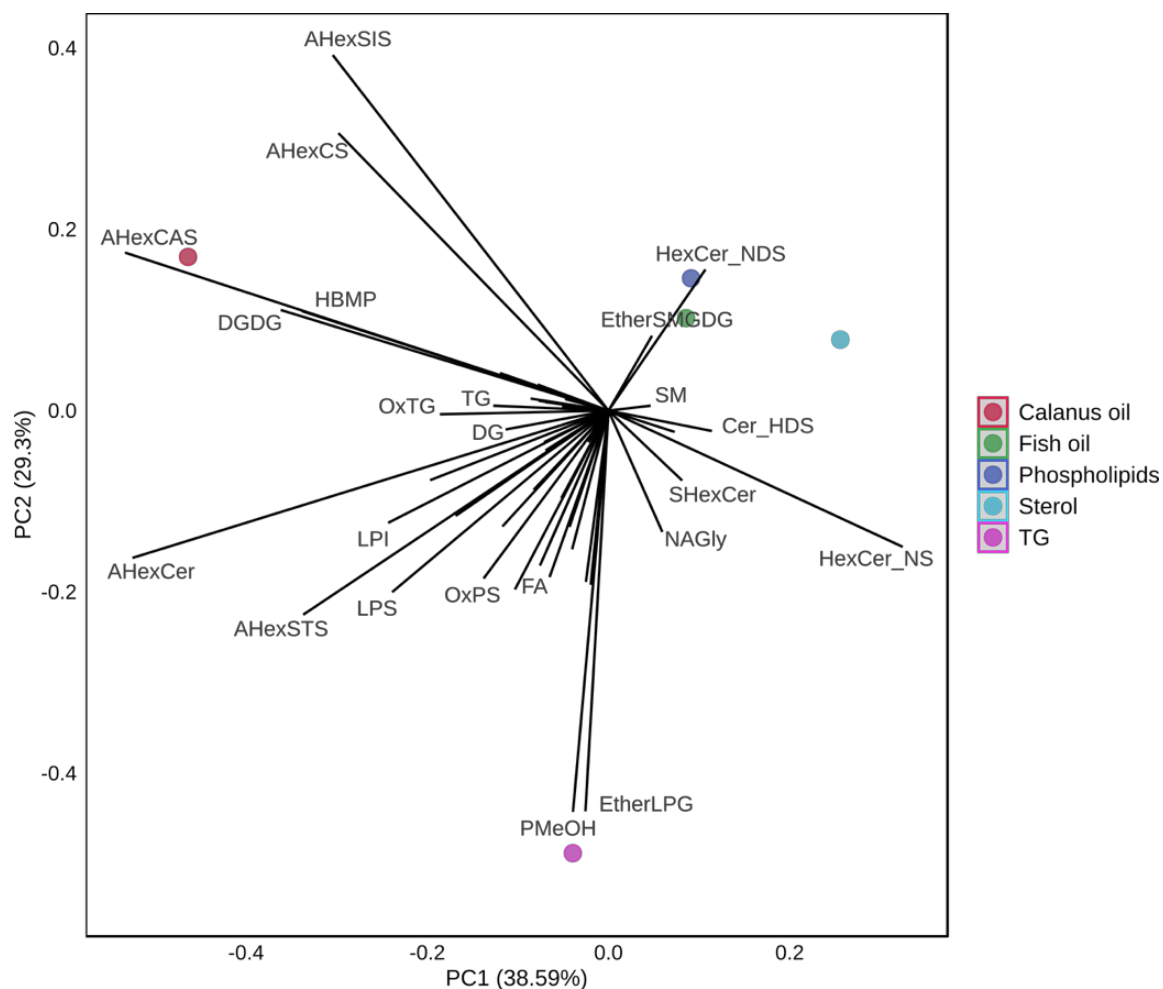
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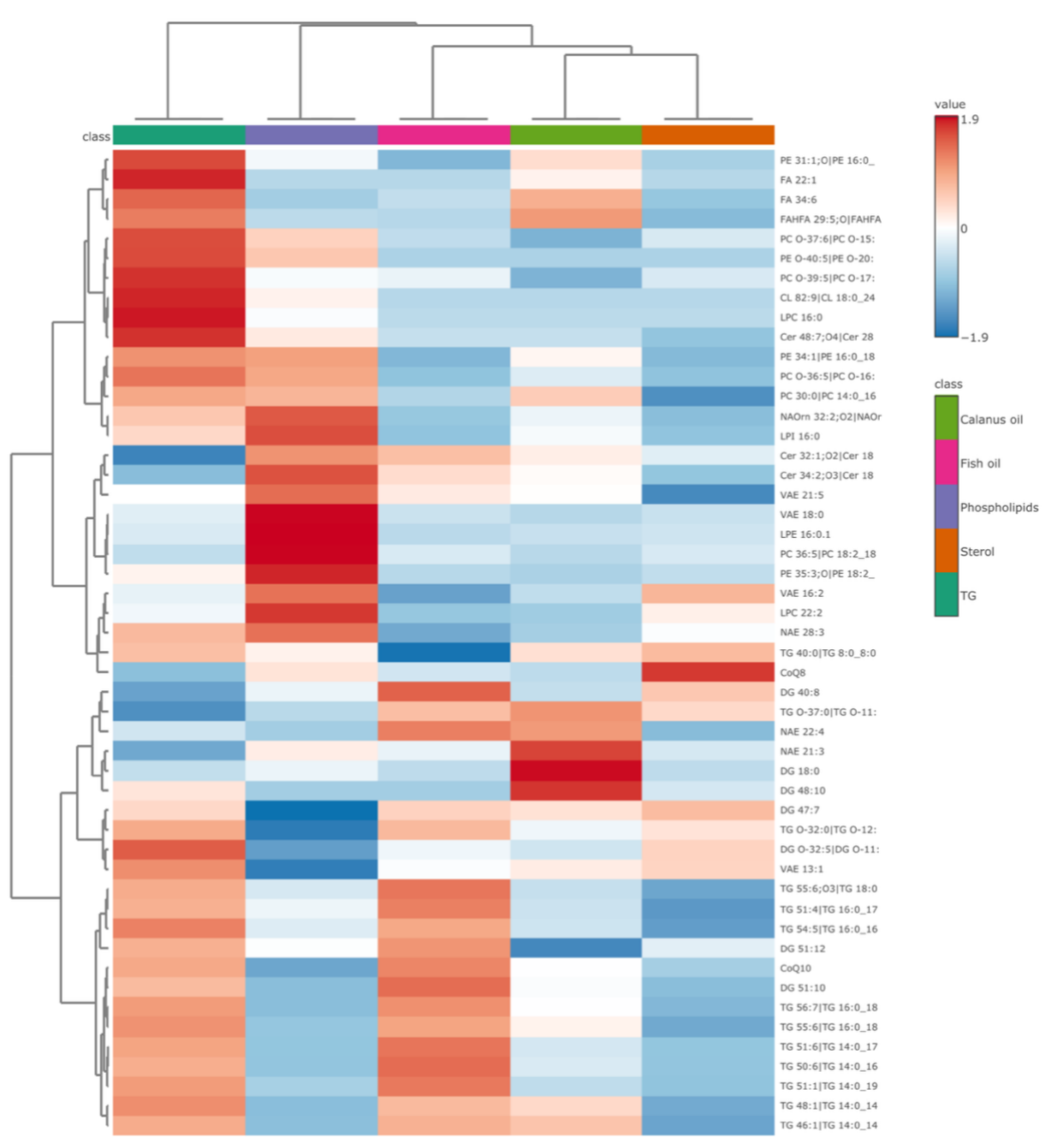
Supplementary Figure 1. Temperature profile from recruit holding tanks. Temperature data was obtained from National Sea Simulator temperature data from within the Mixer units that were supplying the tanks. The temperature probes of these units undergo regular (6-month interval) calibrations. Slight deviations from the temperature profiles were systematic of power outages to the probes, and do not reflect a significant change in temperature.



Supplementary Figure 2. Principal Component Analysis (PCA) revealing the differences in the individual (A) and subclass (B) lipid profiles of *Acropora spatulata* larvae following LNP exposure pre oral pore formation. Data are provided in Supplementary Data 11, insert statistics are PERMANOVA.



Supplementary Figure 3. Principal Component Analysis (PCA) showing the subclass composition of the commercial mixes. The top 50 lipid subclasses are shown in the biplot. Data are available in Supplementary data 13. Note: This PCA reflects lipid subclass-level composition; individual lipid species within each class may not be represented in Supplementary Figure 4 if they did not meet significance thresholds.



Supplementary Figure 4. Heatmap of the top 50 significantly different individual lipids between the commercial mixes. Data are available in Supplementary data 14. Note: This heatmap represents the top 50 most significantly different individual lipids between

commercial supplements. Some lipid subclasses (e.g., TGs) may be abundant overall (see Supplementary Figure 3) but underrepresented here if individual species showed limited statistical variation across treatments.