



SUPPLEMENTAL FIGURE S1. Growth of the WT, $\Delta P3$, $\Delta hikC$ and $\Delta hikCP$ mutants on solid media in PA and MT conditions. Cultures for the plating experiment were handled as described in the materials and methods. Plates were incubated at 30°C for 8 days at 60 $\mu\text{E m}^{-2} \text{s}^{-1}$ light intensity for 24L/0D and 30 $\mu\text{E m}^{-2} \text{s}^{-1}$ light intensity for 12L/12D and 6L/18D. $\Delta hikC$ and $\Delta hikCP$ showed a higher light sensitivity on plates in either PA or MT LL only with 60 $\mu\text{E m}^{-2} \text{s}^{-1}$ light. $\Delta P3$ had problems as the amount of light decreased and it did not grow at all under MT 6L/18D conditions. The $\Delta hikC$ mutant grew better in MT 12L/12D conditions on plates than in LL. $\Delta hikCP$ showed poorer growth in both the MT LD conditions and was intermediate to the WT and $\Delta P3$. This mutant was more sensitive to glucose on plates in MT LD in ambient CO₂, and grows better after 4 days in liquid, indicating that there may be some exchange of metabolites in liquid that is not possible on plates below a certain cell density.

SUPPLEMENTAL FIGURE S2. Tolerance of WT and the operon and *hik* mutants to different metals based on plate growth. Cultures for the plating experiment were handled as described in the materials and methods. 20 μM of nickel chloride, 10 μM of cobalt chloride, zinc chloride, and cadmium chloride were used for each of the cultures to assess tolerance. Plates were incubated at 30°C at 30 $\mu\text{E m}^{-2} \text{s}^{-1}$ light intensity for 8 days in 24L/0D prior to photography.