**Supplementary Information**

**Ecophysiological response of the cupped oyster *Crassostrea gigas* exposed to the green dinoflagellate *Lepidodinium chlorophorum***

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**Table S1.** Initial morphological parameters of the oysters *Crassostrea gigas* used for the three exposure experiments. Significant differences were tested by ANOVA test (P<0.05).

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| Biometry | Exposure experiment | Additional experiments | Significance*P*-value |
| Date | 12th April 2021 | 16th March 2021 | 27th April 2021 |  |
| Individuals | N=10 | N=10 | N=5 |  |
| Length (mm) | 34.1 ± 12.0 | 28.8 ± 1.5 | 24.5 ± 2.5 | 0.646 |
| Width (mm) | 26.0 ± 9.0 | 23.3 ± 4.7 | 19.8 ± 2.8 | 0.557 |
| Total weight (g) | 3.7 ± 2.3 | 2.4 ± 0.6 | 1.7 ± 0.2 | 0.850 |
| Shell weight (g) | 2.6 ± 1.6 | 1.8 ± 0.5 | 1.3 ± 0.2 | 0.750 |
| Wet flesh weight (g) | 0.6 ± 0.4 | 0.3 ± 0.1 | 0.3 ± 0.1 | 0.484 |
| Dry flesh weight (g) | 0.1 ± 0.1 | 0.1 ± 0.0 | 0.1 ± 0.0 | 0.607 |

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**Figure S1.** Additional experiments performed on March 16, 2021 **(A)** and April 27, 2021 **(B)**. Feedings were represented as follows: 0h, 5h, 24h and 29h. The 48h-exposure phase consists of tanks containing oysters corresponding to different food regimes (*L. chlorophorum*-bloom, *L. chlorophorum*-low and *T. lutea*). During the 24h-recovery phase, oysters were fed continuously with *T. lutea* within an ecophysiological measurement system composed of nine individual chambers (including one control chamber without oyster (CC)). Clearance and respiration rates as well as absorption efficiency were measured individually.

**Table S2.** Summary of the repeated measures ANOVAs on the effect of food regime (*L. chlorophorum*-bloom, *L. chlorophorum*-low, *T. lutea* ), time (from 1.4h to 20.6h) and set of experiment (random) on clearance and respiration rates measured during the 24h-recovery phase.

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| Source of variation | Dfn | Dfd | F value | *P*-value |
| **Clearance rate** |
| Food | 2 | 33 | 4.43 | 0.0197 |
| Experiment | 2 | 33 | 5.71 | 0.0074 |
| Time | 6 | 181 | 1.43 | 0.2056 |
| Food x Time | 12 | 181 | 4.11 | **<0.0001** |
| **Respiration rate** |
| Food | 2 | 33 | 4.98 | 0.0129 |
| Experiment | 2 | 33 | 61.00 | <0.0001 |
| Time | 6 | 191 | 5.66 | **<0.0001** |
| Food x Time | 12 | 191 | 1.26 | 0.2467 |