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SUPPLEMENTARY INFORMATION

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Mussel byssus attachment weakened by ocean acidification
O'Donnell, George and Carrington

Supplementary Table 1: Mussel body measurements

General indicators of physiology show no significant effect of pCO_2 treatment. Values are means +/- standard deviation. Growth is % change in shell volume (estimated as an ellipsoid from length, width, and height). All treatments experienced positive shell growth; tissue growth was not determined since it requires destructive sampling. Gonad index is the ratio of dried gonadal tissue to total tissue mass, a proxy for reproductive investment, and condition index is dried tissue mass divided by shell length cubed. Shell strength is the compressive load required to crush the right valve. Organic shell content is the percentage of mass lost after ashing at 500°C for 15 hours. Note that shell structure is primarily composed of material made before transfer to laboratory treatments; it does not reflect shell made under varied CO_2 conditions. n is sample size for each treatment group, R^2 is proportion of variation of each variable explained by pCO_2 in a linear regression.

pCO2 Target	Growth (%)	Gonad Index	Condition Index x10^{-6} (g cm^{-3})	Shell Strength (N)	Organic Shell Content (%)
300	5.5 ± 3.7	0.09 ± 0.04	3.35 ± 1.05	201 ± 65	3.6 ± 0.4
500	8.4 ± 4.8	0.14 ± 0.06	3.78 ± 0.90	219 ± 75	3.5 ± 0.2
600	5.0 ± 3.1	0.12 ± 0.03	3.93 ± 1.02	255 ± 76	3.6 ± 0.5
800	5.8 ± 2.3	0.15 ± 0.05	4.29 ± 1.13	237 ± 101	3.5 ± 0.3
1000	4.2 ± 2.3	0.12 ± 0.05	4.05 ± 1.33	288 ± 77	3.6 ± 0.4
1100	4.2 ± 1.1	0.13 ± 0.04	4.15 ± 0.84	245 ± 86	3.7 ± 0.3
1200	7.0 ± 5.6	0.17 ± 0.04	5.11 ± 1.60	238 ± 53	3.7 ± 0.3
1300	7.4 ± 2.8	0.10 ± 0.03	3.91 ± 1.20	240 ± 92	3.3 ± 0.2
1500	4.5 ± 3.1	0.11 ± 0.03	4.25 ± 1.40	267 ± 117	3.6 ± 0.2
	n=8 R^2= 0.03 p=0.66	n=8 R^2= 0.004 p=0.87	n=8 R^2= 0.35 p=0.09	n=8 R^2= 0.30 p=0.12	n=7-8 R^2= 0.04 p=0.59

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