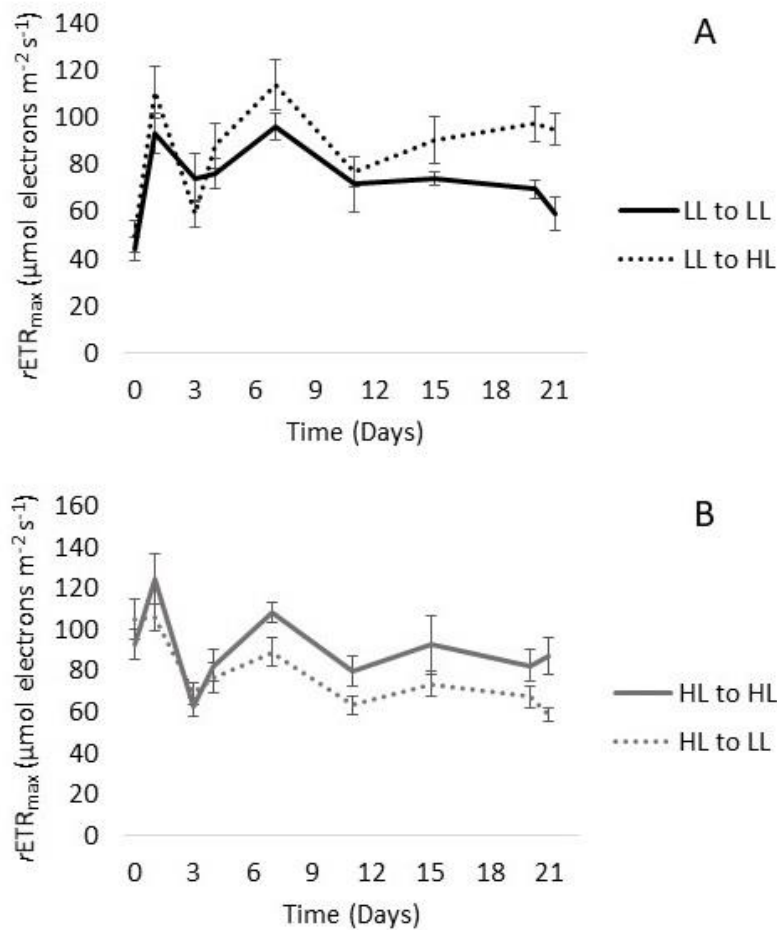
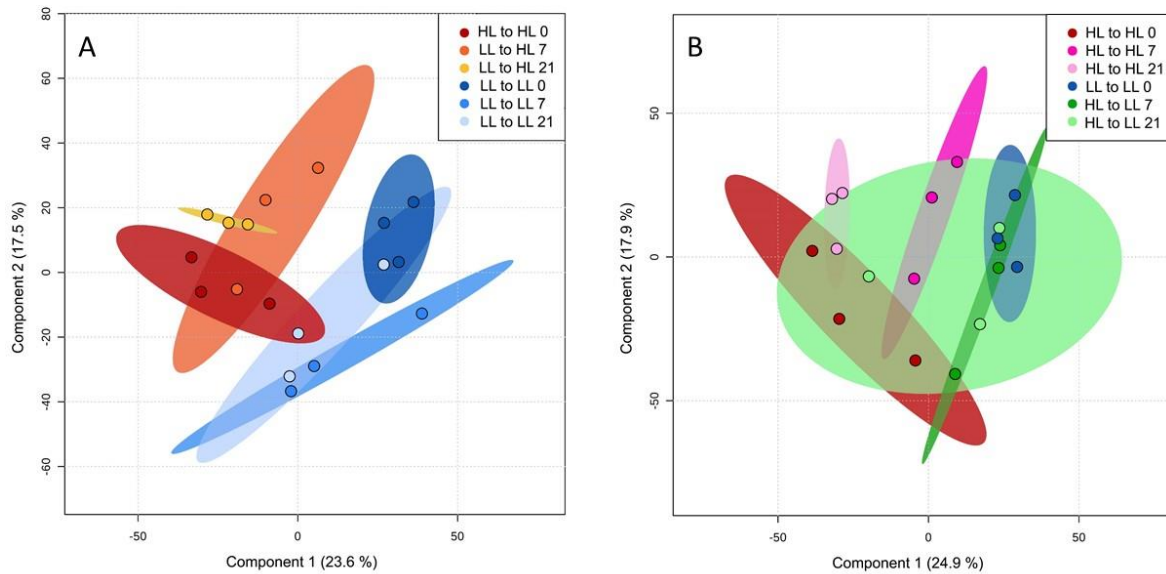


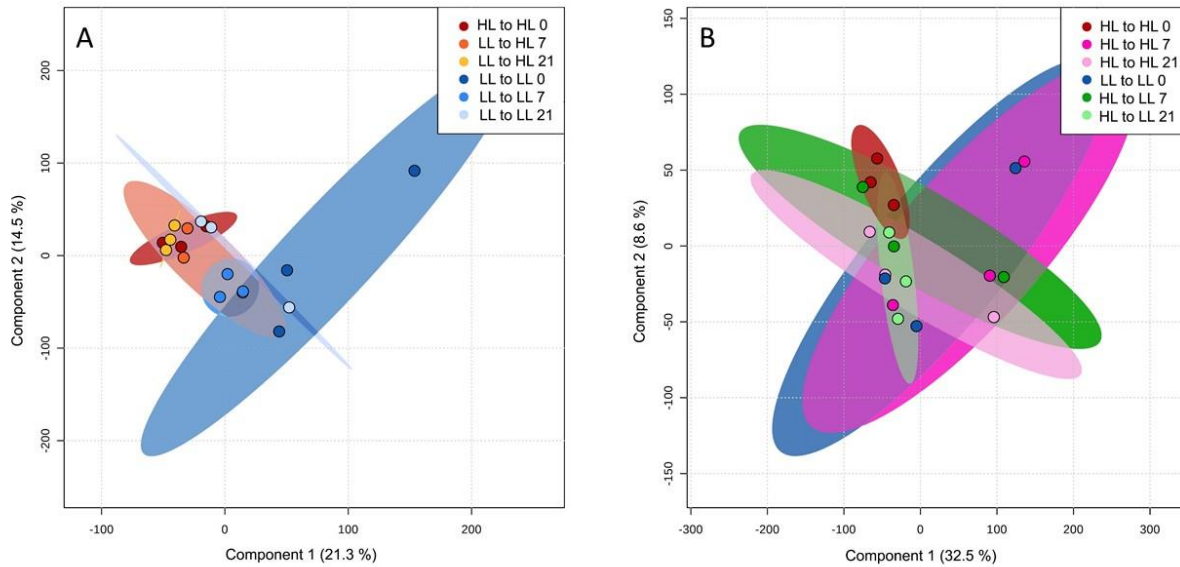
Supplementary Figures



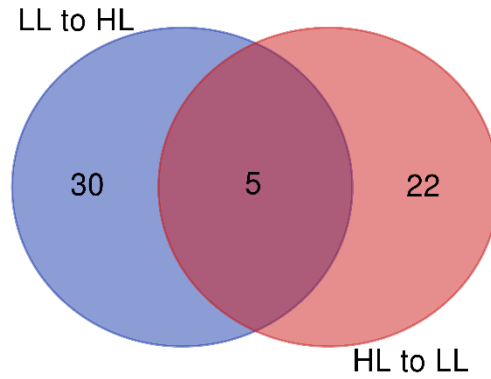
**Figure S1 Maximum relative electron transport rate ( $rETR^{MAX}$ ) for (A) corals sourced from low light (LL,  $n = 24$ ) and (B) corals sourced from high light (HL,  $n = 24$ ) over time (means  $\pm$  s.e.m.). A linear mixed model indicated that  $rETR^{MAX}$  varied significantly based on source location only (HL vs. LL) at  $t = 0$  ( $p < 0.0001$ ). After one day of exposure to light treatments ( $t = 1$ ),  $rETR^{MAX}$  no longer varied based on source location, but did vary significantly based on treatment ( $p = 0.01$ ). Light treatment also had a significant effect on  $rETR^{MAX}$  (regardless of source location) at  $t = 7$  ( $p = 0.01$ ) and at the conclusion of the experiment ( $t = 21$ ,  $p < 0.01$ ), indicating photoacclimation over time.**



**Figure S2 PCA results illustrating shifts in the metabolome over time based on GC-MS data for corals sourced from (A) LL and (B) HL.** Each group consisted of  $n = 3$  samples, and shading indicates 95% confidence intervals. Both panels illustrate distinct metabolomic profiles for HL to HL and LL to LL samples at  $t = 0$ . Panel A demonstrates that the metabolomes of LL to HL treated corals and LL to LL controls were distinct at  $t = 7$  and  $t = 21$ . In contrast, panel B shows that the metabolomes of HL to LL treated corals and HL to HL controls are distinct at  $t = 7$ , but overlap at  $t = 21$ . Together, these results suggest metabolomic adjustment was more substantial for LL to HL treated corals compared to their HL to LL treated counterparts.



**Figure S3 PCA results illustrating shifts in the metabolome over time based on LC-MS data for corals sourced from (A) LL and (B) HL.** Each group consisted of  $n = 3$  samples, and shading indicates 95% confidence intervals. Panel A illustrates distinct metabolomic profiles for HL to HL and LL to LL samples at  $t = 0$ . At  $t = 7$ , overlap was apparent between LL to HL treated colonies and LL controls, however separation was apparent between LL to HL treated corals and LL to LL controls at  $t = 21$ . Panel B shows substantial overlap between metabolomic profiles for HL to LL treated corals and HL to HL controls at every time point, as well as some overlap between HL to HL and LL to LL samples at  $t = 0$ . Together, these results suggest metabolomic adjustment was more substantial for LL to HL treated corals compared to their HL to LL treated counterparts.



**Figure S4 Venn diagram illustrating the number of features identified by LC-MS that changed over time in the LL to HL treatment group ( $n = 6$ ) and the HL to LL treatment group ( $n = 6$ ).** Although no features resolved by LC-MS could be tentatively annotated, this diagram illustrates that very few of the same entities were altered by exposure to both high and low light.