

Supplemental Material

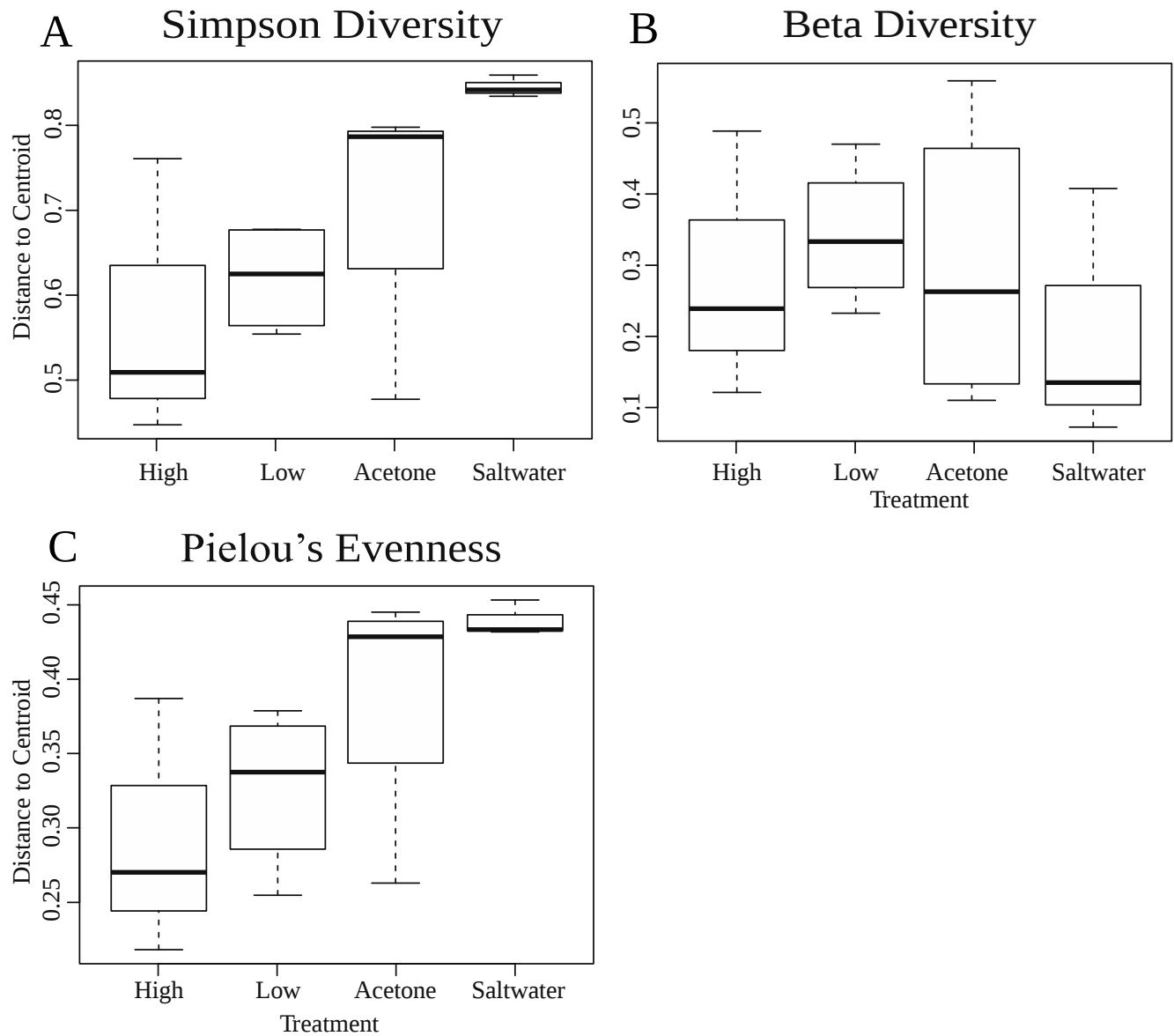
#1 High Pink Green	#2 Low Pink Green	#3 Acetone Control Pink Blue	#4 SW Control Blue Orange
#5 SW Control Green Yellow	#6 High Red	#7 Acetone Control Yellow	#8 Low Orange Yellow
#9 Low Blue	#10 High Pink	#11 Acetone Control Pink	#12 SW Control Pink
#13 SW Control Orange	#14 High Pink Blue	#15 Acetone Control Pink	#16 Low Yellow Green

Supplemental Figure 1. Illustrating from top to bottom of each cell: the beaker I.D. (numbers 1 to 16), exposure treatment, and genotype color code. Exposure treatment location, selection and placement of genotypes was selected through a computerized random number generator. Greyed boxes indicate the two samples that were removed from the analysis due to sample processing error.

Supplementary Table 1. Percent Homology requirements to consider an OTU at lower classification levels.

Identity to reference sequence	Identity Designation
> 97%	Species
Between 97% and 95%	(unclassified Genus)
Between 95% and 90%	(unclassified Family)
Between 90% and 85%	(unclassified order)
Between 85% and 80%	(unclassified class)
Between 80% and 77%	(unclassified phylum)
< 77%	(unknown)

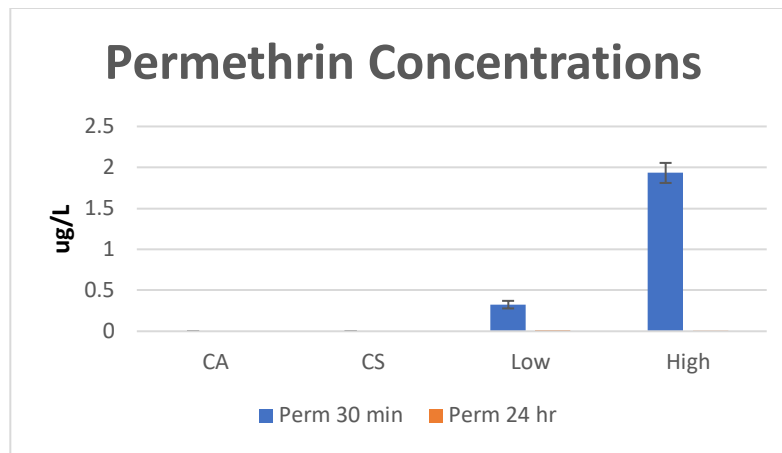
Diversity Indices



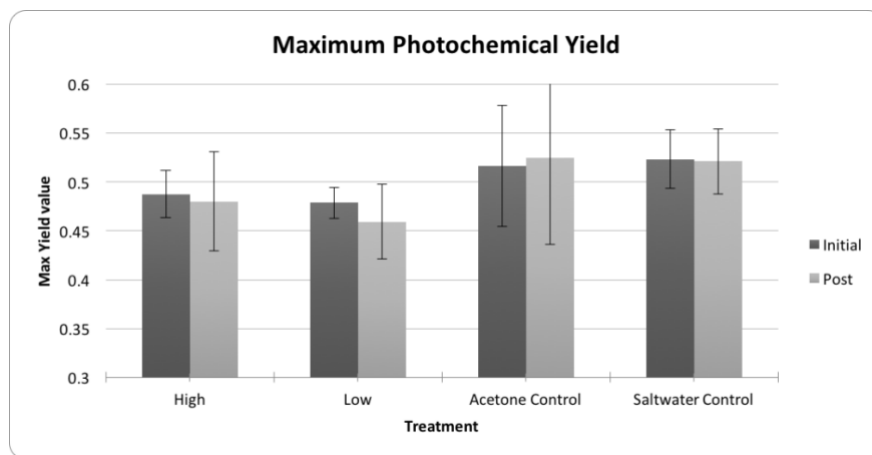
Supplemental Figure 2. Diversity indices among the four treatments. Tests for variance are in supplemental table 3.

Supplemental Table 2. Results of an ANOVA on Simpson, and beta diversity, Pielou's richness among the four treatments.

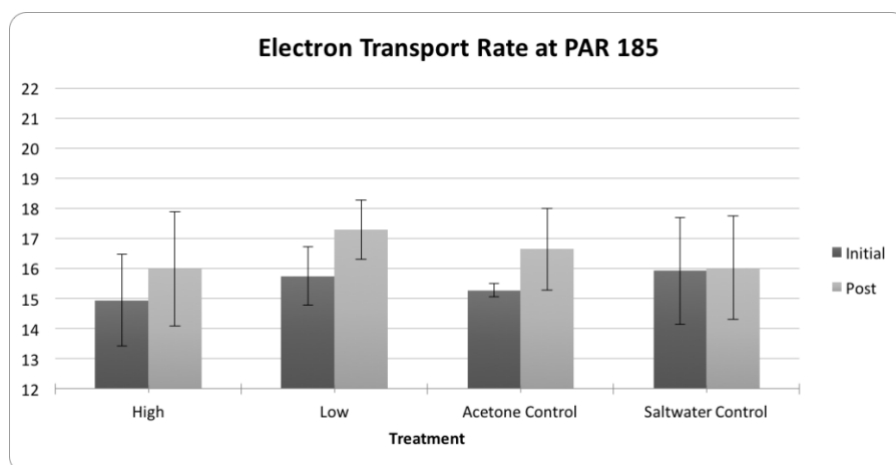
<i>Diversity Index</i>	<i>p-value</i>
<i>Simpson Diversity</i>	0.0589
<i>Beta Diversity</i>	0.7694
<i>Pielou's richness</i>	0.0852



Supplemental Figure 3. Averaged concentrations of permethrin that were recovered from 500 ml water samples collected thirty minutes and 24-hours after dosing. CA = Acetone control; CS = Saltwater Control.



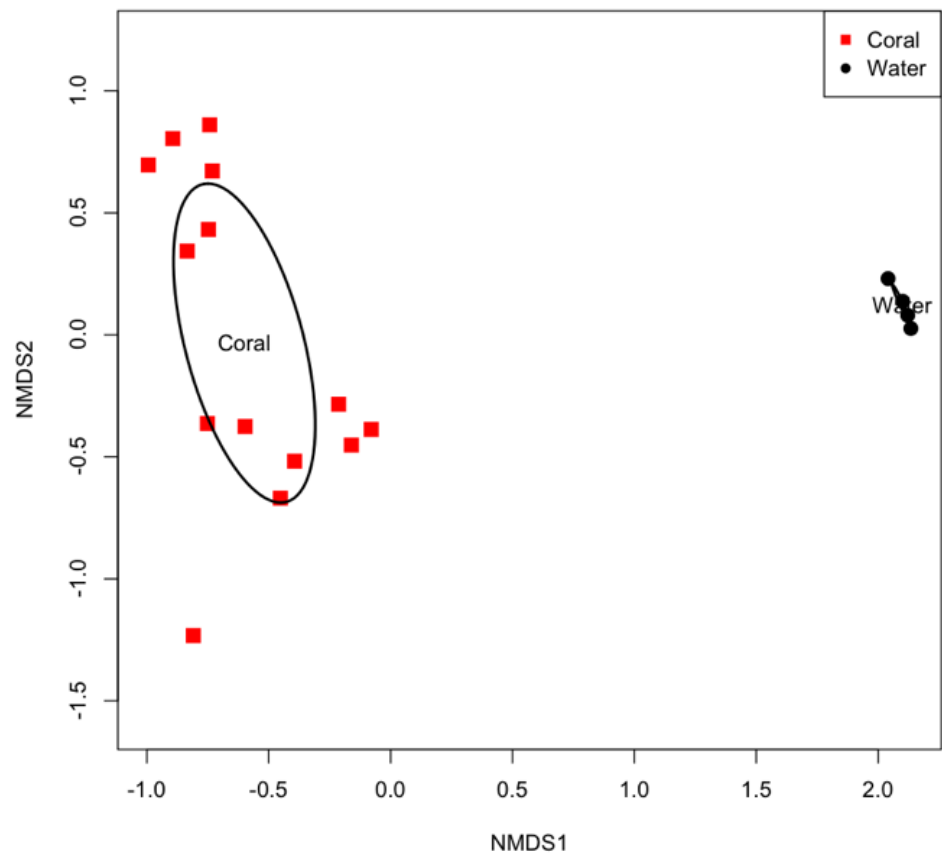
Supplemental Figure 4. The photochemical yield of *Montastrea cavernosa* before permethrin exposure and 24-hours after dosing.



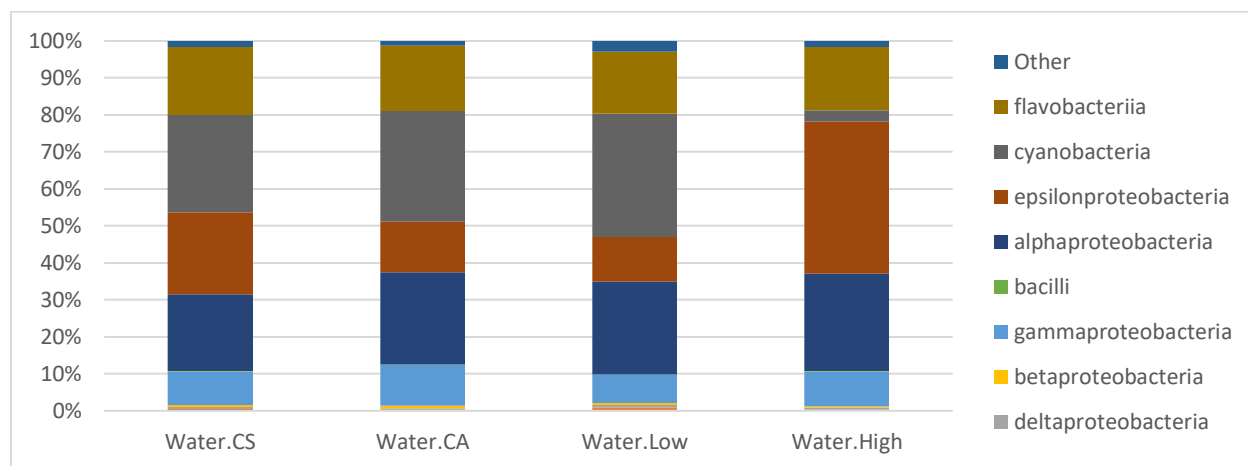
Supplemental Figure 5. The maximum electron transport rate before permethrin exposure and 24-hours after dosing *Montastrea cavernosa*.

Supplemental Table 3. PERMANOVA results.

	<i>Pair</i>	<i>df</i>	<i>f-value</i>	<i>R2</i>	<i>p-value</i>	<i>Stress</i>
<i>Coral vs. Water Treatments</i>	1	9.5354	0.37342	<0.001	0.05130162	
	3	4.3499	0.56616	0.0021	0.07864692	



Supplemental Figure 6. NMDS plot of the bacterial community between the microbes found in the water and the microbes found in the coral tissue (p-value =4e-04). Stress = 0.05130162



Supplemental Figure 7. Relative abundance of bacterial classes found by filtering seawater from each treatment (“Water.CS” = Saltwater control water, “Water.CA” = Acetone control water, “Water.Low” = water from low concentration (1.0 ug/L) of permethrin, “Water.High” = water from high concentration (6.0 ug/L) permethrin).

Supplemental Table 4. Pairwise PERMANOVA results comparing the bacterial community of coral tissue samples among treatments

	Pair	f-value	R2	p-value	P.adjusted
	High vs Low	1.320764	0.2089563	0.268	1
	High vs Acetone	3.974027	0.4428366	0.056	0.336
	High vs Saltwater	10.004931	0.7143863	0.1	0.6
	Low vs Acetone	2.992795	0.3327992	0.076	0.456
	Low vs Saltwater	8.651192	0.6337316	0.029	0.174
	Acetone vs Saltwater	1.952553	0.2808397	0.111	0.666

Supplemental Table 5. Kruskal Wallis results comparing bacteria between treatments.

OTU	Class	Genus	df	χ^2	p-value
OTU_1	Betaproteobacteria	<i>Burkholderia</i>	3	8.3476	0.03935
OTU_6	Sphingobacteria	<i>Sediminibacterium</i>	3	8.7238	0.0332
OTU_8	Alphaproteobacteria	<i>Sphingopyxis</i>	3	9.8762	0.01965
OTU_16	Deltaproteobacteria	<i>Chondromyces</i>	3	10.933	0.01209
OTU_17	Bacilli	<i>Bacillus</i>	3	6.2831	0.09862
OTU_193	Alphaproteobacteria	<i>Mesorhizobium</i>	3	10.799	0.01287

Timeline:**October 5th, 2016:**

Fragmented *Montastrea cavernosa* are randomly selected using a computerized random number generator and selected fragments are placed into beakers (one liter) to begin one week jar acclimation period.

October 11th, 2016:

Initial photochemical yield, electron transport rate (ETR), electron transport rate slope, and photosynthetically active radiation (PAR) at the maximum ETR value is recorded using a pulse amplitude modulation fluorometer.

October 12th, 2016:

Montastrea cavernosa are dosed with either an assigned concentration of permethrin (6ug/L, 1.0 ug/L), acetone, or saltwater controls.

October 13th, 2016:

Post photochemical yield, electron transport rate (ETR), electron transport rate slope, and photosynthetically active radiation (PAR) at the maximum ETR value is recorded using a pulse amplitude modulation fluorometer (PAM).

Beaker water is filtered through a 0.2-micron filter and flash frozen with liquid nitrogen and stored in a -80°C freezer.

DNA extractions are performed on *Montastrea cavernosa* and remaining coral are flash frozen in labeled whirl pack bags using liquid nitrogen and stored in a -80°C freezer.