

Fig. S1. (A) Top (left) and side-cutaway (right) views of a custom-made filter holder constructed to allow rapid separation of dinoflagellate and host-tissue fractions. (In early trials, we found that a conventional Milipore glass filter holder was awkward and led to high levels of sample loss.) The filter holder was machined from a single piece of brass to allow a 4-ml screw-top vial (National Scientific B7800-2) to be placed under the filter and evacuated for collection of filtrate. As shown in the top and side views, the 22.3-mm-diameter, 2.8-mm-deep depression in the brass accommodates a stainless-steel filter support from a Millipore 25-mm filter-holder kit (diameter ~22.3 mm), which rests on the 21.0-mm-diameter ledge. In the side view, the two small black triangles indicate where depressions were drilled in the brass so that the vial (whose lip sits over these depressions) does not seal tightly, resulting in its evacuation when the entire assembly is sitting on a vacuum flask; the underside of the 44-mm portion of the brass unit is sufficiently smooth that it forms a good seal with the vacuum flask when wet. (Note that not all parts of the apparatus are drawn to scale, but the actual dimensions are indicated accurately.) The hole near the bottom of the brass unit (green line) allows a piece of ~1-mm-diameter copper wire to be inserted and project into the cavity where the vial is inserted. This wire is held in place by a 9-mm length of fitting for $\frac{3}{4}$ "-nominal-diameter copper tubing, which is compressed over the 21.65-mm portion of the brass plus the protruding external portion of the copper wire; this holds the wire tightly enough to allow it to function as a 'thread' into which the top of the 4-ml vial can be screwed. (B) Photographs of the apparatus from different perspectives.

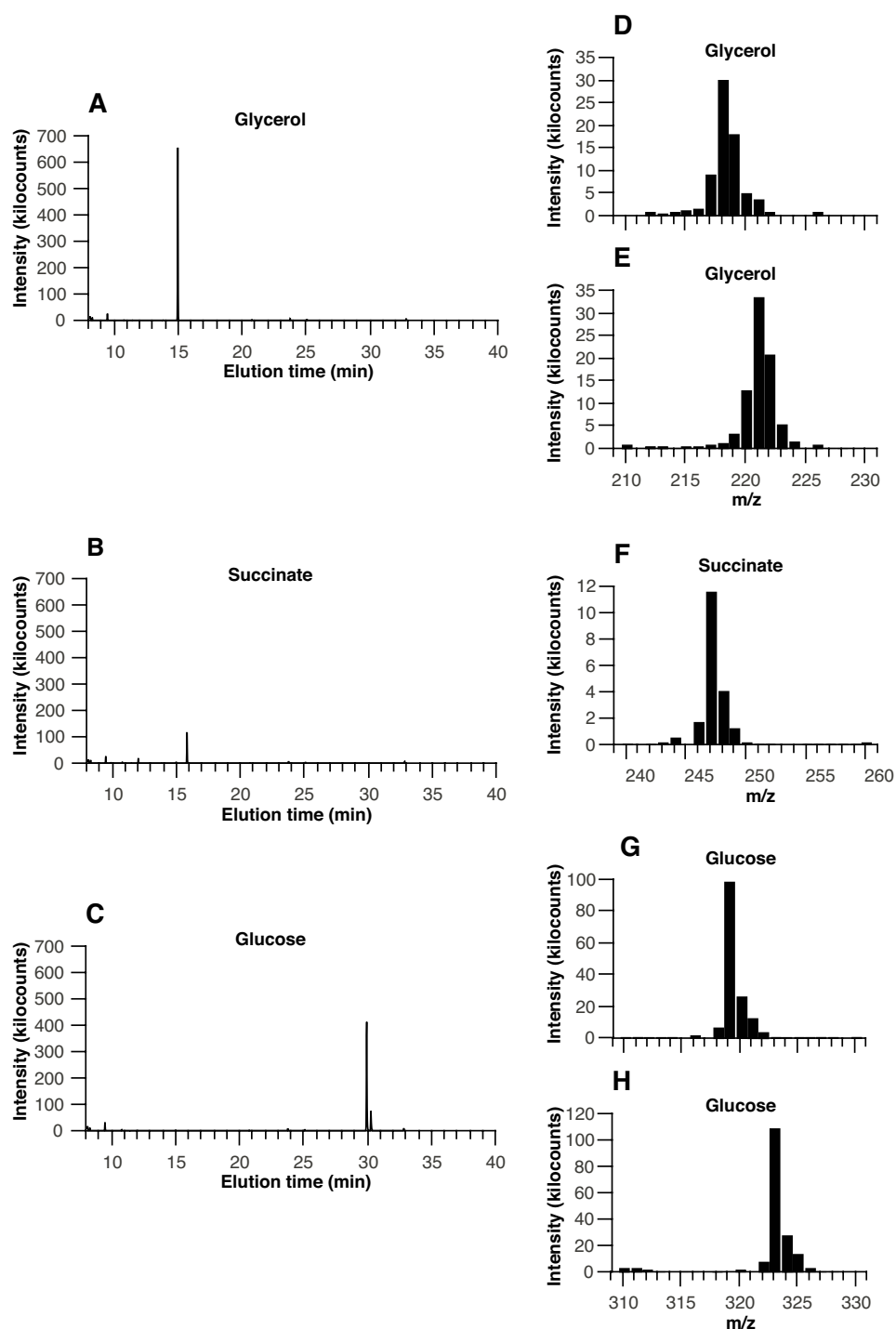


Fig. S2. Behavior of standards in the GC-MS system. (A–C) GC chromatograms obtained by summing all of the MS intensities recorded for m/z 90 to m/z 650 after running standards for ^{12}C -glycerol (A), ^{12}C -succinate (B) and ^{12}C -glucose (C). The small peaks at elution times <10 min are derivatization byproducts observed in every run. The small peak at 12 min in panel B was not identified but is probably an impurity in the standard used. The peak at ~ 30.2 min in panel C appears to be a derivatization isomer of glucose (Dumas et al., 1994). (D–H) Partial mass spectra for the GC peaks of standards as observed in A–C. (D,E) The m/z 210–230 range for $[^{12}\text{C}]$ glycerol (D) and $[^{13}\text{C}]$ glycerol (E). (F) The m/z 240–260 range for $[^{12}\text{C}]$ -succinate. $[^{13}\text{C}]$ succinate was not readily available, but its spectrum could be readily extrapolated (expected peak at 251), as in fact observed in analyzing material eluting from GC runs of our ^{13}C -labeled biological materials at 15.88 min. (G,H) The m/z 310–330 range for $[^{12}\text{C}]$ -glucose (G) and $[^{13}\text{C}]$ -glucose (H). In all cases, the m/z values observed reflect those of the derivatized compounds. For example, glucose ($M_r=180$) is expected to gain five trimethylsilyl and one methoxime group when derivatized, yielding an $M_r=570$ and an $M_r=319$ for a four-carbon fragment of the ^{12}C compound. Note also that each peak has a rightward tail, reflecting the presence of both naturally occurring ^{13}C ($\sim 1.1\%$) and naturally occurring ^{29}Si ($\sim 4.7\%$) and ^{30}Si (3.1%) in addition to ^{28}Si .