

Figure S1. Dynamics of viral infection in *E. huxleyi* by EhV 201 (8:1 virus:host ratio) with and without HHQ. Mean of triplicate cultures +/- standard deviation. Asterisks indicate a significant difference ( $p \le 0.05$ ) in growth rate from the virus-only control.



Figure S2. Quantification of *E. huxleyi* 144 hpi with EhV 201, with delayed HHQ addition. Triplicate *E. huxleyi* cultures were inoculated with EhV 201, and then with HHQ (100 ng ml<sup>-1</sup>) at either 0, 1, 4, or 24 hpi. Asterisks indicate treatments that are significantly different ( $p \le 0.05$ ) from EhV 201 and HHQ addition at t=0.



Figure S3. Quantification of cellular morphological parameters following infection in *E. huxleyi* cells with and without 100 ng ml<sup>-1</sup> HHQ. Morphological parameters such as membrane blebbing (A, E) identified by electron-dense blebs protruding from the plasma membrane; compromised plasma membranes (B, F) identified by discontinuous plasma membrane with cellular content protruding from the cell; thylakoid lipid bodies (C, G) identified by homogeneously stained dark spheroids in between stacks of thylakoids; and cytoplasm lipid bodies (D, H) identified by homogeneously stained dark spheroids in the cytoplasm; were determined based on the percentage of cells (n = 30) showing these distinct features. TEM micrographs between 24 and 72 hpi were used in the analysis. Solid line boxes show membrane blebbing (E, blue) and compromised plasma membrane (F, red) in *E. huxleyi* exposed to only EhV 201 at 72 hpi. Dashed line boxes show thylakoid lipid body (G, blue) and cytoplasm lipid body (H, red) in *E. huxleyi* exposed to EhV 201 and 100 ng ml<sup>-1</sup> HHQ at 72 hpi. Additional subcellular structures include the chloroplast (C) and vacuole (V). Scale bar = 200 nm.



**Figure S4. Dynamics of intracellular nitric oxide (NO) production in response to varied viral inoculum titers and the presence of HHQ.** Triplicate *E. huxleyi* cultures were inoculated with either (A) EhV 201 or (B) EhV 86 at an 8:1 or 1:1 virus:host ratio in the presence or absence of 100 ng ml<sup>-1</sup> HHQ. DAF-FM Diacetate dye was used to measure intracellular NO production and activity was reported as the mean relative fluorescence unit per cell (+/- standard deviation) over the course of infection.